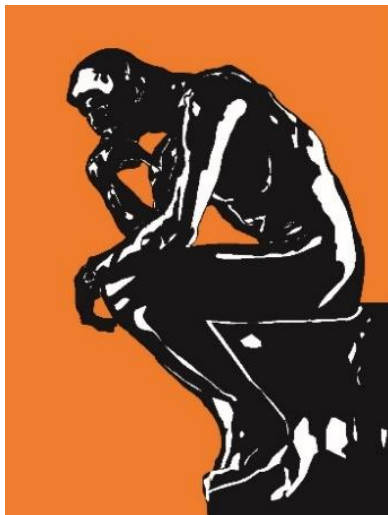# Diversity, equity, and inclusion in the organization: A fresh view through the lens of granular interactions thinking theory

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"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* (2024)

Diversity, equity, and inclusion (DEI) policies and programs are important methods that can reduce social inequality within the organization. They help detect and eliminate existing bias or discrimination that hinders equal opportunities for all groups, as well as improve the representation, status, and influence of historically marginalized groups, ensuring that all employees feel supported and welcomed in expressing their authentic selves within the organization (Iyer, 2022). However, a significant amount of research has shown inconsistencies regarding the impacts of diversity management practices on discrimination reduction and performance enhancement (Nishii et al., 2018). DEI offices within organizations are being shut down, while research and teaching activities are being scaled back (Basken, 2024). The ongoing shuttering of DEI practices and the inconsistencies in existing research highlight the need for new theoretical frameworks (Bernstein et al., 2020). The current essay, thus, aims to provide a fresh view of the advantages and limitations of DEI initiatives through the lens of granular interactions thinking theory (Vuong & Nguyen, 2024a, 2024b).

The granular interactions thinking theory is developed from the worldview and knowledge of quantum mechanics (Hertog, 2023; Rovelli, 2018), mindsponge theory (Vuong, 2023), and Shannon's information theory (Shannon, 1948). According to quantum physics (Rovelli, 2018), all physical systems, including organizations, are formed through the interactions of quanta at the fundamental level. Each quantum carries its own information that is defined as possible alternatives. The theory of granular interaction thinking suggests that an individual's mind can be deemed as an information collection-cum-processor (Vuong & Nguyen, 2024a). An organization is constituted by a group of people working together toward a common goal or set of objectives, so it can be considered a collective mind, that is, a larger information collection-cum-processor formed through the interactions of individuals' minds. At the organizational level, employers and employees can be viewed as smaller sets of information within the collective mind.

Quantum mechanics suggests that information within a system is finite. For a system (i.e., an organization) to sustain its existence, it must continually reorganize itself to adapt through constant interactions with the external world. Only systems that can effectively manage their correlations with the external environment—such as gathering, storing, transmitting, and processing information—are able to survive, grow, and reproduce (Rovelli, 2018). As a result, managing information effectively to accomplish the goal is a prerequisite for the existence of an organization (Vuong, 2023). For instance, the "bottom line" of a business is making a profit through selling products or services; if it fails, it will cease to exist.

Diversity is generally defined as "the representation, in one social system, of people with distinctly different group affiliations of cultural significance" (Cox, 1994), so people with different group affiliations will have distinct sets of information and values. Compared with that with low diversity, an organization with high diversity will eventually be constituted by more distinct types of information and values. Such diverse sets of information and values give the organization two main advantages.

Firstly, the information stored in the mind does not always accurately reflect reality due to inherent limitations in input channels (e.g., sensory perceptions and measurement apparatus, etc.) and processing capabilities (e.g., knowledge and data analysis) (Vuong, 2023). To better align its goals and operations with external reality, an organization must optimize its internal processes (Nguyen, Le, et al., 2023). Embracing diversity provides the organization with a broader range of information, insights, knowledge, and skills, enhancing its optimization process (through broader perspectives, improved decision-making, enhanced creativity, increased resilience, etc.). Second, diversity can facilitate the value creation by offering a broader range of resources. According to granular interactions thinking (Vuong & Nguyen, 2024b), values emerge from the interactions between information existing within the mind and new information absorbed from the environment. A diverse group of people not only contributes a wider variety of information but also can integrate and process a broader spectrum of information inputs, increasing the potential for generating valuable insights and innovations (Nguyen, Jin, et al., 2023; Vuong, 2022; Vuong et al., 2022).

It should be noted diversity can only provide a condition for the interaction to happen but does not ensure it happens because the opinions and participation of minorities within the organization can still be discriminated against and suppressed by the majority. For that reason, equity and inclusion are necessary for increasing the probability that information units provided by minorities can be used for the decision-making or value-creation processes. Equity refers to the objective conditions of eliminating systematic disparities between groups with varying levels of social advantage or disadvantage—such as wealth, power, or prestige (Chin & Chien, 2006), while inclusion refers to how individuals perceive their involvement in key organizational processes, including access to information and resources, participation in work groups, and influence in decision-making (Mor-Barak & Cherin, 1998). An equitable organizational environment facilitates the feeling of inclusion among employees, which fosters their interactions with other members within the organization.

Nevertheless, besides advantages, DEI also has one major limitation: rising entropy within the organization. To better understand this limitation, we can refer to Shannon's formula for informational entropy (or missing information) (Shannon, 1948):

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

$H(X)$ is the informational entropy of a random variable X with possible outcomes $\{x_1, x_2, \ldots, x_n\}$ and corresponding probabilities $\{P(x_1), P(x_2), \ldots, P(x_n)\}$. $P(x_i)$ is the probability of the outcome x_i. Each probability $P(x_i)$ represents how likely each outcome x_i is to occur. In this context, the variable X can be interpreted as an organization's collective mind, with i number of distinct sets of information (i.e., employees with distinct socio-cultural backgrounds). Each set of information has its $P(x_i)$ probability to be maintained and used within the organization. In other words, while the number of x_i represents the diversity level, $P(x_i)$ represents how the opportunities to contribute to the decision-making and value-

creation processes are distributed among the organization's members. This formula suggests that as the quantity of information units grows without clear differentiation and prioritization, informational entropy will increase rapidly. It will peak when all information units are considered equally important, that is when $P(x_i) = \frac{1}{n}$.

The higher the entropy is, the higher the amount of energy required to reduce the uncertainty within the organization. An organization has a hierarchical or network structure with defined roles, responsibilities, and authority levels to assign more probability to certain members, which reduces entropy. However, the entropy within an organization with a similar hierarchical or network structure but higher diversity and equity will still be higher than that with lower diversity and equity. Meanwhile, all physical systems, including organizations, have energy limits; specifically, streams of revenue and investments can be considered the energy of an organization, and they are finite. Consequently, there are limits to the level of DEI an organization can sustain.

Promoting and maintaining the DEI within an organization necessitates a significant amount of energy investment. When the DEI is promoted but energy remains the same or insufficiently invested, it can lead to the discarding of existing information units that are deemed unnecessary or less important by the organization (Vuong, 2023). This could explain why some diversity promotion policies and programs might inadvertently lead to reverse discrimination against existing groups within the organization and negatively affect the organization's performance (Guynn, 2023; Iyer, 2022; Nishii et al., 2018).

In general, implementing DEI policies and programs within an organization generally fosters conditions for enhanced value creation and better adaptation to changing environments and challenges. However, significant energy investment is required to maintain the organization's direction and operational certainty. To sustain DEI and improve its effectiveness, it is crucial that DEI policies go beyond merely increasing diversity and ensuring access to opportunities. They must also focus on empowering a diverse workforce to contribute to the organization's success actively. When an organization succeeds in its operations, it can allocate more resources (i.e., energy) to support DEI initiatives.

Moreover, the organization should cultivate a workplace culture that develops members' adaptive cognitive processing and skills. Such a culture helps prevent exclusionary dynamics (e.g., self-segregation, communication apprehension, stereotyping, and stigmatization) and encourages proactiveness in inclusivity (Bernstein et al., 2020). This approach can significantly reduce the energy required to maintain DEI efforts, making the practices more sustainable in the long term.

References

Basken, P. (2024). *What now for Diversity, Equity and Inclusion in the US?* Retrieved August 29 from https://www.timeshighereducation.com/depth/what-now-dei-us

Bernstein, R. S., Bulger, M., Salipante, P., & Weisinger, J. Y. (2020). From diversity to inclusion to equity: A theory of generative interactions. *Journal of Business Ethics*, *167*, 395-410. https://doi.org/10.1007/s10551-019-04180-1

Chin, M., & Chien, A. (2006). Reducing racial and ethnic disparities in health care: an integral part of quality improvement scholarship. *BMJ Quality and Safety*, *15*(2), 79-80. https://doi.org/10.1136/qshc.2006.017749

Cox, T. (1994). *Cultural diversity in organizations: Theory, research and practice*. Berrett-Koehler Publishers.

Guynn, J. (2023). *DEI under siege: Why more businesses are being accused of 'reverse discrimination'*. Retrieved August 29 from https://www.usatoday.com/story/money/careers/2023/12/20/dei-reverse-discrimination-lawsuits-increase-woke/71923487007/

Hertog, T. (2023). *On the origin of time: Stephen Hawking's final theory*. Random House. https://www.google.com/books/edition/On_the_Origin_of_Time/llBTEAAAQBAJ

Iyer, A. (2022). Understanding advantaged groups' opposition to diversity, equity, and inclusion (DEI) policies: The role of perceived threat. *Social and Personality Psychology Compass*, *16*(5), e12666. https://doi.org/10.1111/spc3.12666

Mor-Barak, M. E., & Cherin, D. A. (1998). A tool to expand organizational understanding of workforce diversity: Exploring a measure of inclusion-exclusion. *Administration in Social Work*, *22*(1), 47-64. https://doi.org/10.1300/J147v22n01_04

Nguyen, M.-H., et al. (2023). Examining contributors to Vietnamese high school students' digital creativity under the serendipity-mindsponge-3D knowledge management framework. *Thinking Skills and Creativity*, *49*, 101350. https://doi.org/10.1016/j.tsc.2023.101350

Nguyen, M.-H., Le, T.-T., & Vuong, Q.-H. (2023). Ecomindsponge: A novel perspective on human psychology and behavior in the ecosystem. *Urban Science*, *7*(1), 31. https://doi.org/10.3390/urbansci7010031

Nishii, L. H., Khattab, J., Shemla, M., & Paluch, R. M. (2018). A multi-level process model for understanding diversity practice effectiveness. *Academy of Management Annals*, *12*(1), 37-82. https://doi.org/10.5465/annals.2016.0044

Rovelli, C. (2018). *Reality is not what it seems: The journey to quantum gravity*. Penguin. https://www.google.com/books/edition/Reality_Is_Not_What_It_Seems/fsQiDAAAQBAJ

Shannon, C. E. (1948). A mathematical theory of communication. *The Bell System Technical Journal*, *27*(3), 379-423. https://doi.org/10.1002/j.1538-7305.1948.tb01338.x

Vuong, Q.-H. (2022). *A new theory of serendipity: Nature, emergence and mechanism*. Walter De Gruyter GmbH.

Vuong, Q.-H. (2023). *Mindsponge theory*. Walter de Gruyter GmbH. https://www.google.com/books/edition/Mindsponge_Theory/OSiGEAAAQBAJ

Vuong, Q.-H. (2024). *Meandering sobriety*. https://www.amazon.com/dp/B0C2RZDW85

Vuong, Q.-H., et al. (2022). Covid-19 vaccines production and societal immunization under the serendipity-mindsponge-3D knowledge management theory and conceptual framework. *Humanities and Social Sciences Communications*, *9*(1). https://doi.org/10.1057/s41599-022-01034-6

Vuong, Q.-H., & Nguyen, M.-H. (2024a). *Better economics for the Earth: A lesson from quantum and information theories*. AISDL.

https://www.google.com/books/edition/Better_Economics_for_the_Earth_A_Lesson/I50TEQAAQBAJ

Vuong, Q.-H., & Nguyen, M.-H. (2024b). Further on informational quanta, interactions, and entropy under the granular view of value formation. https://philpapers.org/rec/VUOARN