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The Future is Connection:

Collaboration, Creativity and Compassion in a Digital Society

Who gets heard in digital learning environments? Rebalancing knowledge sharing across generations and cultures

Katalin Belley, Leonie Newnham, Paolo R. Cerotti

Torrens University

This conceptual position paper reframes knowledge sharing as informal peer learning in digitally mediated professional environments. It addresses a gap in existing knowledge-sharing and socio-technical explanations which do not sufficiently explain how social conditions interact with digital mechanisms to shape both contribution and recognition. Using theory adaptation and model development, the paper integrates cultural context, generational identity, relational conditions, self-determined motivation, and a cross-cutting socio-digital mediation environment. The model distinguishes willingness to share, opportunity to participate, and the subsequent visibility and recognition of contributions. Its propositions explain how psychological safety mediates contextual influences, how opportunity, power, and risk condition motivation, and how platform affordances and algorithmic visibility shape participation and recognition. The contribution is a human-centred framework for analysing who contributes, who remains silent, and whose knowledge becomes visible and valued, while informing more inclusive workplace learning, professional learning networks, and digitally mediated communities of practice.

Keywords: knowledge sharing, cultural diversity, human-centred learning, socio-digital mediation, conceptual paper

Introduction

Digitally mediated learning increasingly occurs beyond formal classrooms, but technical access does not ensure equal participation or visibility. Contributions may be overlooked or receive unequal recognition because of status, language, communication style, platform design, or relational dynamics (Prestridge et al., 2024; Wang & Noe, 2010). This paper treats knowledge sharing as informal peer learning because professional learning is practice-based and occurs through reflection, feedback, consultation, and everyday interaction (Froehlich et al., 2023). From a human-centred perspective, the central issue is not simply what a platform enables, but how participants experience interaction and whether their contributions are visible, recognised, and valued.

Individual choice-explanations are insufficient in culturally and generationally diverse digital environments, where participants are shaped by cultural interpretations, relational trust, motivational needs, and platform conditions (Tang & Martins, 2021). Existing knowledge-sharing and socio-technical accounts rarely connect these conditions withing a single explanatory model.

This conceptual position paper develops a multi-layered model of how cultural, generational, relational, motivational, and socio-digital conditions interact to shape knowledge sharing as informal peer learning. Following Jaakkola (2020), the model was developed through theory adaptation and synthesis of complementary explanations selected for their distinct analytical roles. Its contribution is a cross-cutting socio-digital mediation layer connecting willingness to contribute with whether contributions are visible, recognised, and valued.

Conceptual framing

Knowledge sharing involves exchanging task-relevant information, expertise, experience, and know-how. Interpersonal, organisational, cultural, and motivational influences support a layered rather than single-factor explanation (Wang & Noe, 2010). This paper reframes knowledge sharing as informal peer learning because

professional learning frequently occurs through everyday exchanges, collaborative problem-solving, observation, feedback, and consultation.

Culture provides a contextual lens for interpreting communication norms, authority, expertise, and legitimate participation without determining individual behaviour (Jackson, 2020). Multiple cultural levels may overlap (Karahanna et al., 2005), while generational identity is treated as a flexible social location shaped by formative experiences rather than a fixed personality category (Mannheim, 1952). These interpretations may influence communication, formality, visibility, and participation, but should not be conflated with age, career stage, organisational position, or technological experience.

Relational dynamics explain how relationship quality affects access, trust, support, and participation. Leader-Member Exchange theory is confined to leader-member relationships (Graen & Uhl-Bien, 1995), while broader peer relationships are examined through trust, reciprocity, perceived support, and psychological safety. Psychological safety concerns interpersonal risk, whereas willingness also depends on whether knowledge is expected to be recognised or used (Frazier et al., 2017).

Self-determination theory provides the motivational core of autonomy, competence, and relatedness (Deci & Ryan, 2000). These needs may support voluntary and meaningful contribution, but motivation remains distinct from opportunity, power, safety, access, and visibility. Participation may be willing but inhibited by platform design, relational risk, or fear of replacement (Connelly et al., 2012).

Socio-digital mediation operates across these layers as an interaction environment rather than a deterministic technology layer. Communication modality, digital norms and practices, platform affordances, and algorithmic visibility influence how contributions are made, interpreted, recognised, and retained (Bucher, 2012; Treem & Leonardi, 2013). This cross-cutting layer connects willingness to contribute with whether a contribution becomes visible and valued

Proposed conceptual model

The model comprises four analytical layers: cultural context, generational identity, relational dynamics, and motivational core. Socio-digital mediation cuts across them because communication modality, platform affordances, digital norms, and algorithmic visibility shape how contextual interpretations and relational conditions become participation or silence.

The model proposes that cultural and generational interpretations influence knowledge sharing through relational conditions and psychological safety. Autonomy, competence, and relatedness strengthen willingness to contribute, while communication modality, norms, platform affordances, and algorithmic visibility shape whether willingness produces contribution and recognition.

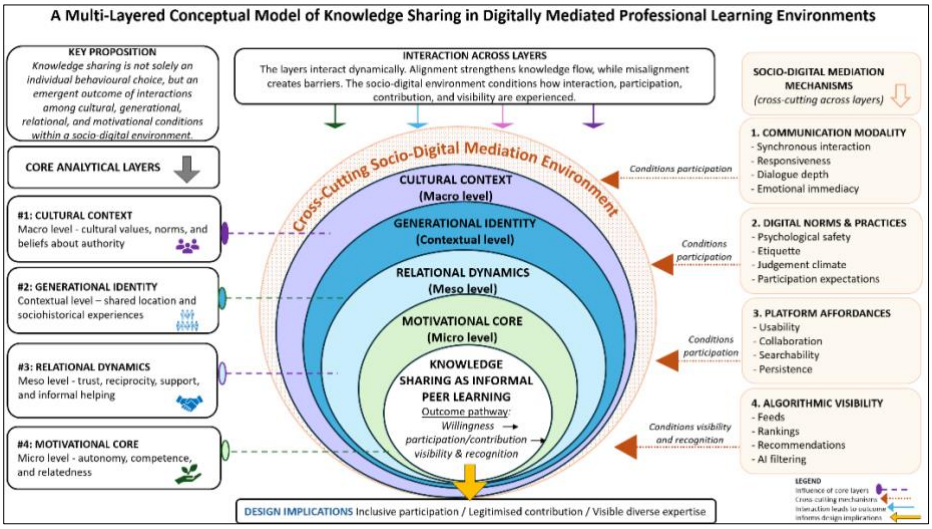


Figure 1.
Socio-digital mediation model of knowledge sharing as informal peer learning (Belley et al., 2026)

Table 1.
Socio-digital mediation mechanisms

Socio-digital mechanism	Explanatory role in the model	Human-centred design question	Potential tension or inequality
Communication modality	Influences whether willingness becomes participation through available communication formats and responsiveness.	Are multiple appropriate ways of contributing available?	Fast response expectations may disadvantage reflective, multilingual, or geographically dispersed participants.
Digital norms and practices	Shape psychological safety and the legitimacy of participant behaviour.	Who feels safe and authorised to contribute?	Norms may enforce dominant communication styles, conformity, or surveillance.
Platform affordances	Enable or constrain contribution through accessibility, searchability, persistence, and collaboration features.	Do platform features support knowledge sharing and collaboration?	Unequal usability and visibility may create privacy, ownership, reputation, or professional risks.
Algorithmic visibility	Influences whether contributions are seen, recognised and valued.	How are contributions selected, ranked, and recommended?	Visibility may favour status, network position, or popular contribution formats.

Conceptual insights of the model

The model generates five conceptual insights into knowledge sharing as informal peer learning in digitally mediated professional environments. First, knowledge sharing is reframed as an emergent outcome of cultural, generational, relational, motivational, and socio-digital conditions, rather than as a purely individual behavioural act (Wang & Noe, 2010). It distinguishes the decision to contribute or withhold, the opportunity to participate, and the visibility and recognition of a contribution. Second, generational difference becomes analytically meaningful when it is examined through interaction, relational trust, communication preferences, and learning histories, rather than through deterministic cohort stereotypes (Mannheim, 1952). Generational identity is considered alongside, yet distinguished from, age, career stage, organisational position, professional authority, and digital experience.

Third, relational conditions shape knowledge sharing because trust, reciprocity, and perceived support, leader-member relationship quality, and psychological safety can make contribution feel safer, more legitimate, and more worthwhile (Graen & Uhl-Bien, 1995). Leader-Member Exchange Theory is applied specifically to leader-member relationships, while psychological safety, trust, and reciprocity explain the broader conditions influencing peer participation.

Fourth, motivation to share knowledge is strengthened when digital interaction supports autonomy, competence, and relatedness, rather than producing surveillance, embarrassment, exclusion, or replacement anxiety (Deci & Ryan, 2000). However, motivation alone does not ensure participation: willingness may not translate into contribution when participants lack time, opportunity, access, power, psychological safety, or protection from professional risk. Knowledge withholding may therefore be a reasoned response rather than a lack of motivation. Fifth, socio-digital mediation shapes knowledge sharing through communication modality, participation norms, platform affordances, and algorithmic visibility. These factors influence whether willingness becomes participation and whether contributions are seen, recognised and valued. Together, they shape who contributes, who remains silent, and whose knowledge becomes recognised or overlooked (Bucher, 2012; Treem & Leonardi, 2013).

Implications for human-centred learning design

The model suggests three implications. First, human-centred design should support psychologically safe interaction, clear expectations, recognition, and relation connection rather than excessive surveillance. Second, participation norms should be explicit and inclusive because silence, disagreement, questioning, and public contribution may be interpreted differently across groups. Design should clarify legitimate participant, recognition, and ownership. Third, visibility is an equity issue: feeds, rankings, search, summaries, and AI filtering may determine whose knowledge is recognised. Designers should examine selection and representation, provide multiple discovery pathways and consider privacy and surveillance risks.

Contribution

The main contribution is the socio-digital mediation layer, which positions digital environments as cross-cutting interaction contexts rather than deterministic technology systems. It extends existing knowledge-sharing and socio-technical explanations by distinguishing willingness to share, opportunity to participate, and the subsequent visibility and recognition of contribution. This framing supports a human-centred approach to technology-enhanced learning by shifting attention from platform functionality alone to the conditions under which people feel able and motivated to contribute and through which their knowledge becomes seen and valued.

Conclusion and future work

This paper offers a conceptual model of knowledge sharing as informal peer learning in digitally mediated professional environments. Knowledge sharing emerges through the interaction of cultural, generational, relational, motivational, and socio-digital conditions rather than individual willingness alone. Future work should refine the model's propositions and boundary conditions through qualitative and longitudinal analysis and examine how artificial intelligence modifies peer learning.

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