



DIVERSITY, EQUITY, AND INCLUSION IN ORGANIZATIONS: A FRESH VIEW THROUGH GRANULAR INTERACTION THINKING THEORY

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ABSTRACT

Aim/Purpose	This article introduces the Granular Interaction Thinking Theory (GITT) – a sociopsychological theory grounded in an information-processing perspective – to offer a novel lens for understanding diversity, equity, and inclusion (DEI) in organizations.
Background	DEI policies are vital instruments for addressing social inequality within organizations. However, the growing backlash against DEI efforts and inconsistent empirical outcomes highlight the need for deeper theoretical inquiry.
Methodology	Conceptual development.
Contribution	GITT complements established social (e.g., Social Identity Theory, the Information and Decision-Making Perspective, and Intersectionality Theory) and philosophical theories (e.g., Epistemic Injustice, Justice as Fairness, and Discourse Ethics) by providing an information-theoretic framework for effectively managing informational diversity and entropy.

Accepting Editor Johanna Lisa Degen | Received: May 7, 2026 | Revised: August 7, September 8, 2026 | Accepted: September 10, 2026.

Cite as: Vuong, Q.-H., Sari, N. P. W. P., & Nguyen, M.-H. (2026). Diversity, equity, and inclusion in organizations: A fresh view through Granular Interaction Thinking Theory. *Informing Science: The International Journal of an Emerging Transdiscipline*, 29, Article 16. <https://doi.org/10.28945/5880>

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Findings	Existing frameworks often overlook a crucial dimension: the informational dynamics of diverse organizational systems. GITT–DEI Framework conceptualizes diversity as expanding informational inputs, equity as enabling fair access to influence, and inclusion as facilitating reciprocal exchange and integration. While well-designed DEI initiatives enhance adaptability, creativity, and long-term value by expanding informational diversity, they also raise informational entropy. If left unmanaged, the increasing entropy can lead to higher energy and resource demands, potentially undermining organizational coherence and performance. The framework proposes an optimal entropy zone bounded by the Capture Threshold and the Sufficiency Threshold, within which meaningful plurality is preserved without exceeding organizational processing capacity.
Recommendations for Practitioners	Organizations can apply the framework through five interrelated mechanisms: filtering, weighting, integration, feedback, and monitoring. Informational inputs should be evaluated using transparent, context-sensitive, and contestable criteria, while AI-supported processes should remain explainable, auditable, and subject to meaningful human oversight.
Recommendations for Researchers	The GITT–DEI Framework opens avenues for empirical validation and for new DEI metrics. Future researchers can use the framework to estimate the actual optimal entropy zone for an organization or to simulate decision-making under varying levels of diversity and process structures to identify optimal configurations. The Equitable-channel, Entropy-zone, and Feedback-correction propositions derived from the framework can be translated into empirical research.
Impact on Society	More transparent and inclusive organizational informing processes may support fairer, more accountable, and better-informed decisions. In public organizations, such improvements may contribute to more responsive public services and greater consideration of diverse stakeholder knowledge.
Future Research	Future studies should empirically estimate the Capture and Sufficiency Thresholds and test whether decision processes within the proposed optimal entropy zone exhibit less informational exclusion and overload. Longitudinal, experimental, and simulation studies could examine how channel accessibility, weighting rules, feedback mechanisms, processing capacity, and AI assistance shape entropy trajectories and organizational outcomes.
Keywords	diversity, equity, inclusion, DEI, creativity and innovation, epistemic injustice, epistemic fairness, marginalized groups, Granular Interaction Thinking Theory, GITT

INTRODUCTION

“Yes, problem-solving is important; the better solution-maker we are, the brighter future we expect.

But we are not such good problem solvers for simple reasons: it is hard to define a genuine problem.”

—In *Meandering Sobriety* (Vuong, 2023)

This reflection resonates directly with the difficulty organizations face in defining the “problem” of diversity, equity, and inclusion (DEI). Much of the debate around DEI stems not from a lack of proposed solutions but from the challenge of clearly articulating the underlying problem: systemic bias, inequitable access to influence, or the informational complexity of diverse teams. By framing DEI as

a problem of definition, the epigraph underscores why theoretical tools, such as Granular Interaction Thinking Theory (GITT), are needed to clarify the informational dynamics at stake and help organizations move beyond vague aspirations toward measurable, coherent strategies.

The rise of DEI initiatives in organizations has generated both strong advocacy and growing resistance (Gündemir et al., 2024). These programs are designed to reduce systemic bias and support marginalized groups, aiming to create an environment where all employees feel empowered to express their authentic selves (Bernstein et al., 2020; Iyer, 2022). According to the Pew Research Center, a majority of U.S. workers viewed DEI efforts positively in 2023, with 56% describing them as “a good thing.” However, opposition has grown. By 2024, the share of workers who viewed DEI positively had declined to 52%, while the proportion who considered DEI “a bad thing” rose from 16% in 2023 to 21% in 2024. This growing resistance is particularly pronounced among White workers, with 27% describing DEI as a bad thing in 2024, an increase from 21% the previous year (Minkin, 2023, 2024). This growing opposition has had tangible consequences. Some companies and universities have begun downsizing or eliminating DEI offices amid debates over whether these initiatives have delivered measurable improvements in fairness or organizational performance.

Critics argue that DEI offices have not fulfilled their promises. For example, Armstrong (2024) contends that these structures often serve the interests of capitalist institutions and fail to achieve their stated goals. Such critiques highlight that integrating diverse perspectives into established organizational systems is not merely a moral or managerial task but a complex structural transformation that requires careful consideration.

A key gap in existing DEI research lies in its predominant focus on either social justice objectives or business performance outcomes. These perspectives often overlook a critical dimension: the information-processing dynamics of diverse organizations. In particular, limited attention has been paid to how information from diverse sociocultural backgrounds is generated, communicated, filtered, interpreted, and applied to shape an organization’s trajectory, structure, decision-making, and operations. Consequently, the challenges of integrating multiple knowledge sources while maintaining coherence within a heterogeneous organizational system remain insufficiently understood. From an Informing Science perspective, a diverse workforce represents not merely a demographic composition but a heterogeneous network of informers and information clients whose distinct knowledge, experiences, cognitive frames, value systems, and potential biases shape the flow and use of organizational information. Moreover, employers and employees continually alternate between these roles: information clients become informers as they interpret, transform, and communicate the information they receive to others. Addressing this gap would connect DEI scholarship with the transdisciplinary study of informing and clarifying how workforce diversity influences organizational coherence and adaptive capacity (Cohen, 2009).

The present article introduces GITT as a complementary framework for analyzing DEI (Vuong & Nguyen, 2024). Drawing on conceptual and structural insights from quantum physics (Hertog, 2023; Rovelli, 2018), Information Theory (Shannon, 1948), and Mindsponge Theory’s synthesis of knowledge from the sociopsychological sciences, life sciences, and neuroscience, GITT offers a transdisciplinary, dynamic information-processing perspective that helps bridge epistemic silos and mitigate culturally bounded interpretations across disciplines (Cohen, 1999). GITT shares foundational propositions with Cohen (2009)’s Informing Science Framework, which highlights the multiple layers of complexity and potential barriers involved in informing processes between informers and information clients. It also complements Cohen’s framework by offering the mechanisms through which these actors process interactions between new, heterogeneous information and information already held within an organizational system. The theory thus conceptualizes an organization as an information-processing system in which DEI plays a dual role. Although informational diversity can enhance creativity, adaptability, and decision quality, it may also increase informational entropy, which manifests as greater uncertainty, complexity, and the risk of information overload.

For these characteristics, GITT provides a foundational lens for understanding both the opportunities and the challenges of DEI. A diverse workforce introduces a broader range of informational inputs, which can improve problem-solving and innovation capabilities. However, this same diversity introduces entropy that must be actively managed. Achieving sustainable DEI, therefore, depends on an organization's capacity to harness the benefits of informational diversity while maintaining systemic coherence through structured knowledge management.

In the sections that follow, we elaborate on the conceptual foundations of GITT, explore how it extends current understandings of DEI, and offer practical strategies for leveraging informational diversity while mitigating entropy within organizational systems.

GRANULAR INTERACTION THINKING THEORY PERSPECTIVE

Granular Interaction Thinking Theory is an information-processing theory that explains the emergence of sociopsychological phenomena and processes. It is formulated through an interdisciplinary synthesis of the quantum-mechanical worldview, Shannon's Information Theory, and Mindsponge Theory (Vuong et al., 2025a). Unlike many sociopsychological theories and frameworks that focus primarily on observable outcomes, the theory examines the underlying informational processes through which human psychology, behavior, social norms, and social dynamics emerge. GITT's dynamic information-processing perspective is inspired by John Wheeler's "it from bit" concept, which proposes that "all things physical are information-theoretic in origin" (Wheeler, 2002). Its conceptualization of information draws on Shannon's (1948) definition of information in terms of the range of possible alternatives, whereas its account of the *modus operandi* of information processing is grounded in Mindsponge Theory. Mindsponge Theory was developed by synthesizing evidence and insights from the sociopsychological sciences, life sciences, and neuroscience through mathematical reasoning methods, including generalization, specialization, and analogy (Pólya, 1945, 1954).

The formulation of GITT can be situated within a broader intellectual tradition in which scholars have drawn insights from physics to understand socioeconomic and cognitive phenomena. Examples include Adam Smith's search for general principles governing economic systems and scientific progress (Smith, 1776, 1795), Léon Walras's Theory of General Equilibrium (Walras, 1874), Adolphe Quetelet's social physics (Quetelet, 1835), Busemeyer and Bruza's (2012) quantum-like models of cognition, and Haven and Khrennikov's (2013) quantum social science. However, it should be noted that GITT's connection to quantum mechanics is conceptual and structurally analogical rather than physical or formal. Quantum-mechanical concepts and terminology are employed metaphorically as a conceptual vocabulary for interpreting sociopsychological phenomena and processes (Lakoff & Johnson, 2008). Building on this conceptual foundation, Vuong and Nguyen (2026) offer a mathematical reconstruction of selected GITT propositions using established tools from probability theory, information theory, and statistical mechanics (Cover & Thomas, 2006; Feller, 1968; Reif, 2009; Rudin, 2021). Although this reconstruction is a work in progress in the authors' ongoing theoretical development, all propositions and formal results presented subsequently in this article are stated and derived within the article itself and do not rely on the book for their mathematical justification.

The theory distinguishes between two principal domains: the mind and the environment. The mind is defined as a system that both collects and processes information. Beyond the human mind, this concept can be extended to other living and collective systems, including organisms, biological systems, and societies of varying levels of complexity. The environment, by contrast, constitutes a broader informational system that encompasses the mind, including sociocultural and economic settings, ecosystems, and the Earth as a whole (Nguyen & Ho, 2026; Vuong & Nguyen, 2024).

In the context of this study, GITT conceptualizes the mind at two interrelated levels: the individual and the organization. At the individual level, each person is understood as an information collection-cum-processor composed of numerous interacting informational quanta, or "grains" of information. Given the abstract nature of information, the theory employs "informational quanta" as a metaphor

to conceptualize information as discrete grains, analogous to quanta – the smallest discrete units of physical quantities such as energy (Hertog, 2023; Rovelli, 2018). Each individual mind continuously absorbs, filters, and processes existing information while generating new information in the form of alternative perspectives, ideas, experiences, and knowledge. At the organizational level, these individual minds constitute a larger information-processing system; that is, a collective mind. Rather than merely functioning as separate parts of a whole, individuals interact dynamically through communication, collaboration, negotiation, and the formation of shared rules and principles, while also exchanging information with the surrounding sociocultural and economic environment. These interactions integrate individual knowledge, experiences, beliefs, values, and perspectives into a shared organizational understanding, thereby shaping the collective mind’s structure, trajectory, decision-making processes, and operations.

Drawing on conceptual insights from quantum mechanics, GITT proposes that information-processing systems and their emergent phenomena can be understood as granular, relational, and indeterminate. Granularity refers to the finite availability of information and energy within any system, implying that both cognitive and organizational systems have limited capacities to acquire, store, transmit, and process informational grains at any given moment. Relationality holds that phenomena emerge through interactions and that the variable properties of any entity exist only in relation to other entities. Within this relational framework, the mind and its environment continuously exchange information and dynamically reorganize themselves to maintain coherence and adaptability. Systems that regulate these exchanges effectively are better able to sustain and advance their existence. However, neither the processes nor their outcomes are unequivocally determined by past conditions; rather, they unfold probabilistically, reflecting the principle of indeterminacy.

To maximize the probability of sustaining and advancing its existence, an organization needs to regulate its entropy in response to the surrounding environment. Entropy is understood here as uncertainty, or the expected level of “surprise” associated with possible outcomes. It is formally represented by Shannon’s entropy function:

$$H(X) = - \sum_{i=1}^n P(x_i) \log_2 P(x_i)$$

Here, X is a random variable representing potential alternatives $x_1 \dots x_n$, with $P(x_i)$ denoting the probability of each alternative. In an organizational context, X can be interpreted as the organization’s collective knowledge, decision, and action space. Each distinct informational unit (for example, an employee with a unique sociocultural and demographic background or domain expertise) represents a potential perspective x_i that might influence collective understanding, decision-making, and actions. The probability $P(x_i)$ reflects the likelihood that a particular perspective, piece of information, form of knowledge, or type of expertise will be utilized and retained within this collective space. As the number of alternatives (n) increases, uncertainty about which inputs will shape organizational outcomes also rises. Entropy within an organization is maximized when $P(x_i) = \frac{1}{n}$. When entropy exceeds the organization’s processing capability, it can result in information overload, indecision, or organizational paralysis.

Given the system’s finite processing capability, organizations need to reduce informational entropy through two main mechanisms: prioritization and filtering. Prioritization assigns greater probability, weight, or attention to one or several alternatives while retaining others within the decision space. Filtering narrows that space by excluding inputs or alternatives deemed incompatible with the organization’s evaluative benchmarks, such as its goals, values, rules, professional standards, resource constraints, or legal obligations. These mechanisms operate through multiple organizational arrangements. For instance, hierarchical structures may give greater weight to information from senior decision-makers; role specialization may privilege the judgments of members with relevant expertise; performance-evaluation systems may prioritize information associated with predefined indicators or

leaders' subjective judgments; and decision rules may exclude options that fail to meet specified thresholds. Similar processes occur in hiring, project selection, resource allocation, and strategic planning. By concentrating attention on selected inputs and excluding others, prioritization and filtering help organizations conserve limited processing capacity, coordinate action, and make decisions more efficiently. However, because the benchmarks governing these processes are socially constructed, they may systematically privilege dominant perspectives while excluding unfamiliar, unconventional, or minority viewpoints (Vuong et al., 2025a).

However, informational entropy is not inherently negative. Greater organizational diversity offers three main advantages. First, it can compensate for the inherent limitations of individual information-acquisition channels, such as sensory perception and measurement tools, and processing capacities, such as knowledge and analytical ability, which may prevent internally held information from accurately reflecting external reality. By broadening the organization's informational base, diversity can support more informed decision-making and stronger adaptability and resilience. Second, diversity expands the range of informational possibilities available for value creation. According to GITT, values – or value quanta – are insights that emerge through interactions among informational inputs and have relatively high probabilities of being stored, retained, and used to guide subsequent information-processing activities. Accordingly, interactions among diverse forms of knowledge, experience, skills, beliefs, and perspectives increase the potential for generating insights and innovations that contribute to organizational survival and development (Nguyen et al., 2023).

Third, informational diversity preserves an organization's capacity for self-correction. When prioritization and filtering become so restrictive that members defer to the same dominant informational or value quanta – whether originating from one or a few like-minded leaders, a shared benchmark, or a prevailing narrative – their information-processing patterns become increasingly correlated. Although this pattern helps create a low-entropy organizational state, it also increases the likelihood of falling into order-induced blindness, a condition in which historically constructed systems of order (i.e., political, cultural, ideological, or epistemic ones) are implicitly treated as self-validating, complete, and immune to revision. Organizational information processing may consequently become performative and fragile, creating an illusion of coherence while obscuring subtle misalignments with reality (similar to the Shifting-Baseline Ratchet illustrated in *Animal Farm* (Orwell, 1945; Vuong, 2026)). Once a distorted interpretation of the environment becomes dominant, correlated updating and self-reinforcing acceptance can make it resistant to correction, even after the conditions that produced it have changed. Maintaining sufficient informational entropy, therefore, preserves independent and heterogeneous channels of interpretation, enabling organizations to identify and correct errors before distorted interpretations become self-sustaining.

GITT-DEI FRAMEWORK

DEI INITIATIVES AS INFORMATION-PROCESSING TOOLS

For a more nuanced understanding of DEI through GITT-based reasoning, we can reframe DEI as information flow to clarify the complementary functions of diversity, equity, and inclusion in organizational coherence and performance. Specifically, Cox (1994) defines diversity as “the representation, in one social system, of people with distinctly different group affiliations of cultural significance.” As minds with different group affiliations and experiences hold unique information units, diversity can be interpreted through the lens of GITT as the variety of informational inputs available within the system. However, diversity by itself only provides the potential for richer information interactions; it does not guarantee that those interactions actually occur or that the information is effectively used in the organization's decision-making and value-creation processes or actions.

Meanwhile, equity ensures that access to participation and influence is distributed fairly among these diverse members (Bernstein et al., 2020). It targets the structural imbalances that may exclude certain groups' knowledge and perspectives from organizational understanding, decision-making, and actions

(Chin & Chien, 2006; Webster et al., 2022). In informational terms, restoring equity raises the effective $P(x_i)$ for historically excluded perspectives. Without equity, diversity may exist superficially—certain inputs are present but rarely integrated (Berry, 2016). For example, if minority employees' ideas are habitually dismissed, the effective $P(x_i)$ for their perspectives is near zero. Equity, balanced by equality, seeks to correct those imbalances so that the probability of each group's knowledge being utilized is proportional to its value, not to extraneous factors like prejudice or historical dominance (Morand & Merriman, 2012).

Inclusion is defined as the degree to which individuals feel valued, respected, and integrated into core processes, including access to information and resources, participation in work groups, and influence in decision-making (Mor-Barak, 1999). It helps ensure that diversity and equity translate into actual informational interaction: dialogue, collaboration, and co-creation. In GITT terms, inclusion increases the frequency and quality of knowledge exchange across diverse informational units, which helps lower entropy effectively and sustainably.

Specifically, it fosters open communication channels, which in turn continue reinforcing inclusion (Afridah & Lubis, 2024; Wolfgruber & Einwiller, 2023). The inclusion is mediated by psychological safety, enabling employees to feel secure in their involvement and engagement (Vakira et al., 2023). It also fosters a sense of belonging, which is both supported and reinforced by inclusive practices (Bryer, 2020; Kennedy, 2021). Together, these conditions encourage employees to share their unique insights and contribute fully to the organization (Goswami & Goswami, 2018). Without genuine inclusion, however, information often remains siloed or silenced, preventing the organization from fully leveraging its existing diverse knowledge and perspectives (Cheng et al., 2024; Morrison, 2014). The low-entropy state in such a case remains unsustainable, as $P(x_i)$ is weighted by systematic biases, prejudices, or self-exclusion, rather than by actual values created for the organization.

Viewed through this informational lens, DEI emerges as an interdependent system. Diversity expands the information pool, equity ensures this pool is accessed fairly during decision-making and value-creation processes, and inclusion ensures that information is exchanged and used effectively and efficiently. All three are essential. Diversity without inclusion or equity leads to performative DEI and wasted potential. Inclusion and equity without diversity result in echo chambers with limited novelty. GITT highlights that increasing diversity inherently raises entropy (more perspectives, information, knowledge, and expertise to process), requiring appropriate equity and inclusion mechanisms to manage this complexity and transform it into adaptive, intelligent outcomes (Vuong et al., 2025b). Otherwise, a persistently high-entropy state arising from elevated DEI complexity may consume excessive organizational energy and resources, impede the achievement of organizational objectives, diminish performance, and, in extreme cases, threaten organizational survival. The rightmost panel of Figure 1 illustrates this scenario, in contrast to the restrictive filtering and prioritization represented in the leftmost panel.

Thus, DEI initiatives should be understood as information-processing mechanisms for identifying and operating within an optimal entropy zone (i.e., the middle panel in Figure 1). This requires strategically assigning greater weight to informational inputs that genuinely enhance organizational coherence and performance, rather than relying on entrenched sociocultural, demographic, or epistemic biases, prejudices, and stigmas.

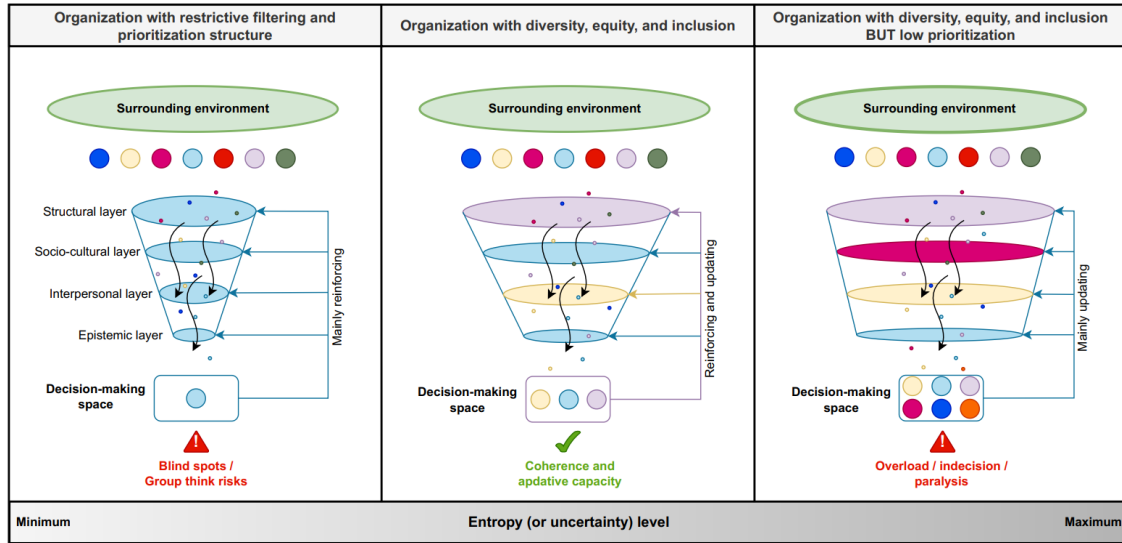
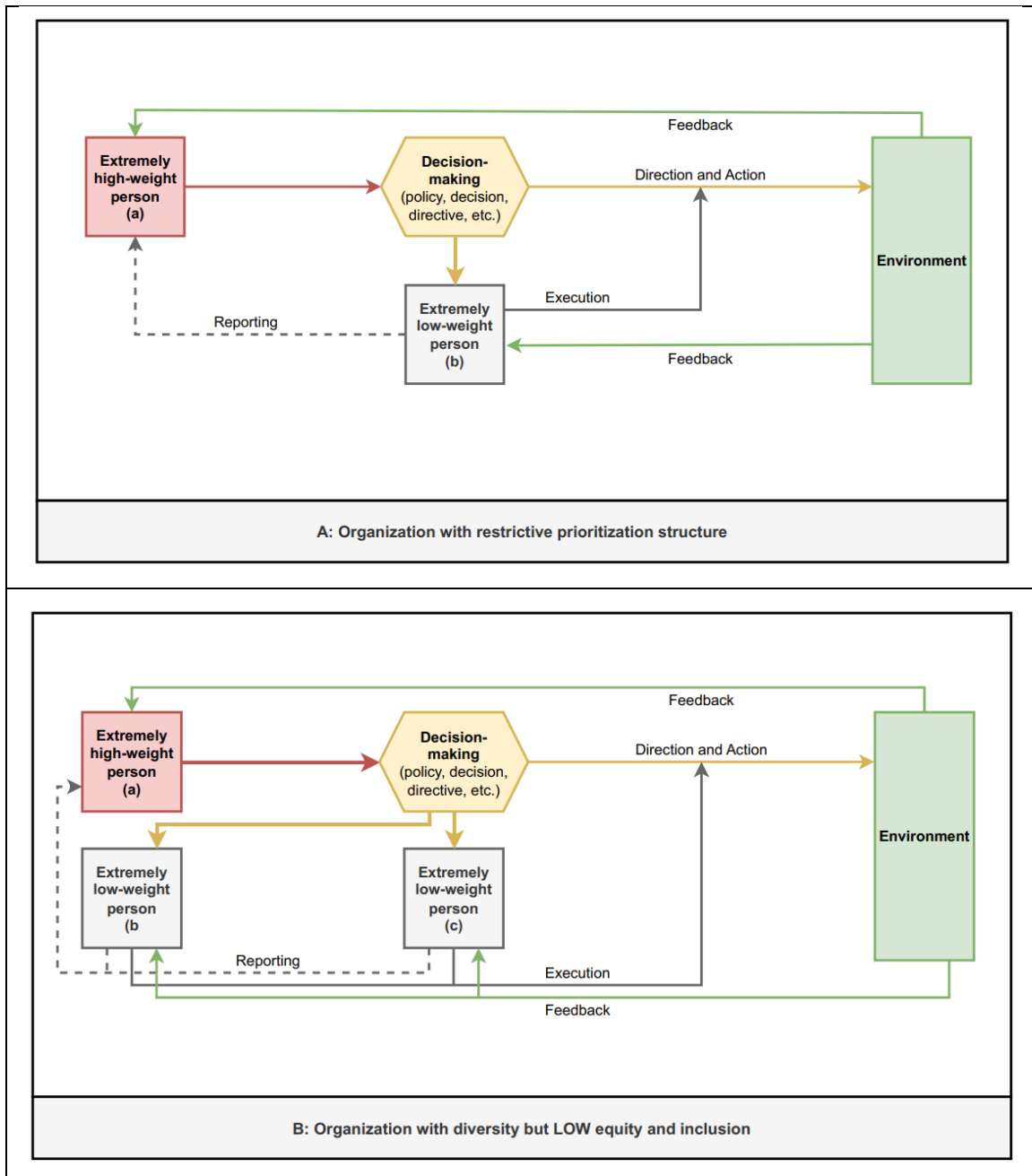


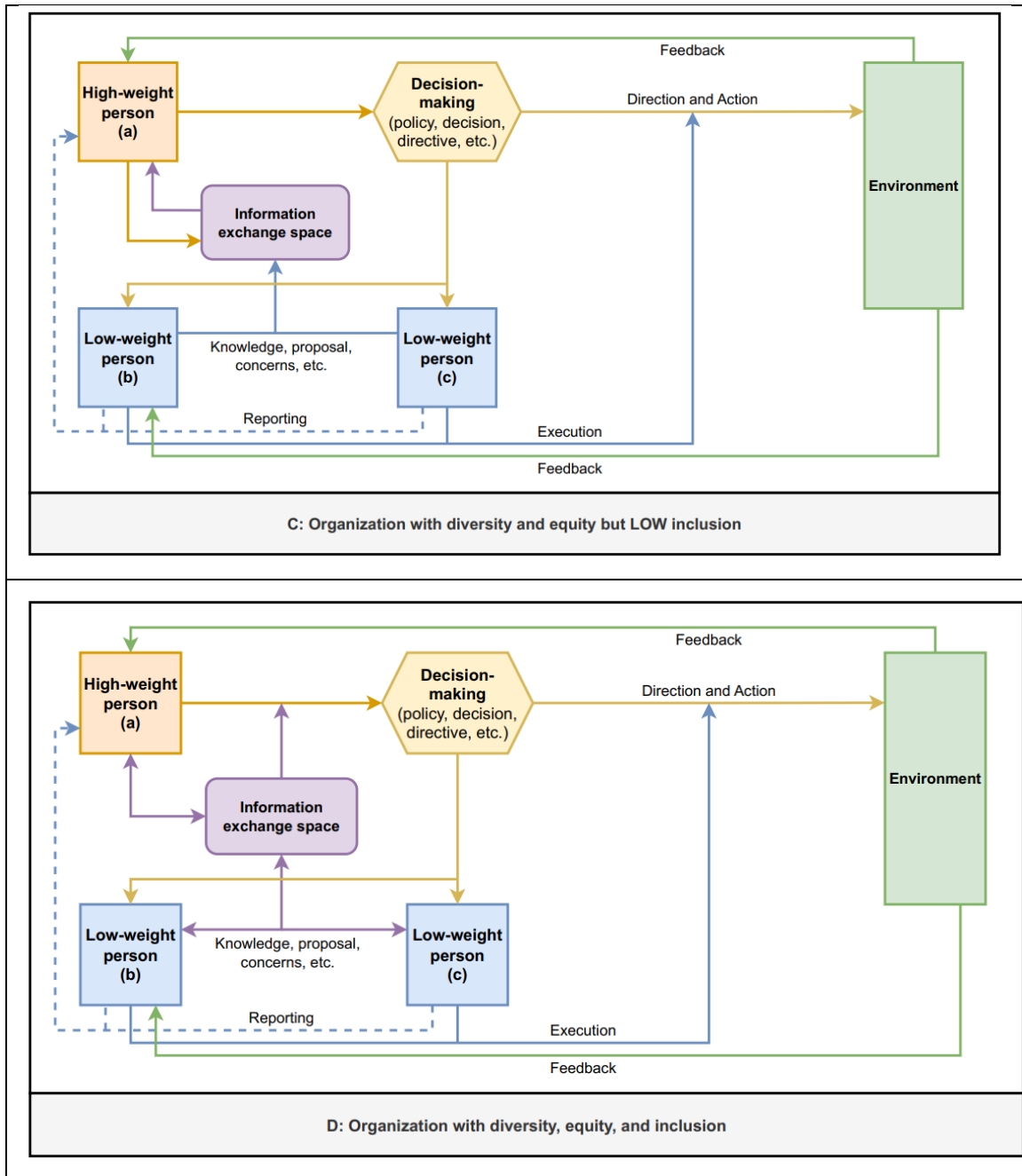
Figure 1. Organizational information processing across low-, optimal-, and high-entropy states under the GITT–DEI framework

For a more detailed operationalization of the GITT–DEI framework, the complementary roles of diversity, equity, and inclusion can be mapped onto the familiar elements of the Informing Science framework: the informer, the information client, the channel, the message, the feedback loop, and the eventual use of knowledge in decision-making (Cohen, 1999; Shannon & Weaver, 1949). Within an organization, employees continually alternate between the roles of informer and client as they generate, communicate, receive, interpret, and retransmit information. Diversity operates primarily at the levels of the informers and their messages: it expands both the range of individuals contributing to the organizational information space and the variety of informational grains (x_i) (such as knowledge, experiences, proposals, concerns, and interpretations) available for processing. Equity primarily concerns the accessibility and selectivity of the channel. It determines whether messages from different informers can reach the relevant clients and whether their effective probabilities or weights, $P(x_i)$, reflect their relevance and potential contribution to the organization's goals, decision-making process, and value creation, rather than the informer's social identity, status, or historical dominance. Inclusion operates across both the channel and the feedback loop by sustaining open, multidirectional exchanges through which clients can respond to informers, informers can revise their messages, and participants can observe how their contributions influence organizational understanding and action. Through these interactions, communicated information can be interpreted and integrated as organizational knowledge, incorporated into policies, decisions, or directives, and ultimately translated into actions whose environmental consequences generate further feedback.

As illustrated in Figure 2, the quality of organizational informing depends on how its constituent elements are configured. A restrictive prioritization structure concentrates informing and decision-making power in a single, overwhelmingly weighted individual, while other members primarily execute directives and report outcomes (Figure 2A). Although environmental feedback reaches both individuals, the low-weight person (b) lacks a meaningful channel through which that feedback can inform decision-making. Such a configuration may rapidly reduce entropy by concentrating interpretive and decision-making authority in one person, but the resulting coherence is potentially fragile. Because organizational information is filtered predominantly through the extremely high-weight person (a), that individual's errors, biases, or incomplete interpretations may become embedded in subsequent decisions and actions. Adding members with diverse knowledge and experiences without corresponding equity and inclusion mechanisms leaves this structure largely unchanged, as their messages

are transmitted weakly or insufficiently integrated (see Figure 2B). In Figure 2C, differences in informational weight become less extreme, and an information-exchange space is established through which members can communicate knowledge, proposals, and concerns. This arrangement lowers structural barriers and gives previously marginalized members greater access to organizational informing channels. However, the exchange space is not yet fully connected to decision-making through a sufficiently open and reciprocal process. Information may therefore be expressed or collected without being systematically discussed, incorporated into decisions, or followed by meaningful responses.





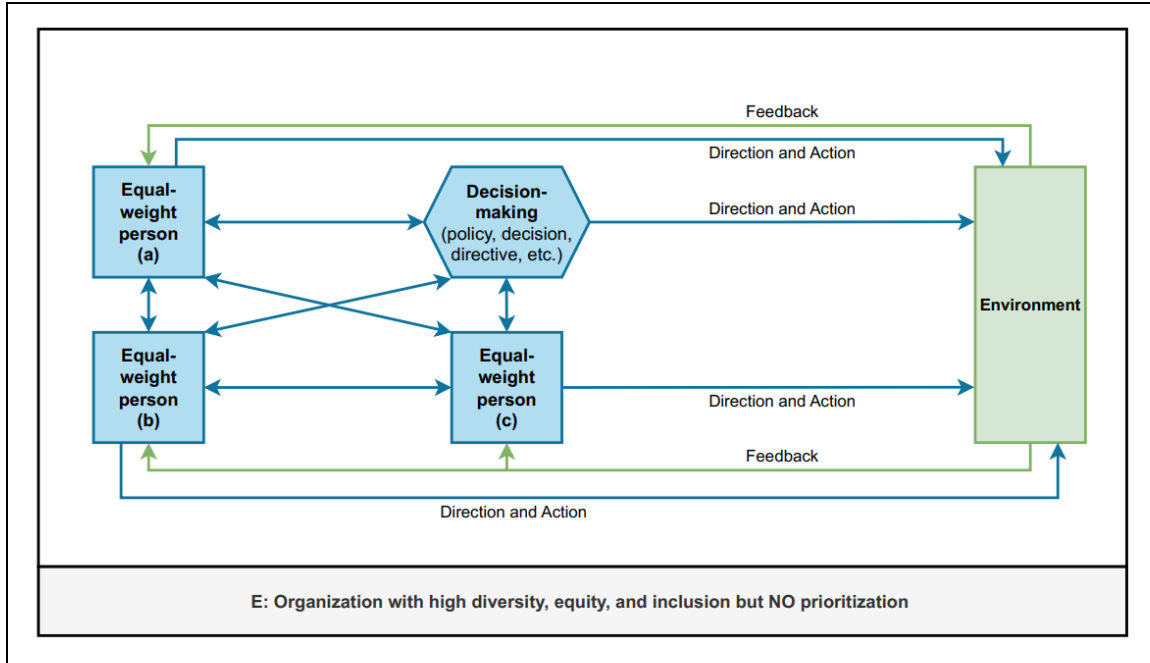


Figure 2. Organizational informing and decision-making flows across different configurations of diversity, equity, inclusion, and prioritization

Panels A–E illustrate the progression from a restrictive structure dominated by an extremely high-weight individual to increasingly diverse, equitable, and inclusive information flows. Panel D represents inclusive information exchange combined with differentiated prioritization, whereas Panel E shows high DEI without clear prioritization. Arrows represent the flows of knowledge, reporting, decision-making, execution, direction, action, and environmental feedback.

Figure 2D depicts a more complete GITT-DEI configuration. Diversity provides heterogeneous informers and messages; equity creates accessible channels through which their knowledge, proposals, and concerns can enter the organizational information space; and inclusion makes these channels reciprocal and connects them meaningfully to decision-making. Information circulates among persons (a), (b), and (c), enters the shared exchange space, and informs organizational decisions. These decisions subsequently guide execution and action, while environmental feedback is returned to multiple organizational members, enabling them to reassess earlier interpretations and generate new information. Importantly, the unequal weights shown in the diagram should not be interpreted as a fixed social hierarchy. Rather, informational weights should be dynamically assigned based on relevant expertise, responsibility, evidential quality, and contextual knowledge – not on status, prejudice, stigma, or historical dominance. This combination supports adaptive entropy regulation: heterogeneous information is preserved and exchanged, while appropriate prioritization maintains sufficient coherence for coordinated decision-making and action.

Figure 2E illustrates the opposite risk: high diversity, equity, and inclusion combined with an absence of informational prioritization. All members receive equal weight, communicate extensively with one another and the decision-making unit, and may directly initiate actions affecting the environment. Although this configuration maximizes access and participation, it may also generate competing directives, duplicated efforts, unclear accountability, and difficulty integrating heterogeneous messages into a coherent course of action. The resulting increase in informational entropy may raise the time, energy, and organizational resources required for decision-making.

The diagram generally clarifies that GITT-DEI does not advocate indiscriminate equal weighting. Instead, it advocates equitable access to information-gathering processes combined with dynamic, value-based prioritization of information. Under the intended configuration, diverse inputs can enter and circulate through accessible, bidirectional channels, while their $P(x_i)$ values are continually adjusted according to contextual relevance, evidential quality, and potential contribution to organizational objectives. GITT-DEI thus seeks an optimal entropy zone in which informational variety is preserved without sacrificing the coherence required for informed decisions, coordinated action, and adaptive organizational performance.

ENTROPY MEASUREMENT

Figure 1 identifies four layers of organizational filtering and prioritization: structural, sociocultural, interpersonal, and epistemic. In the GITT-DEI framework, each layer may alter the relative influence of available informational alternatives. Entropy can therefore be calculated after each layer to trace how information becomes concentrated or remains dispersed throughout the decision-making process. Importantly, the types, sequencing, and intensity of these mechanisms will vary according to the organizational context, industry, organizational type, workforce composition, culture, and strategic priorities.

Suppose an organization is considering n alternatives:

$$X = \{x_1, x_2, \dots, x_n\}$$

Depending on the decision being studied, these alternatives may be proposals, policy options, stakeholder concerns, problem interpretations, or knowledge claims. At each layer, every alternative receives an observable weight based on an appropriate indicator (see Table 1 for example).

For a valid layer-by-layer comparison, the empirical weights should refer to the same underlying alternatives. For example, the analysis could track the five proposals throughout the process:

- Structural weight: how much formal access each proposal receives.
- Sociocultural weight: how frequently each proposal or its contributor is consulted.
- Interpersonal weight: how much substantive attention each proposal receives during meetings.
- Epistemic weight: how much of each proposal's reasoning is retained in the final documents.

Because these indicators use different units, such as invitations, consultations, speaking minutes, and citations, they should first be converted to relative shares that sum to 1. The results should still be interpreted cautiously: the calculation compares the concentration of attention or influence at different stages, not identical raw quantities.

Table 1. Possible empirical indicators across layers

Layer	What it determines	Possible empirical indicators
Structural	Which alternatives formally enter the process	Proposal admissions, agenda inclusion, meeting invitations, committee membership, and access to review procedures
Sociocultural	Whose information is considered credible or worthy of attention	Consultation frequency, communication networks, endorsement patterns, cross-group communication, and who is routinely asked for advice
Interpersonal	How interactions affect the attention given to each alternative	Speaking time, interruptions, acknowledgment rates, substantive responses, and frequency of discussion

Epistemic	Which claims and forms of evidence are accepted as legitimate	Citations, attributions, evidentiary references, adoption of arguments, and reasoning retained in final documents
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The weight of each alternative at layer l is converted into a relative share:

$$P_l(x_i) = \frac{\text{weight of alternative } x_i \text{ at layer } l}{\text{total weight of all alternatives at layer } l}$$

These shares must add up to 1.

Once the probabilities have been obtained, entropy is calculated using Shannon's equation:

$$H_l(X) = - \sum_{i=1}^n P_l(x_i) \log_2 P_l(x_i)$$

Higher entropy indicates that influence is distributed relatively evenly across alternatives, whereas lower entropy indicates greater concentration. Because the maximum value depends on the number of alternatives, normalized entropy can be used:

$$H_l^* = \frac{H_l(X)}{\log_2 n}$$

This measure ranges from 0 to 1. The change attributable to a layer is:

$$R_l = H_{l-1}(X) - H_l(X)$$

A positive value indicates that influence has become more concentrated, whereas a negative value indicates that it has become more evenly distributed. However, neither change is inherently beneficial: concentration may reflect evidence-based prioritization or exclusion, while greater dispersion may reflect productive inclusion or unresolved overload, depending on the situation.

For example, suppose five proposals initially have equal probabilities of 0.20. Their baseline entropy is 2.322 bits. After passing through the four layers, their distributions might change as follows in Table 2. It should be noted that, although not explicitly represented here, some proposals may be filtered out at particular stages, reducing the number of alternatives considered in subsequent prioritization layers.

Table 2. Hypothetical entropy estimates across organizational layers

Stage	Distribution across proposals A–E	Entropy	Normalized entropy	Reduction at this layer
Initial pool	0.20, 0.20, 0.20, 0.20, 0.20	2.322	1.000	—
Structural	0.24, 0.22, 0.20, 0.18, 0.16	2.307	0.994	0.015
Sociocultural	0.30, 0.24, 0.18, 0.15, 0.13	2.254	0.971	0.053
Interpersonal	0.36, 0.25, 0.16, 0.13, 0.10	2.169	0.934	0.085
Epistemic	0.40, 0.25, 0.15, 0.10, 0.10	2.104	0.906	0.065

For example, at the epistemic layer, suppose the documents produced at the end of a decision cycle—including meeting minutes, the decision memorandum, and any dissenting or concurring notes—contain 20 explicit citations or attributions to the reasoning underlying the proposals. If Proposal A is cited eight times, Proposal B five times, Proposal C three times, and Proposals D and E twice each, the raw counts will be: A = 8, B = 5, C = 3, D = 2, and E = 2, for a total of 20.

Using the layer-specific conversion formula, the corresponding informational weights are:

$$P(A) = \frac{8}{20} = 0.40, \quad P(B) = \frac{5}{20} = 0.25, \quad P(C) = \frac{3}{20} = 0.15, \quad P(D) = \frac{2}{20} = 0.10, \\ P(E) = \frac{2}{20} = 0.10$$

The entropy is then calculated as:

$$H_{\text{Epistemic}}(X) = -[0.40 \log_2(0.40) + 0.25 \log_2(0.25) + 0.15 \log_2(0.15) + 0.10 \log_2(0.10) + 0.10 \log_2(0.10)] \approx 2.104 \text{ bits}$$

Normalized entropy is:

$$H_{\text{Epistemic}}^* = \frac{H_{\text{Epistemic}}(X)}{\log_2 5} = \frac{2.104}{2.322} = 0.906$$

The effective number of alternatives—defined as the number of equally weighted alternatives that would produce the same entropy as the observed unequal distribution—is:

$$N_{\text{Epistemic}} = 2^{H_{\text{Epistemic}}(X)} = 2^{2.104} \approx 4.30$$

A value of 5 would indicate equal influence across all proposals, whereas a value approaching 1 would indicate near-complete dominance by a single proposal. The value of 4.3 indicates that the final decision remains informed by a relatively broad range of proposals, although Proposal A has gained greater influence than the others.

Table 2 shows that the interpersonal layer produces the largest reduction in entropy (0.085 bits), suggesting that meeting dynamics contribute most strongly to the concentration of influence. Further analysis could examine speaking time, interruptions, and acknowledgment records to identify the mechanisms underlying this reduction.

Entropy should be interpreted alongside complementary indicators, such as proposal-survival rates, decision-cycle duration, idea adoption, network diversity, and decision quality. Together, these indicators can reveal where and why information is narrowed and whether that narrowing reflects effective prioritization, exclusionary filtering, or unmanaged informational overload.

THE OPTIMAL ENTROPY ZONE

If DEI initiatives are understood as tools for maintaining an optimal zone of informational entropy, a central question arises: how can this optimal zone be determined? This question can be formally addressed using the Capture Threshold as the lower bound and the Sufficiency Threshold as the upper bound. The Capture Threshold marks the point below which the organizational information space becomes effectively single-voiced: influence is so concentrated that meaningful choice among viable alternatives disappears, even when several alternatives nominally remain. Conversely, the Sufficiency Threshold marks the point beyond which more alternatives retain meaningful influence than the organization's finite attention can substantively process, preventing any alternative from gaining sufficient weight for coordinated action.

Identifying this optimal zone requires precise criteria for when entropy becomes too low or too high, as well as a demonstration that the proposed boundaries follow from those criteria. The remainder of this section, therefore, moves from description to formalization. Alternatives and their weights are represented within a probability simplex; the two thresholds are defined as explicit functions of two organizational primitives; and their implications are derived as propositions rather than asserted.

Setup. Let $X = \{x_1, \dots, x_n\}$ be the alternatives under consideration, with $n \geq 2$, and let $P = (P_1, \dots, P_n)$ be their relative influence weights, so that $P_i \geq 0$ and $\sum_{i=1}^n P_i = 1$. Write Δ^{n-1} for the set of all such weight vectors. Entropy is measured in bits, using the convention $0 \log_2 0 = 0$:

$$H(P) = - \sum_{i=1}^n P_i \log_2 P_i \in [0, \log_2 n]. \quad (1)$$

The functional form $-\sum p \log p$ is borrowed, together with the name, from the statistical-mechanical entropy defined for a gas approaching equilibrium (Boltzmann, 1964) and later adapted to communication by (Shannon, 1948); nothing here claims that an organization is a physical system in any sense beyond this shared arithmetic.

The effective number of alternatives is

$$D(P) = 2^{H(P)}, \quad (2)$$

and the normalized entropy is $H^*(P) = H(P)/\log_2 n$. Where a layer index is required, the article's earlier notation carries over unchanged: $H_l(X) = H(P_l)$ and $D_l = D(P_l)$, with l indexing the structural, sociocultural, interpersonal, and epistemic layers. The superscript in Δ^{n-1} records that the set of weight vectors over n alternatives has $n - 1$ free coordinates, the last being fixed by the requirement that the weights sum to one. The symbol $\emptyset$ denotes the empty set, and the filled square marks the end of a proof.

Definition 1 (Thresholds). Two organizational primitives are required. The first is a *plurality requirement*: an integer $d \geq 2$ giving the minimum number of alternatives that must retain live influence for a decision to count as a choice, where $d = 2$ is the weakest possible setting. The second is a *deliberative capacity*: a bounded attention budget $B > 0$ per decision cycle, in which substantive processing of one alternative costs $c > 0$, so that at most

$$m = \left\lfloor \frac{B}{c} \right\rfloor \quad (3)$$

alternatives can be processed, where $\lfloor \cdot \rfloor$ denotes the floor, that is, the largest integer not exceeding its argument, so that m counts whole alternatives rather than fractions of one. Assume throughout that $B \geq c$, so that $m \geq 1$. The Capture Threshold, the Sufficiency Threshold, and the zone they bound are

$$H_{\text{cap}} = \log_2 d, \quad H_{\text{suf}} = \log_2 m, \quad Z = [\log_2 d, \log_2 m]. \quad (4)$$

Because the map $s \mapsto 2^s$ is strictly increasing, $H(P) \in Z$ holds if and only if $d \leq D(P) \leq m$. The thresholds are therefore statements about the effective number of alternatives rather than about the nominal count n .

Lemma 1 (Support bound). *Let $S(P) = \{i: P_i > 0\}$ be the support of P , that is, the set of alternatives carrying strictly positive weight, and write $|S(P)|$ for its cardinality, the vertical bars denoting the number of elements of a set rather than absolute value. Then $D(P) \leq |S(P)|$. Consequently, if $H(P) \geq \log_2 d$, then at least d alternatives carry strictly positive weight.*

Proof. By the concavity of $\log_2$ and Jensen (1906)'s inequality,

$$H(P) = \sum_{i \in S(P)} P_i \log_2 \frac{1}{P_i} \leq \log_2 \left(\sum_{i \in S(P)} P_i \cdot \frac{1}{P_i} \right) = \log_2 |S(P)|. \quad (5)$$

Exponentiating gives $D(P) \leq |S(P)|$. If $H(P) \geq \log_2 d$, then $|S(P)| \geq D(P) \geq d$, and since $|S(P)|$ is an integer, at least d alternatives carry strictly positive weight.

Lemma 1 gives the Capture Threshold a meaning that does not rest on stipulation alone: remaining above it guarantees genuine plurality of the weighted support. The converse does not hold, since d

alternatives may carry positive but negligible weight; and no analogous bound is available on the upper side, because $D(P) \leq m$ places no restriction on how many alternatives carry small positive weights. The Sufficiency Threshold is therefore the weaker of the two constructs, resting on the modeling assumption that deliberative load scales with effective rather than nominal breadth.

Proposition 1 (Existence, width, and dilution of the optimal entropy zone). *Let $d \geq 2$ be an integer, let $m = \lfloor B/c \rfloor \geq 1$, and let Z be as in (4). Then:*

- (i) (Existence) $Z \neq \emptyset$ if and only if $B \geq dc$;
- (ii) (Attainability) the set of entropy values that are both admissible and attainable for a pool of n alternatives is $Z \cap [0, \log_2 n] = [\log_2 d, \log_2 \min(m, n)]$, which is non-empty if and only if $B \geq dc$ and $n \geq d$;
- (iii) (Width) when Z is non-empty, its width in bits is $\log_2(m/d)$, which does not depend on n ;
- (iv) (Dilution) in normalized units,

$$Z^* = \left[\frac{\log_2 d}{\log_2 n}, \frac{\log_2 m}{\log_2 n} \right], \quad (6)$$

whose width tends to 0 as $n \rightarrow \infty$ with B, c , and d held fixed.

Proof.

- (i) Since $\log_2$ is strictly increasing, $Z \neq \emptyset$ if and only if $d \leq m$. If $d \leq \lfloor B/c \rfloor$, then $d \leq B/c$, because $\lfloor B/c \rfloor \leq B/c$. Conversely, if $d \leq B/c$, then $d \leq \lfloor B/c \rfloor$, because d is an integer. Hence $d \leq m$ if and only if $B \geq dc$.
- (ii) By (1), the attainable entropies for a pool of size n are exactly $[0, \log_2 n]$. Intersecting with Z gives $[\log_2 d, \min(\log_2 m, \log_2 n)]$, and $\min(\log_2 m, \log_2 n) = \log_2 \min(m, n)$ by monotonicity of $\log_2$. This interval is non-empty if and only if $d \leq \min(m, n)$, that is, if and only if $d \leq m$ and $d \leq n$; the first condition is equivalent to $B \geq dc$ by part (i).
- (iii) The width is $\log_2 m - \log_2 d = \log_2(m/d)$, and neither m nor d is defined by reference to n .
- (iv) Dividing the bounds in (4) by $\log_2 n$, with $n \geq 2$, yields (6), whose width is $\log_2(m/d)/\log_2 n$, and this tends to 0 as $n \rightarrow \infty$ because the numerator is a constant. ■

Three readings follow. Part (i) states that an organization whose attention budget cannot cover even the minimum plurality, that is, one for which $B < dc$, admits no acceptable entropy level whatsoever: every configuration it can occupy is either captured or overloaded. Part (ii) makes explicit that diversity is necessary but not sufficient: unless $n \geq d$, the lower bound cannot be reached, yet enlarging n beyond m adds nothing to the admissible range. Parts (iii) and (iv) formalize a claim made informally above. Expanding the pool of alternatives does not widen the target; only capacity, B/c , does, and capacity is precisely what equity and inclusion mechanisms govern. In normalized terms, greater n makes the target proportionally narrower.

The illustration used earlier in this article can be read against these bounds. With $d = 2$, a deliberative capacity of $m = 4$, and $n = 5$, the zone is $[1.00, 2.00]$ bits. The epistemic-layer distribution $(0.40, 0.25, 0.15, 0.10, 0.10)$ has $H = 2.104$ bits and $D = 4.30$, so it sits marginally above the Sufficiency Threshold: slightly more alternatives retain effective influence than a capacity of four can absorb.

Estimating m . The budget B and unit cost c need not be measured separately, since only their ratio enters. A workable proxy for m is the number of alternatives that receive substantive discussion time above a stated minimum within one decision cycle, counted from meeting records; a stricter proxy is the number whose reasoning is still traceable in the final decision document. Both are observable with the same instruments the framework already uses, and the two will typically bracket m from above and below.

Corollary 1 (Long-run capture). *Suppose a weight vector evolves over discrete periods $t = 0, 1, 2, \dots$ by partial movement, each period, toward a fixed target profile $F \in \Delta^{n-1}$:*

$$P_{t+1} = (1 - \eta)P_t + \eta F, \quad \eta \in (0, 1), \quad P_0 \in \Delta^{n-1} \text{ given.} \quad (7)$$

Here η is a fixed, constant fraction of the remaining gap to F closed in each period, and F is treated as exogenously fixed. It does not itself respond to P_t .

Then $P_t \rightarrow F$ and $H(P_t) \rightarrow H(F)$ as $t \rightarrow \infty$. In particular, if $H(F) < \log_2 d$, there exists a period T after which the vector is permanently captured, i.e., $H(P_t) < \log_2 d$ for all $t \geq T$, regardless of how diverse the initial vector P_0 was. The capture mechanism is conceptually grounded in the author's ongoing work (Vuong, 2026).

Proof.

Step 1: Feasibility. Rewriting (7) as $P_{t+1} = (1 - \eta)P_t + \eta F$ exhibits each iterate as a convex combination of two elements of Δ^{n-1} , namely P_t, F , with weights $(1 - \eta)$ and η summing to 1 and both lying in $(0, 1)$. Since Δ^{n-1} is convex, $P_{t+1} \in \Delta^{n-1}$ whenever $P_t \in \Delta^{n-1}$. By induction from $P_0 \in \Delta^{n-1}$, every iterate $P_t \in \Delta^{n-1}$ is a well-defined weight vector.

Step 2: Convergence of the weight vector. For each coordinate i , write $u_{it} = P_{it} - F_i$ for its deviation from the target. Subtracting F_i from both sides of (7) gives:

$$u_{i,t+1} = P_{i,t+1} - F_i = (1 - \eta)P_{i,t} + \eta F_i - F_i = (1 - \eta)(P_{i,t} - F_i) = (1 - \eta)u_{i,t}, \quad (8)$$

By induction, $u_{i,t} = (1 - \eta)^t u_{i,0} \forall t$. Since $\eta \in (0, 1)$, it follows that $0 < 1 - \eta < 1$, so $(1 - \eta)^t \rightarrow 0$ as $t \rightarrow \infty$, and hence $u_{i,t} \rightarrow 0 \forall i$. Equivalently, $P(t) \rightarrow F$ (coordinate-wise, and hence in any norm on the finite-dimensional space Δ^{n-1} lies in, since all norms there are equivalent).

Step 3: Convergence of entropy. H is continuous on Δ^{n-1} (Preliminaries). Since $P(t) \rightarrow F$ and H is continuous at F , it follows directly that $H(P_t) \rightarrow H(F)$ as $t \rightarrow \infty$.

Step 4: Eventual capture. Suppose $H(F) < \log_2 d$. Set $\epsilon = \log_2 d - H(F) > 0$. By the convergence established in Step 3, there exists a period T such that $|H(P_t) - H(F)| < \epsilon, \forall t \geq T$. For any such t :

$$H(P_t) < H(F) + \epsilon = H(F) + [\log_2 d - H(F)] = \log_2 d. \quad (9)$$

Hence $H(P_t) < \log_2 d, \forall t \geq T$. That is, the vector is captured from period T onward. Because this conclusion follows from the limit alone, and the limit does not depend on P_0 , the period T may depend on how far P_0 starts from F (a more diverse start delays T), but capture itself cannot be avoided by any choice of P_0 .

Two qualifications are worth stating plainly. First, the argument establishes only that concentration below the threshold $\log_2 d$ becomes permanent when the target F itself lies below it; it says nothing about which alternatives end up favored, only how much plurality survives. Second, both η and F are held fixed throughout the argument. Were η to vary over time, or were F itself to respond to P_t , rather than remaining exogenous, the convergence argument in Steps 2–3 would need to be revisited, since it relies on a constant contraction factor and a stationary target.

Several limitations should be acknowledged at this point. Both d and c are stipulated rather than measured, and treating processing cost as uniform across alternatives is a simplification that field data would likely contradict. The thresholds are necessary conditions for coherent choice, not sufficient conditions for good decisions: nothing here indicates *which* alternatives merit weight, only how much concentration a decision process can bear at either extreme.

A continuous-time analogue

For illustration, the adjustment process (7) has a continuous-time twin. Let $P(t) \in \Delta^{n-1}$ evolve under

$$\frac{dP}{dt} = \eta(F - P(t)), \quad \eta > 0, \quad P(0) \in \Delta^{n-1}, \quad (10)$$

so that weights relax toward the fixed prestige profile F at rate η . In (7), the index t runs over decision cycles, and η is a dimensionless fraction of the remaining gap closed per cycle; in (10), the variable t is continuous, and η is a rate per unit time. Equation (7) is the explicit Euler discretization of (10) with unit time step; the restriction $\eta \in (0,1)$ in Corollary 1 is what keeps the discrete iterates inside the simplex while leaving the approach asymptotic rather than immediate.

Proposition 2 (Global stability). *Under (10):*

- (a) $P(t) = (1 - e^{-\eta t})F + e^{-\eta t}P(0) \in \Delta^{n-1}$ for all $t \geq 0$;
- (b) F is the unique equilibrium and is globally exponentially stable, with $\|P(t) - F\| = e^{-\eta t}\|P(0) - F\|$, so that the deviation halves every $\ln 2/\eta$ units of time. Here $\|v\| = (\sum_{i=1}^n v_i^2)^{1/2}$ is the Euclidean norm, which measures how far the current weight distribution sits from the long-run one, and e is the base of the natural logarithm;
- (c) $h(t) = H(P(t)) \rightarrow H(F)$, so that long-run membership in Z is again determined by F alone.

Proof.

- (a) Setting $u(t) = P(t) - F$ turns (10) into $u' = -\eta u$, whose unique solution is $u(t) = e^{-\eta t}u(0)$. Hence $P(t) = F + e^{-\eta t}(P(0) - F)$, which rearranges to the convex combination stated, since $e^{-\eta t} \in (0,1]$ for $t \geq 0$; a convex combination of two elements of Δ^{n-1} lies in Δ^{n-1} .
- (b) The right-hand side of (10) vanishes if and only if $P = F$, so the equilibrium is unique. Taking norms in $u(t) = e^{-\eta t}u(0)$ gives the stated decay, and the Jacobian of (10), namely the matrix of partial derivatives of its right-hand side, is $-\eta I$, where I is the $n \times n$ identity matrix; its eigenvalues all equal $-\eta < 0$. Equivalently, $V(P) = \|P - F\|^2$ satisfies

$$\dot{V} = 2(P - F) \cdot \frac{dP}{dt} = -2\eta\|P - F\|^2 = -2\eta V, \quad (11)$$

where the centred dot in $(P - F) \cdot dP/dt$ denotes the Euclidean inner product, and the overdot in $\dot{V}$ denotes differentiation with respect to time, so that $\dot{V} = dV/dt$ is the rate of change of V along a trajectory of (10). Since $\dot{V} < 0$ whenever $P \neq F$, the function V is a strict Lyapunov function, and the decay is global rather than local.

- (c) Immediate from (a) and the continuity of H on Δ^{n-1} .

Two features deserve emphasis. First, η governs only the speed of approach, not the destination: no reinforcement rate places the long-run state anywhere other than $H(F)$. Second, $h(t)$ is not monotone in general and is not itself a Lyapunov function for (10); entropy may rise or fall on the way to $H(F)$, depending on where $P(0)$ sits relative to F . Organizations may therefore pass *through* the optimal zone en route to a captured equilibrium, which is precisely why a single cross-sectional entropy measurement can be misleading.

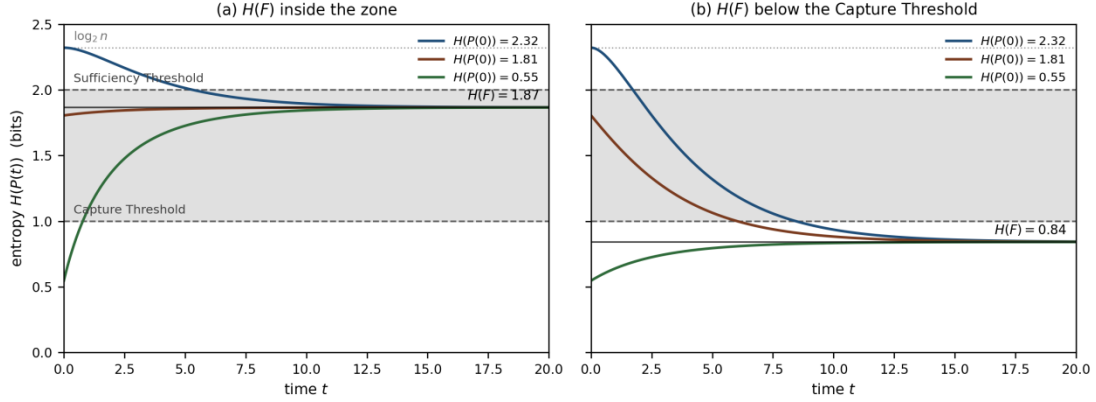


Figure 3. Stability of the entropy trajectory under Equation (10), with $n = 5$, $\eta = 0.35$, and the optimal entropy zone $[\log_2 2, \log_2 4] = [1.000, 2.000]$ bits shaded

Note: Three initial distributions are shown in each panel, with $H(P(0)) = 2.32, 1.81$, and 0.55 bits.
(a) A prestige profile $F = (0.50, 0.25, 0.13, 0.07, 0.05)$, for which $H(F) = 1.87$ bits and $D(F) = 3.65$: all trajectories converge into the zone irrespective of initial concentration.
(b) A prestige profile $F = (0.86, 0.06, 0.04, 0.02, 0.02)$, for which $H(F) = 0.84$ bits and $D(F) = 1.79 < d$: all trajectories converge below the Capture Threshold, and the initially most diverse distribution, at the maximum of $\log_2 5 = 2.32$ bits, merely takes longer to arrive. Diversity at $t = 0$ delays capture but does not prevent it.

Equation (10) is offered as a transparent illustration rather than an empirical claim (see Figure 3). It treats η as constant and F as exogenous and fixed, whereas in organizations both plausibly respond to the outcomes they produce; a model in which F is endogenous would be considerably more realistic and considerably less tractable. As Vuong (2026) notes of the corresponding belief-updating equation, the model does not explain why the prestige profile is concentrated in the first place. That question belongs to the structural, sociocultural, interpersonal, and epistemic mechanisms cataloged above, which sit outside the equation.

Future work should test whether d and c , or their ratio m , can be estimated reliably from the observable proxies proposed above, such as discussion time above a stated minimum or reasoning retained in final decision documents, and whether thresholds estimated this way actually distinguish organizations that experience capture or overload from those that do not. The four-layer decomposition should likewise be validated against longitudinal organizational data, tracking whether entropy trajectories computed from real indicators, including but not limited to network diversity, speaking-time distribution, and citation patterns, correspond to the qualitative outcomes GITT-DEI predicts, such as fewer reported blind spots within the zone and greater reported overload above it.

GITT AND OTHER SOCIAL PHILOSOPHICAL THEORIES

The GITT perspective on organizational information flow and entropy does not contradict established social theories but it offers a valuable complement to Social Identity Theory, the Information and Decision-Making Perspective, and Intersectionality Theory, as well as to philosophical foundations of DEI, including Epistemic Injustice, Justice as Fairness, and Discourse Ethics. Social Identity Theory explains how group categorization can shape whose knowledge is recognized; the Information and Decision-Making Perspective shows how diverse knowledge can enhance problem-solving while increasing coordination costs; and Intersectionality Theory reveals how interconnected systems of privilege and disadvantage influence organizational experiences and participation. Meanwhile,

Epistemic Injustice, Justice as Fairness, and Discourse Ethics provide normative guidance concerning whose knowledge should be heard, how influence and opportunities should be distributed, and how inclusive deliberation should proceed. These perspectives converge with GITT's central insight that effective information management—who is heard, how knowledge is evaluated, and how uncertainty is navigated—is essential to meaningful diversity, equity, and inclusion. GITT further complements them by explaining how organizations filter, prioritize, integrate, and use information to regulate uncertainty, thereby clarifying both the potential organizational benefits of DEI and the trade-offs involved (see Table 3).

Specifically, Social Identity Theory explains how individuals categorize themselves and others into social groups, often producing in-group favoritism and out-group bias (Tajfel & Turner, 2001). These categorization processes become organizationally consequential through what Lau and Murnighan (1998) call faultlines: hypothetical dividing lines that may separate a team into subgroups when multiple identity or attribute dimensions—such as race, department, tenure, and function—align. Under these conditions, the same potential subgroup boundary is reinforced across several dimensions rather than weakened by cross-cutting patterns of membership.

From a GITT perspective, such alignment can be interpreted as a condition under which organizational filtering becomes increasingly correlated. When multiple signals concerning who belongs, who is credible, and whose contributions deserve attention reinforce one another, collective belief-updating may cease to reflect multiple relatively independent evaluations and instead increasingly resemble the repetition of a shared judgment. Through this mechanism, an initially distorted assessment of an individual's credibility may become self-reinforcing and resistant to correction, consistent with the hysteresis dynamics of correlated belief-updating. GITT therefore complements Social Identity Theory and faultline theory by proposing an informational mechanism through which certain team configurations may become susceptible to entrenched bias. The risk lies not in diversity itself but in the alignment of multiple identity and functional dimensions, which may allow initially small filtering biases to accumulate. Where organizational requirements permit, teams may therefore be composed so that identity and functional dimensions cross-cut rather than consistently reinforce one another, potentially weakening faultlines and keeping identity-based evaluations more open to correction.

The Information and Decision-Making Perspective holds that diversity can improve organizational performance by expanding the range of knowledge, skills, and perspectives available for problem-solving, while also increasing coordination costs as the volume and heterogeneity of inputs grow (Van Knippenberg et al., 2004; Williams & O'Reilly III, 1998). GITT provides an informational interpretation of this trade-off. To the extent that diversity expands the range of relevant informational alternatives and distributes the likelihood of their utilization more broadly, it may increase potential entropy and make organizational information processing more complex and uncertain. This tension can therefore be conceptualized as an entropy-regulation problem requiring effective mechanisms for filtering, prioritizing, and integrating information.

The categorization-elaboration model further proposes that the benefits of diversity depend on whether teams engage in the effortful processing of task-relevant information. Such elaboration is influenced by task motivation, cognitive capacity, and social categorization processes, which may discourage engagement with information contributed by out-group members (Van Knippenberg et al., 2004). GITT gives this conditionality a more explicit informational interpretation: equity and inclusion jointly influence whether informational inputs can enter the collective decision space, be expressed and seriously considered, and ultimately be integrated into organizational decisions.

Meanwhile, Intersectionality Theory suggests that organizational experiences may be shaped by intersecting systems of privilege and disadvantage associated with identities such as race and gender, as well as class, ability, and other social positions in its broader applications. Consequently, single-axis analyses may obscure disadvantages arising from particular configurations of identities (Crenshaw,

1989). From a GITT perspective, this possibility can be understood as information loss through aggregation. When a relevant identity dimension is aggregated out, the granular information needed to identify interactions among identity dimensions may be lost. Effective governance, therefore, requires examining organizational outcomes and informational weights at the level of theoretically relevant intersectional configurations, rather than assuming that identity dimensions operate independently or relying exclusively on aggregate categories. Intersectionality Theory identifies the interconnected structures through which unequal experiences arise. In contrast, GITT clarifies how filtering, aggregation, or inappropriate weighting of intersection-specific information may reproduce those inequalities in organizational decision-making.

Epistemic Injustice, coined by Miranda Fricker, occurs when individuals are wronged specifically in their capacity as knowers (Fricker, 2007, 2017; Meredith, 2024). A typical example is when an employee's testimony or idea is unfairly discredited due to prejudice. From a GITT perspective, such suppression of knowledge can be seen as an entropy-reduction shortcut, through which the organization reduces uncertainty and unpredictability by systematically ignoring certain streams of information. When leaders routinely dismiss input from junior staff or marginalized groups, they effectively remove those informational quanta from the collective processing. This simplification may lower entropy but comes at the cost of lost insight, innovation, and fairness (Gorski & Swalwell, 2023). Epistemic justice calls for correcting these biases by giving all members' knowledge appropriate weight.

In practice, this means deliberately elevating silenced voices and valuing diverse narratives, thereby increasing the volume and complexity of informational input (and, with it, entropy) that the organization must process. GITT complements Fricker's theory by quantifying the trade-off: excluding perspectives may yield short-term coherence (i.e., an unsustainable low-entropy state), but it impoverishes the knowledge base and perpetuates injustice. Conversely, achieving epistemic justice – treating everyone as an equally capable knower – maximizes usable information for informed decision-making, value creation, and effective action. The key is managing the resulting higher entropy, not avoiding it through exclusion.

John Rawls's theory of Justice as Fairness envisions a society of free and equal citizens cooperating within a fair system of institutions (Rawls, 1971). He grappled with how to maintain stability in a pluralistic society composed of divergent worldviews (Talisie, 2003). In Rawls's famous veil of ignorance thought experiment, decision-makers must consider all perspectives equally, thereby fostering perspective-taking and ensuring no one's position is privileged. This mechanism introduces a form of maximum informational diversity into the formulation of principles of justice. The outcome is a set of fair rules that accommodate a plurality of life plans while preserving social coherence. In other words, Rawls's approach effectively limits entropy by instituting common principles (e.g., equal basic liberties and the difference principle) that ensure fairness while preserving order (Rawls, 1975).

An analogous logic applies in organizational contexts. Too little diversity, such as in an authoritarian monoculture, leads to injustice and systemic fragility, whereas too much unstructured diversity without shared guiding principles can result in disorder and inefficiency. The pivotal goal is to harness diversity – allowing individuals to pursue different talents and ideas – within a framework that maintains organizational stability and coherence. For example, a company might grant teams considerable autonomy in methods and creativity while upholding core values or strategic goals that ensure alignment. Viewed through a Rawlsian lens, fair processes, such as inclusive rule-setting or prioritizing the perspectives of the least advantaged, are essential for balancing the potential of diversity with functional efficiency (Chen & Hooker, 2020; Feng, 2021). In GITT terms, such fairness criteria serve as entropy regulators. They prevent any single group's knowledge from dominating, preserving informational diversity while simultaneously providing enough structure to avoid decision-making paralysis and randomness.

Meanwhile, Jürgen Habermas' philosophical theory of Discourse Ethics posits that legitimate norms and decisions must emerge through inclusive, rational dialogue, where all affected parties can freely participate and only the unforced force of the better argument prevails (Habermas, 1990). In an ideal discourse situation, no power dynamics or prejudices distort communication; the process is designed to allow truth and logical value to emerge. When Habermas emphasizes that only the better argument should carry sway, this can be interpreted – through an information processing lens – as a call to prioritize epistemic signal over noise (Spottswood, 2014): reliable information, such as valid, relevant arguments, is amplified, while untrustworthy information, such as fallacies, distortions, and irrelevant biases, is filtered out through critique.

Many organizations adopt practices aligned with this principle, such as structured debates, inclusive forums where all stakeholders are heard, and decision-making protocols that require reasoned justification (Stringfellow, 2020). These practices aim to leverage the benefits of diversity – ensuring that all voices are included – within a structured communicative format that transforms high informational entropy into reasoned consensus. In this sense, Habermas offers a model for handling complex and diverse input by systematically testing and validating claims, ensuring that the resulting decisions are both inclusive and epistemically sound (Habermas, 1990).

Through GITT's conception of the organization as an information system, Discourse Ethics offers a structured procedure for integrating diverse knowledge while filtering out informational “noise,” reducing the overall entropy of the system. Discourse-oriented processes can be understood as algorithms for knowledge integration. They process multiple inputs through iterative dialogue, gradually converging on agreed-upon truths or actionable decisions. This allows organizations to preserve epistemic diversity, ensuring that all voices contribute while avoiding decision paralysis, as the discourse systematically narrows options based on logic and evidence (Zanoni & Janssens, 2015). In essence, GITT and Habermasian Discourse Ethics are complementary. Together, they highlight how high-entropy information exchanges can be organized fairly and productively. Rather than suppressing diversity through authoritarian hierarchy to reduce informational entropy, they suggest that diverse streams of information can be transformed into collective knowledge through rational structures and inclusive communicative norms.

Linking these social and philosophical theories with GITT reveals a unifying insight: organizational knowledge flows need to be managed in ways that value diverse voices while still producing the actionable clarity required for effective decision-making (Albright et al., 2025; Ely & Thomas, 2001). Social Identity Theory explains how group categorization and faultlines can shape which knowledge is recognized or filtered out; the information and decision-making perspective clarifies how diverse knowledge can improve problem-solving while increasing coordination demands; and Intersectionality Theory reveals how overlapping systems of privilege and disadvantage influence access, participation, and informational weight. GITT complements these theories by interpreting such processes through the filtering, prioritization, weighting, and integration of informational inputs, as well as the regulation of the resulting uncertainty.

At the same time, the theories of Epistemic Injustice, Justice as Fairness, and Discourse Ethics provide essential normative guidance concerning whose knowledge should be heard, how opportunities and influence should be distributed, and how rational and inclusive deliberation should proceed. Together, these perspectives suggest that successful DEI efforts are not merely moral imperatives or business strategies (Köllen et al., 2018; Poff, 2023), but also matters of organizational information and epistemic governance. This entails creating systems in which diverse information and knowledge can be shared without epistemic exclusion, assigned equitable opportunities to influence decisions, and integrated through inclusive and rational deliberation – all while regulating informational entropy at a sustainable level that preserves organizational coherence, adaptability, creativity, and capacity for self-correction.

Table 3. Theoretical foundations of DEI and GITT-DEI's complementary contributions

Theory/ perspective	Core claim	GITT-DEI's complementary contribution
Social Identity Theory	Individuals categorize themselves and others into social groups, potentially producing in-group favoritism, out-group bias, and organizational fault-lines when identity dimensions align.	GITT interprets these effects as correlated filtering and weighting processes through which minor identity-based biases can become self-reinforcing and resistant to correction.
Information and Decision-Making Perspective	Diversity expands the knowledge, experiences, and perspectives available for problem-solving but may also increase coordination costs when diverse inputs are insufficiently elaborated and integrated.	GITT conceptualizes this trade-off as an entropy-regulation problem. Filtering, prioritization, weighting, and integration can limit informational overload without eliminating valuable inputs.
Intersectionality Theory	Privilege and disadvantage emerge through intersections among identities such as race, gender, class, and ability; single-axis analyses may therefore obscure the experiences of particular groups.	GITT interprets this problem as potential information loss through aggregation. Examining identities separately may discard granular information about their interactions and lead to inappropriate weighting or corrective action.
Epistemic Injustice	Individuals may be wronged as knowers when prejudice diminishes their credibility or when dominant interpretive resources prevent their experiences from being adequately understood.	GITT explains how epistemic injustice operates through unequal access to informing channels and biased filtering, weighting, retention, and utilization of knowledge.
Justice as Fairness	Just institutions should ensure equal liberties and fair opportunities while structuring benefits and burdens to protect disadvantaged groups.	GITT translates these principles into questions about how opportunities to contribute information and influence decisions are distributed and weighted within organizations.
Discourse Ethics	Legitimate norms and decisions should emerge through inclusive, reasoned deliberation in which affected individuals can participate freely and challenge claims without coercion.	GITT conceptualizes deliberation as an interactional process in which informational inputs are exchanged, evaluated, and integrated, thereby generating collective insights and regulating uncertainty.

PRACTICAL IMPLICATIONS FOR MANAGEMENT

Viewing DEI through the lens of GITT shifts the managerial question from whether organizations should maximize or minimize informational diversity to how they can maintain it within an optimal entropy zone. The GITT-DEI framework identifies five interrelated mechanisms for achieving this balance: filtering, weighting, integration, feedback, and monitoring. Organizing management practices around these mechanisms clarifies how each contributes to entropy regulation, rather than treating them as a collection of independent DEI initiatives.

FILTERING: PRESERVING RELEVANT DIVERSITY WHILE PREVENTING OVERLOAD

Filtering is necessary because organizational attention, time, resources, and cognitive capacity are finite. However, filtering should reduce irrelevant or duplicative information without systematically excluding unconventional perspectives or information contributed by marginalized members. Multi-tiered decision-making structures can serve this function by separating broad information generation from progressively more focused evaluation and action. While not every decision requires direct participation from every organizational member, all relevant members should have meaningful pathways through which their knowledge can influence outcomes (Allen et al., 2016).

For example, diverse working groups or task forces at the first tier may generate proposals, identify risks, and gather stakeholder knowledge. Their contributions can then be screened using transparent criteria—such as relevance to the decision, evidential support, urgency, and potential organizational value—before being transferred to a smaller decision-making unit with the expertise and authority to act. Such structures can preserve broad participation while enabling timely and coordinated decisions (Arden & Pentimonti, 2017; Bornstein, 2020; Lane et al., 2020). Inclusion checklists can further require decision-makers to confirm that relevant stakeholder groups, dissenting positions, and intersectional perspectives have been considered before an input is excluded. Recording why proposals were filtered out would also make the process more transparent and open to subsequent review.

However, it should be aware that overly restrictive filters can make organizational judgments increasingly correlated by directing members toward the same dominant people, assumptions, or narratives. Team composition should consequently preserve relatively independent channels of interpretation. Where feasible, organizations may compose teams so that demographic, functional, and professional attributes cross-cut rather than consistently align, thereby weakening faultlines and reducing the likelihood that identity-based filtering becomes self-reinforcing. Effective filtering retains sufficient informational variety for creativity and error correction while keeping the volume of information within the organization's processing capacity.

WEIGHTING: DISTRIBUTING INFORMATIONAL INFLUENCE FAIRLY AND DYNAMICALLY

After relevant inputs have entered the decision space, weighting determines their relative probability of influencing the eventual decision. GITT–DEI does not imply that every contribution should receive identical weight. Instead, informational weight should be assigned dynamically based on factors such as contextual relevance, evidential quality, domain expertise, responsibility, frontline experience, and knowledge of affected stakeholders, but not on organizational status, demographic identity, prejudice, stigma, or historical dominance.

Facilitating roles can help operationalize this principle. A discussion leader may ensure that participants have meaningful opportunities to contribute, while a synthesizer can identify the relevance, supporting evidence, and relationships among different inputs (Halvorsen & Sarangi, 2015). Rotating facilitation roles may also prevent the same individuals from continually determining whose contributions receive attention and encourage more active listening (Sweeney, 2024). Such rotation should nevertheless be used only when incoming facilitators understand the objectives and possess, or can acquire, the knowledge required to guide the process effectively. Training in cognitive bias, inclusive deliberation, and evidence evaluation can further help managers distinguish the value of information from the status of its contributor (Kwok, 2021).

Bridgewater Associates' "believability-weighted" decision process illustrates one possible approach: contributions are collected broadly, but greater weight is assigned to individuals with demonstrated expertise and accurate judgments in the relevant domain (Dalio, 2018). Nevertheless, past performance should not be treated as an automatically fair or universally applicable measure of credibility.

Historical opportunities to demonstrate expertise may also themselves have been unequally distributed, while junior employees or organizational outsiders may possess novel or context-specific knowledge not captured by previous performance records. Weighting systems should therefore remain multidimensional, explainable, contestable, and open to revision rather than reducing credibility to a single fixed score.

INTEGRATION: TRANSFORMING DIVERSE INPUTS INTO COHERENT ACTION

Collecting and weighing diverse information creates little organizational value unless those inputs are meaningfully integrated. Integration refers to the interactional process through which filtered and weighted informational quanta are compared, combined, and transformed into organizational knowledge, decisions, or action. Multi-tiered structures can support this process by enabling diverse first-tier groups to submit synthesized recommendations to smaller decision-making units. The decision-making unit can then reconcile complementarities and trade-offs, specify responsibilities, and translate the resulting knowledge into coordinated action.

The synthesizer role is particularly important at this stage. Rather than merely summarizing the most frequently expressed opinion, the synthesizer should identify convergent evidence, unresolved disagreements, minority insights, and assumptions requiring further examination. Decision records can document how major informational inputs influenced the outcome and which concerns remain unresolved. Preserving dissent in this manner prevents integration from becoming forced consensus and retains information that may become valuable when conditions change.

Open knowledge-sharing initiatives also facilitate integration by reducing silos and improving the availability, accessibility, and traceability of organizational knowledge. Cross-departmental platforms, shared repositories, and recognition of knowledge contributions that extend beyond formal roles can enable members to connect previously fragmented information. A culture of open knowledge exchange may also discourage self-segregation, communication apprehension, stereotyping, and stigmatization while encouraging proactive inclusion (Bernstein et al., 2020). When such practices become routine organizational competencies, they reduce the additional effort required to maintain DEI and make informational integration more sustainable.

FEEDBACK: UPDATING FILTERS, WEIGHTS, AND DECISIONS

In GITT-DEI, organizational decisions should not be treated as the endpoint of information processing. Their implementation produces consequences that generate new information about whether the original filters, weights, and integrations were appropriate. Feedback, therefore, closes the informational loop by returning implementation outcomes, employee experiences, stakeholder responses, and environmental changes to the decision-making system.

Organizations can institutionalize feedback through post-decision reviews, employee and stakeholder consultations, psychologically safe reporting channels, and mechanisms that allow contributors to observe how their inputs are used. Managers should communicate not only the final decision but also which considerations shaped it and why particular proposals were adopted, modified, or rejected. When new evidence challenges the assumptions underlying a decision, the organization should be able to reopen the issue and revise its earlier judgments.

Feedback is especially important for preventing a low-entropy state from becoming rigid and self-validating. Without effective feedback, dominant interpretations may continue to receive greater weight simply because they shaped previous decisions, producing a self-reinforcing cycle. Open, multidirectional feedback allows discrepant information to re-enter the system and helps the organization correct distorted judgments before they become entrenched. It also connects internal DEI processes with external signals arising from technological, market, policy, sociocultural, and ecological changes, thereby improving organizational adaptability.

MONITORING: DIAGNOSING WHETHER ENTROPY REGULATION REMAINS SUSTAINABLE

Monitoring operates at a meta-informational level. It provides information about how the organization itself is processing information. Its purpose is not merely to count the demographic representation of participants but to examine whether diverse knowledge enters, survives, and influences organizational decisions. Relevant indicators may include the diversity of contributors, speaking-time distribution, the proportion of submitted ideas receiving substantive consideration, stakeholder-input survival, adoption rates, decision-cycle time, unresolved disagreements, and the frequency with which decisions are revised following feedback.

These indicators should also be examined across relevant intersectional groups. Aggregate participation figures may appear balanced even when information from a particular subgroup is consistently filtered out or given little weight. Dashboards can help managers visualize whose knowledge enters the decision space, which inputs progress across decision tiers, and whose contributions are repeatedly overlooked. However, such indicators should be interpreted alongside decision quality, implementation outcomes, resource demands, and organizational learning rather than being treated as ends in themselves.

Different monitoring patterns indicate different entropy-management problems. High demographic diversity combined with low stakeholder-input survival may indicate exclusionary filtering or weighting. Broad participation accompanied by repeated delays and duplicated work may reveal deficient integration. A decline in dissenting contributions may signal that the organization is moving toward an excessively concentrated and potentially fragile low-entropy state. Monitoring, therefore, enables managers to identify which mechanism requires adjustment rather than responding indiscriminately by increasing or reducing participation.

AI-SUPPORTED ENTROPY MANAGEMENT AND ITS SAFEGUARDS

AI and data analytics can support each of these mechanisms. AI systems can filter duplicative submissions, identify recurrent themes, and highlight novel or overlooked contributions; assist in weighting by organizing evidence according to predefined criteria; support integration by mapping relationships and disagreements among inputs; analyze feedback from employees and stakeholders; and monitor patterns of participation, exclusion, and information utilization (von Krogh, 2018). Used appropriately, these capabilities can help organizations process a volume and variety of information that might otherwise exceed their available attention and analytical capacity.

Nevertheless, AI is not an epistemically neutral solution. Models trained on human-generated data can reproduce gender, racial, and ideological biases, as well as inequalities in representation arising from unequal opportunities to contribute to information sources (Bentley, 2025). Extending this pattern to organizational contexts, it is plausible that algorithms trained on historical organizational data may reproduce earlier patterns of exclusion and assign greater weight to characteristics correlated with status, majority-group membership, or unequal access to professional opportunities. Automated summaries may suppress contextual nuance or minority viewpoints, particularly when the system treats frequency as an indicator of importance. Algorithmic systems can therefore create an appearance of efficient entropy reduction while embedding existing biases more deeply within organizational decisions (Panarese et al., 2026).

To mitigate these risks, organizations should adopt a reciprocal human–AI collaboration or human-in-the-loop model (Nixdorf et al., 2026). AI can process large volumes of information and flag possible inconsistencies, exclusionary patterns, or overlooked contributions, whereas a diverse human review team evaluates the contextual validity, ethical implications, and representativeness of its outputs. Human reviewers should retain final decision-making authority and be able to revise or reject automated recommendations. Conversely, AI can support oversight by documenting human overrides and identifying recurring discrepancies between stated evaluation criteria and actual decisions. All

outputs should remain explainable, traceable, contestable, and subject to periodic bias audits. From a GITT–DEI perspective, this reciprocal supervision creates a corrective feedback loop that prevents either human or algorithmic biases from becoming self-reinforcing filters.

The collection and analysis of employee feedback also raises privacy concerns. Employees may become reluctant to express criticism if they believe their communications are subject to continuous surveillance or can be traced back to them. Organizations should consequently apply data-minimization and purpose-limitation principles, establish appropriate consent and access controls, protect confidential information, and specify how long employee data will be retained. Privacy safeguards should be particularly strong when analyses involve small intersectional groups whose members may remain identifiable even after conventional anonymization.

AI-generated scores and recommendations should remain decision-support inputs rather than substitutes for human judgment. A clearly identified person or committee should retain responsibility for the final decision, and affected individuals should have a meaningful opportunity to question or appeal automated assessments. Auditability is therefore essential. Organizations should document the data used, the filtering and weighting criteria applied, the model and version producing the output, significant human overrides, and the relationship between automated recommendations and final decisions. Periodic audits should examine whether error rates, input-survival rates, or decision outcomes differ systematically across groups (Qi et al., 2026). These safeguards allow AI to expand organizational processing capacity without converting historically biased judgments into opaque and self-reinforcing informational filters.

CONCLUSION

This article introduces the GITT-DEI Framework as a complementary framework for understanding DEI as an organizational informing and information-processing process. Its central theoretical contribution is to explain how diversity, equity, and inclusion perform distinct but interdependent informational functions. Diversity expands the range of informers, knowledge, experiences, and proposals available to the organization; equity shapes access to channels for informing and the weights assigned to different inputs; and inclusion enables reciprocal exchange, integration, and feedback. In addition, the GITT-DEI Framework also complements established social and philosophical theories by clarifying the informational processes through which DEI may support organizational informed decision-making, resilience, value creation, and fairness, as well as the trade-offs that may arise when informational diversity exceeds an organization’s finite processing capacity.

A second contribution is the formalization of an optimal entropy zone. Rather than assuming that either greater diversity or lower uncertainty is always preferable, GITT–DEI distinguishes between two informational failures. Below the Capture Threshold, influence becomes so concentrated that meaningful plurality disappears. Above the Sufficiency Threshold, more alternatives retain effective influence than the organization can substantively process. The optimal zone between these thresholds, therefore, represents neither maximum diversity nor minimum entropy but a context-dependent balance between meaningful plurality and processing capacity. The framework makes this balance measurable by calculating Shannon entropy and the effective number of alternatives from observable distributions of informational influence across structural, sociocultural, interpersonal, and epistemic layers.

The following empirical propositions can translate this theoretical argument into testable expectations:

- **Empirical Proposition 1:** Equitable-channel proposition. Holding nominal diversity and task complexity constant, decision processes with more equitable access to informing channels and more reciprocal forms of inclusion will exhibit higher survival rates for initially low-

weight inputs and a larger effective number of alternatives before final prioritization than processes governed by restrictive or unidirectional channels.

- **Empirical Proposition 2:** Entropy-zone proposition. Decision processes operating within the contextually defined entropy zone will exhibit a more favorable joint pattern of informational inclusion and coordination than processes outside it. Processes below the Capture Threshold are expected to display greater concentration of speaking time, acknowledgment, and citation, together with fewer retained dissenting inputs. Processes above the Sufficiency Threshold are expected to experience longer decision cycles, more unresolved disagreement, duplicated effort, and greater difficulty converting information into coordinated action.
- **Empirical Proposition 3:** Feedback-correction proposition. When informational weights become concentrated around organizational status, prestige, or a dominant narrative, open and contestable feedback mechanisms will reduce the persistence of that concentration and increase the likelihood that the effective number of alternatives returns to the optimal zone following contradictory evidence, compared with closed or unidirectional feedback systems.

These propositions provide several entry points for empirical research. Researchers could follow a defined set of proposals, interpretations, stakeholder concerns, or knowledge claims through successive organizational layers and estimate their weights using speaking time, acknowledgment records, citations, proposal-survival rates, or the traceability of their reasoning in final decision documents. Entropy, normalized entropy, and the effective number of alternatives could then be calculated at each layer and interpreted alongside decision-cycle duration, unresolved disagreement, idea adoption, network diversity, decision quality, and subsequent revisions. Longitudinal studies would be particularly valuable because a single entropy estimate may capture only a temporary state rather than the direction in which the organization is moving. Experimental and simulation studies could additionally vary nominal diversity, channel accessibility, weighting rules, processing capacity, feedback structures, and AI assistance to test how these factors influence entropy trajectories and organizational outcomes.

Several limitations and boundary conditions should nevertheless be recognized. First, GITT–DEI is a conceptual framework, and its propositions have not yet been empirically validated. The Capture and Sufficiency Thresholds are context-dependent rather than universal. The minimum required plurality (d) and processing capacity (m) will vary across decisions, organizations, industries, and institutional environments. The assumption that each alternative incurs an equal processing cost is also a simplification, as complex or unfamiliar proposals may require substantially more attention than routine ones.

Second, the framework applies most directly when an organizational process involves multiple distinguishable informational alternatives, finite processing capacity, and observable traces of how those alternatives influence a decision. Its application is more limited when alternatives cannot be consistently identified, when proposals are repeatedly merged or reformulated without traceable coding, or when legal, technical, or emergency conditions substantially predetermine the available course of action. Moreover, entropy measures the distribution of informational influence; it does not establish the truth, ethical value, evidential quality, or fairness of the alternatives themselves. A decision within the proposed zone may still be poorly informed or unjust. Legal rights, ethical duties, and protections against discrimination must therefore remain substantive constraints rather than being reduced to entropy-management considerations.

GITT–DEI should consequently be understood as a diagnostic and explanatory framework rather than a replacement for social identity, intersectionality, epistemic justice, justice as fairness, discourse ethics, or established approaches to organizational decision-making. Its value lies in showing where information is narrowed, whose knowledge retains influence, whether narrowing results from justified prioritization or exclusionary filtering, and whether the remaining informational breadth exceeds

available capacity. By connecting these questions to measurable entropy trajectories, GITT–DEI offers a concrete foundation for investigating how organizations can preserve meaningful informational diversity while maintaining the coherence required for collective action.

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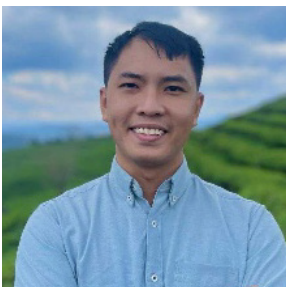
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