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Technological Radicalness or Cultural Softness? Value Re-Specification, Practice Reorganization, and Institutional Stabilization

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Abstract

Innovation research has traditionally privileged technological radicalness as the primary driver of societal transformation. Yet contemporary markets increasingly show that profound cultural shifts often arise not from frontier technological breakthroughs but from the reconfiguration of everyday practices and value systems. This article develops a multi-level theory of cultural innovation integrating technological infrastructures, practice reorganization, institutional stabilization, and influential preference tendencies.

Drawing on sociotechnical transition theory, practice theory, service-dominant logic, and cultural branding scholarship, the study adopts a qualitative theory-building approach supported by illustrative case analysis. Secondary sources—including academic literature, industry reports, company communications, and business media—were systematically reviewed to identify recent examples (2023–2026) demonstrating the interaction between technological affordances and cultural change.

Cases ranging from spatial computing and generative AI to non-alcoholic beverages, recommerce platforms, Buy Now Pay Later systems, and digital minimalism devices show that technological novelty alone does not produce cultural transformation. Instead, cultural innovation emerges when value re-specification, role reconfiguration, practice stabilization, and preference alignment converge within supportive institutional contexts.

The article proposes a four-mechanism framework explaining how technological innovation becomes culturally transformative and why seemingly modest consumption innovations can generate disproportionate societal impact.

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1. Introduction

Innovation scholarship has long equated transformation with technological radicalness. From Schumpeter's (1934) emphasis on creative destruction to Dosi's (1982) technological paradigms, the dominant narrative frames technological capability expansion as the primary engine of economic growth and structural change. In this view, radical innovation disrupts industries, redefines competition, and reshapes markets.

Yet an emerging paradox characterizes contemporary markets. While advanced technologies such as generative AI, spatial computing, humanoid robotics, and AI-driven localization systems receive significant public and scholarly attention, equally transformative shifts occur through comparatively modest consumption offerings: non-alcoholic beverages redefining social rituals, resale platforms reconfiguring ownership norms, Buy Now Pay Later systems reorganizing temporal structures of value, or minimalist devices revalorizing autonomy and presence.

These cases challenge a technology-centric understanding of innovation. They suggest that cultural transformation is not solely a function of technological radicalness, but of how technologies are embedded within evaluative systems, everyday practices, institutional structures, and evolving preference tendencies.

This article therefore addresses the following research question: When and how does technological innovation translate into durable cultural innovation?

I argue that innovation's societal significance does not reside primarily in technological novelty, but in its capacity to reshape evaluative criteria, reorganize participation structures, stabilize new routines, and align with influential preference tendencies within institutionally receptive environments.

Building on Fernandes' (2014) Cultural Innovation Process model and integrating insights from Geels' (2002) sociotechnical transition theory, Shove et al.' (2012), practice theory, Vargo & Lusch' [2008] service-dominant logic, and Holt' (2004) cultural branding theory, this article develops a multi-level framework that synthesizes technological and cultural dimensions of innovation.

By distinguishing between capability expansion and value re-specification, and by introducing practice stabilization and preference filtering as mediating mechanisms, I seek to explain why some technological innovations merely disrupt markets while others reshape culture itself.

The contribution is both theoretical and practical: theoretically, it bridges fragmented innovation literatures; practically, it offers guidance to organizations seeking transformative rather than incremental impact.

2. Theoretical Background

According to Cummings (1998), innovation refers to a successful first-time application in the market of a firm's product or process. Abernathy and Clark (1985) agree with the concept and even connect the meaning of innovation to the creation of value added. Innovation is also "… a firm's tendency to engage in and support new ideas, experimentation, and creativity for the development of new processes"

as referred by Lumpkin and Dess (1996, p. 142). According to Piana (2003) "innovation is the complex development of discoveries (e.g. new physical laws) and inventions (e.g. a new machinery) brought in the business and social environment (e.g. introduced on the market), hopefully leading to diffusion (adoption by new users)".

Despite those different views and definitions of innovation, we need to make some distinctions between business and social related innovations. To Hamaleinen & Heiscala (2007) there are five ideal types of innovation: "Technological innovation are new and more efficient ways to transform the material reality, and economic innovation puts technological innovation to the service of the production of surplus value. Taken together those two classes from the sphere of techno-economic innovations (…) Regulative innovations transform explicit regulations and/or the ways they are sanctioned. Normative innovations challenge established value commitments and/or the way values are specified into legitimate social norms. Finally, cultural innovations challenge the established ways to interpret reality by transforming mental paradigms, cognitive frames and habits of interpretation. Taken together these three classes form the sphere of social innovation" (p. 59). Even if it is accepted that techno-economic and regulative innovations are mostly business related, normative and cultural innovations are mostly social related.

2.1 Technological Innovation and Its Limits

Technological innovation is traditionally defined as the recombination or expansion of functional capabilities (Dosi, 1982). In Schumpeterian terms, it disrupts equilibrium by introducing new production possibilities (Schumpeter, 1934).

According to Tornatzky and Fleitcher (1990), technological innovation is the process of introducing new tools in a specific social environment and the tools by themselves. The technological innovation process is often related to the dynamic desire of innovating and there are two variables that can influence that dynamic: the technology derived from systemic knowledge, normally of scientific nature, and the technology normally involving a mixture of physical artifact and social context and content.

Innovation positively affects customer preference and choice for new products and competitive market dynamics, as identified by King and Tucci (2002) and Marvel and Lumpkin (2007), as it also aids existing products through updates that prolong product's lifecycles and retard their decline, as referred by Berenson and Mohr-Jackson (1994).

Fernandes (2014) suggests that Technological innovation concerns the application of knowledge to create tangible outcomes. The Technological Innovation Construct Model maps this domain using two axes: the Creation Process (from Procedural to Loose) and the Value Curve outcome (from a Modified Value Curve to a New one).

This framework yields four archetypes:
- Planned/Structured: This R&D-based innovation follows well-defined procedures to achieve predictable results or improvements. A prime example is the development of hybrid cars. Also, the first drones, products made by 3D printing technology, communication satellites, first computer and programming languages are clear examples of this type of technological innovation. This archetype often underpins Upgrading Innovation strategies focused on incremental differentiation.
- Targeted/Objective-Driven: This innovation responds to specific market needs with a focus on design and user experience. Cirque du Soleil exemplifies this by re-imagining the circus for a sophisticated audience. But, design furniture, restricted personal and collective equipment, jewelry and other artistic artifacts, conceived to satisfy aesthetic and functional needs of specific market niches, are examples of this type of technological innovation. It is frequently associated with Value-Added Innovation strategies that layer intangible value onto a product.
- Adopted/Adapted: Based on imitation and applying existing knowledge in new ways, this approach often leads to minor changes, such as through cost-reduction processes. Newly modified household appliances, sports equipment, utilitarian furniture, all improved to facilitate use or follow use trends are day to day examples of this innovation. This archetype is the engine for Turnaround Innovation strategies that leverage commoditization.
- Serendipitous/Stochastic: Resulting from accidental discoveries within a loose, experimental process, this innovation can create entirely new markets. Famous examples include Velcro, penicillin, Post-It Notes and the microwave oven. This archetype is a common origin for Breakthrough Innovation strategies that establish entirely new value curves.

These model helps to understand that innovation based on technology can have different effects on the market, influencing consumers in a variety of behavior changes.

However, sociotechnical transition research suggests that technological systems only become transformative when embedded within shifting social practices and institutional regimes (Geels, 2002).

Thus, technology alone does not determine cultural transformation; it operates within meaning systems.

2.2 Value as Socially Constructed

Service-dominant logic reframes value as co-created and phenomenologically determined in use (Vargo and Lusch, 2008). Value is not embedded in artifacts but emerges through interaction within institutional arrangements.

Arnould & Thompson' (2005) Consumer Culture Theory similarly emphasizes that marketplace resources shape identity formation and symbolic negotiation. Products function as cultural resources rather than mere utilities.

Accordingly, innovation must be evaluated not only through functional metrics but through its impact on value recognition systems.

Practice theory conceptualizes social life as organized through routinized configurations of meaning, competence, and material arrangements (Shove et al. 2012). Innovation becomes socially consequential when it reorganizes these configurations.

Cultural transformation, therefore, requires stabilization of new practices.

Verganti (2009) distinguishes innovation driven by new technologies from innovation driven by new meanings. Radical shifts in interpretation may occur independently of technological complexity.

Building on this insight, we conceptualize cultural innovation as meaning transformation stabilized in practice and legitimized institutionally.

Fernandes (2014) suggests that innovation has a strong cultural vector, which impacts human behavior. Cultural innovation involves creating or changing collective behaviors and meanings. Fernandes (ibid.) drawing on Schwartz's (1996) value system, proposes four archetypes of cultural innovation, named with neologisms to emphasize their unique drivers. The Cultural Innovation Construct Process Model maps this domain using axes of Cultural Collective Values (Conservation to Open to change) and Cultural Individual Values (Self-enhancement to Self-transcendence).

- Neowel: The first archetype, Neowel, describes cultural shifts fundamentally driven by the adoption of new technologies. These technologies create new habits and social norms, as exemplified by the behaviors created by smartphones and social media.
- Beutel: This cultural change is driven by the adoption of new aesthetics. It emerges from creative fields and introduces new styles that become culturally significant, such as the societal impact of new fashion like the miniskirt or new music genres like jazz.
- Moral: This innovation is driven by the adoption of new codes, rules, and laws that shape collective behavior. Public health campaigns against "drink n' drive" or mandates for vaccination have successfully created new, widely accepted social norms.
- Gnosil: This cultural change is driven by the adoption of new knowledge, often related to science or health, which inspires new lifestyles. The popularization of activities like jogging with an iPod or adopting a raw food diet based on health information are examples.

These model helps to understand how consumers change their behaviors based upon different triggers and caused by technological innovation or societal dynamics.

Understanding these dual paths of innovation - technological and cultural - is critical, but true strategic mastery comes from synthesizing them to navigate the fundamental tensions in the modern marketplace. The previous concept of Cultural Innovation will serve as the basis to develop a multi-level innovation in the realm of culture.

3. Research Methodology

This study adopts a qualitative, theory-building research design combining conceptual development with illustrative case analysis. The methodological objective was not statistical generalization, but theoretical refinement and model development.

Source Identification and Selection - Sources were identified through systematic review of:

1. Peer-reviewed academic literature on technological innovation, social innovation, practice theory, and cultural transformation.
2. Industry reports (e.g., IWSR, Juniper Research, ThredUp, Grand View Research).
3. Company announcements and official press releases (Apple, Meta, Adobe, Duolingo).
4. Reputable business and technology media outlets (Financial Times, The Verge, Wired, TechRadar, Slator, The Guardian).

Selection Criteria - Cases were selected according to four criteria:

1. Recency (2023–2026): to capture contemporary technological trajectories.
2. Market Visibility: products or services with measurable diffusion or public discourse impact.
3. Cultural Relevance: evidence of normative shifts (e.g., sobriety reframing, circular ownership, digital autonomy).
4. Cross-Level Interaction: demonstrable linkage between technological affordances and practice-level behavioral change.

Analytical Procedure - The analytical process followed three stages:

Stage 1 - Conceptual Mapping: Fernandes' (2014) Cultural Innovation Process model was used as the foundational theoretical structure.

Stage 2 - Cross-Case Comparison: Each selected case was analyzed to identify evidence of value re-specification, role reconfiguration, practice stabilization, institutional reinforcement, and preference filtering.

Stage 3 - Theoretical Synthesis: Recurring patterns across cases were abstracted into four propositions and integrated into a multi-level innovation model.

The approach is consistent with theory-building traditions in innovation research, where illustrative cases are used to refine conceptual mechanisms rather than to test hypotheses statistically.

Limitations - As a qualitative and conceptual study, findings should be interpreted as theoretically generative rather than empirically conclusive. Future research may test the proposed propositions using longitudinal quantitative designs or mixed-method approaches.

4. Illustrative Cases

4.1 Advanced Technological Innovation

4.1.1 Immersive / spatial culture (new "venues" for art, heritage, learning)

Case 1 - Spatial computing as a new cultural "venue" (Apple Vision Pro; Meta Quest 3).

The emergence of consumer-ready spatial computing and mixed reality is creating new "venues" for culture—experiences that sit between cinema, games, museum exhibitions, and performance. Apple Vision Pro (Apple, 2024) consolidates the idea of "spatial apps," enabling creators and institutions to present cultural experiences in volumetric and immersive formats, with presence and scale that differ from screen-based media. In parallel, Meta Quest 3 (Meta, 2023) positions mixed reality as a more accessible platform, with passthrough MR enabling experiences anchored in everyday spaces (homes, classrooms, studios). Culturally, these platforms are significant because they expand how cultural products are authored (spatial storytelling), distributed (app ecosystems), and consumed (participatory immersion rather than passive viewing). They also open new possibilities for education, heritage interpretation, and live/communal cultural experiences that blend physical and digital layers Spatial platforms reconfigure cultural space, transforming spectatorship into embodied participation. They expand not merely capability but spatial grammars of interaction.

4.1.2 Generative AI

Case 2 - Generative creation inside professional workflows (Adobe Firefly)

Adobe Firefly (Wadhwani, 2023) is a clear case where generative AI moves beyond novelty into professional cultural production pipelines. Embedded in creative workflows, it accelerates ideation, iteration, and variation at a scale previously available only through large teams or long production cycles. The cultural innovation here is twofold: (i) it changes the economics and tempo of creative work (faster prototyping, lower marginal cost of variations), and (ii) it intensifies debates about authorship, originality, and intellectual property—issues that are inherently cultural. In this case, technological innovation is not merely a tool upgrade; it alters the social organization of creative labor and the norms that define creative legitimacy.

AI-based creative tools redistribute authority and compress production cycles, destabilizing authorship norms.

4.1.3 AI Localization & cultural accessibility

Case 3 - Localization at scale and cross-cultural circulation (ElevenLabs Dubbing Studio; HeyGen translation & lip-sync)

Services like ElevenLabs Dubbing Studio (Albarino, 2024) and HeyGen's (Mckay, 2024) video translation (including lip-sync and in-video text translation) illustrate how AI can accelerate cultural circulation across languages. Traditionally, dubbing and localization require substantial time, budgets, and coordination, limiting

multilingual reach—especially for smaller creators, educators, and institutions. AI-driven localization lowers those constraints, enabling faster and broader access to educational content, creator media, and institutional communication. From a cultural innovation perspective, these services reshape how cultural products travel, which audiences can be served, and how minority-language or small-market content can gain global visibility.
Automated translation systems reshape global cultural circulation, reducing linguistic gatekeeping.
These cases illustrate technological infrastructures enabling cultural transformation.

4.1.4 Cultural learning & "audio turn" of knowledge (new ways to consume/produce learning culture)

Case 4 - Cultural innovation also occurs in learning and knowledge practices. Duolingo Max (Duolingo, 2023) integrates advanced conversational features (e.g., roleplay and explanation) into language learning, shifting practice toward interaction and feedback rather than repetition alone. Meanwhile, Google's NotebookLM "Audio Overview" re-mediates documents into podcast-like audio discussions/summaries. These tools contribute to an "audio turn" in knowledge consumption and personal learning—creating new rituals of study (listening while commuting, personalized micro-lectures, accessible review formats). Technologically, they leverage LLMs; culturally, they transform how knowledge is internalized and how learning becomes embedded in daily life.

4.1.5 Humanoid robots as both cultural symbols and performance agents (Unitree G1)

Case 5 - Humanoid robots as both cultural symbols and performance agents (Unitree G1)
Humanoid robots are increasingly visible not only as industrial prototypes but also as cultural actors—appearing in public demonstrations and large-scale performances. Unitree's G1 (Techradar, 2026) is notable as a purchasable humanoid platform, which helps move humanoids from research showcases toward broader experimentation and adoption. Culturally, humanoids function as symbols of futurity and national/organizational ambition, but they also invite new forms of performance and spectacle where robotics becomes part of entertainment culture. This case shows cultural innovation in the public imagination and in performative contexts, intertwined with technological progress in embodied control and mobility.

4.1.6 Near-future watchlist - Ecosystem expansion through AI wearables (reported Meta smartwatch plans)

Case 6 - Finally, Meta "Malibu 2" smartwatch, reportedly targeting 2026 (Bonifield, 2026), to (re)enter smartwatches point to a near-future direction: AI wearables operating as connected cultural infrastructure (capture, translation, interaction, social distribution). Whether or not a specific device becomes dominant, the

trajectory matters for cultural innovation because ecosystems—rather than single devices—shape norms at scale (what gets recorded, how it's shared, how attention is monetized, and how communities form around mediated experiences).

4.2 Consumption-Based on Cultural Innovation

4.2.1 Non-Alcoholic Premium Beverages

Case 1 - Non-Alcoholic Premium Beverages: Ritual Reclassification

The rapid expansion of premium non-alcoholic beverages illustrates how sobriety is being reframed from abstention to active identity choice. Brands such as Seedlip (acquired by Diageo), Athletic Brewing Company, and Lyre's Non-Alcoholic Spirits have repositioned alcohol-free consumption from a substitute category to a lifestyle segment (IWSR, 2024; Pine, 2025).

The technological base—advanced botanical extraction, fermentation control, and flavor engineering—is secondary to the cultural shift. The core transformation lies in ritual legitimacy: participation in bars, dinners, and celebrations becomes decoupled from intoxication. Social inclusion becomes the primary value proposition.

According to IWSR (ibid.), the no-and low-alcohol category is projected to grow significantly across major global markets, reflecting normalization rather than niche substitution. Sobriety becomes identity-affirming rather than deviant.

This dynamic reflects Holt's (2004) cultural branding logic: products succeed by resolving identity tensions. Here, the tension between health consciousness and social belonging is reconciled through premium positioning and ritual parity. Alcohol-free cocktails are no longer compensatory—they are aspirational.

Sobriety becomes identity-affirming rather than deviant. Ritual participation is preserved without intoxication.

4.2.2 Recommerce Platforms

Case 2 - Recommerce and the Circularization of Ownership

Digital resale platforms such as Vinted, Depop, and The RealReal have reconfigured the moral economy of fashion by shifting ownership from linear acquisition to cyclical stewardship (ThredUp, 2024; Amed and Berg, 2022).

The global resale market is projected to reach $350 billion by 2028 (ThedUp, ibid.), indicating mainstream adoption rather than fringe participation. The innovation operates through the realignment of practice elements (Shove et al., 2012):

Meaning shift: "used" becomes sustainable and desirable.

Competence shift: resale becomes normalized consumer skill.

Material shift: platform logistics, payment systems, and trust algorithms enable circulation.

Ownership becomes cyclical; sustainability becomes status. Participation in resale markets signals ethical awareness and smart consumption. This transformation exceeds market growth metrics; it redefines consumption temporality and consumer identity.

Ownership becomes cyclical; sustainability becomes status.

4.2.3 Buy Now, Pay Later (BNPL)

Case 3 - BNPL and Temporal Reorganization

Embedded fintech services such as Klarna, Afterpay, and Affirm illustrate how payment infrastructure can reorganize temporal structures of value. BNPL transaction volumes are projected to exceed $670 billion globally by 2028 (Jupiter Research, 2024).

Technologically, these systems rely on real-time credit scoring and API integration at checkout. Culturally, however, they detach consumption from immediate liquidity. The present expands into the future via micro-obligations.

Affordability becomes perception-based rather than income-based. Financial identity becomes fluid and interface-mediated. The frictionless design of installment options normalizes micro-debt among younger cohorts (Quinio, 2025).

This constitutes what may be termed temporal cultural innovation: innovation not in product category, but in time perception embedded in consumption practice.

Temporal structures of value shift; affordability becomes perception-based.

4.2.4 Digital Minimalism

Case 4 - Digital Minimalism: Innovation Through Subtraction

Devices such as the Light Phone II and Punkt MP02 exemplify innovation through deliberate technological subtraction. These products intentionally remove features such as social media, internet browsing, and app ecosystems, offering instead basic communication functionality (Chokkattu, 2025;Tapper and Ahmed, 2024).

Technologically sophisticated yet functionally constrained, these devices reposition limitation as aspiration. Value shifts from connectivity to autonomy, presence, and cognitive clarity.

This inversion supports Verganti's (2009) thesis that radical innovation may emerge through reinterpretation rather than complexity. Here, subtraction becomes meaning innovation. Disconnection transforms from deficiency into lifestyle signal.

The growth of digital wellbeing discourse and detox movements further reinforces this practice stabilization (Grand View Research, 2024).

Technological subtraction becomes aspirational autonomy.

Across these cases—Seedlip and Athletic Brewing (ritual reclassification), Vinted and Depop (ownership circularization), Klarna and Afterpay (temporal reorganization), Light Phone and Punkt (subtractive autonomy)—incremental technologies generate profound normative shifts.

What changes is not merely product functionality, but: evaluative criteria, identity signaling, temporal structures, practice routines and institutional legitimacy.

These are markers of cultural innovation rather than technological novelty alone.

5. A Multi-Level Model of Cultural Innovation

Deriving from the Cultural Innovation Process model (Fernandes, 2014), I propose that cultural innovation unfolds across four interconnected levels, as shown in Table 1.

Table 1: The four levels of Cultural Innovation

Level	Mechanism	Outcome
Technological	Capability expansion	New affordances
Practice	Behavioral reorganization	Routine transformation
Institutional	Norm stabilization	Legitimacy and diffusion
Influential	Preference tendencies	Selective usage and patterned adoption

Cultural innovation emerges when technological affordances lead to value re-specification, role reconfiguration, and practice stabilization, and when these processes align with influential preference tendencies that enable selective uptake and eventual institutional reinforcement.

The following cases illustrate how these mechanisms interact.

Mechanism 1: Value Re-Specification

Innovation reshapes evaluative criteria. What counts as desirable, legitimate, or aspirational shifts, before behavior stabilizes.

Examples:

a) Non-Alcoholic Premium Beverages (Seedlip; Athletic Brewing; Lyre's) - In the no- and low-alcohol category, brands such as Seedlip, Athletic Brewing Company, and Lyre's Non-Alcoholic Spirits re-specify the meaning of participation in drinking rituals. The value proposition shifts from intoxication to inclusion, health, and self-control (IWSR, 2024).
   Sobriety is reframed as aspirational rather than abstinent. The central transformation lies not in flavor chemistry but in the reinterpretation of ritual legitimacy. Social belonging becomes compatible with alcohol-free consumption.
   Here, the evaluative hierarchy changes: Intoxication → Inclusion and wellness.
b) Recommerce Platforms (Vinted; Depop; The RealReal) - Digital resale platforms such as Vinted and Depop alter the criteria by which fashion consumption is judged (ThedUp, 2024). "Used" becomes sustainable and even status-enhancing.
   Ownership is redefined: Possession → Stewardship and circulation.
   The shift precedes practice transformation. Sustainability becomes aspirational rather than compensatory.
c) BNPL Platforms (Klarna; Afterpay; Affirm) - Buy Now, Pay Later services re-specify affordability. Rather than liquidity determining purchasing capacity, installment design reframes value in temporal terms (Jupiter Research, 2024).

Affordability shifts from objective financial condition to subjective payment perception.

d) Digital Minimalism (Light Phone II; Punkt MP02) - Minimalist devices such as Light Phone II and Punkt MP02 re-specify value from connectivity to autonomy.
   More functionality → Less distraction.
   Technological subtraction becomes a source of aspirational self-control (Quinio, 2025). Value re-specification precedes durable behavioral change.

Mechanism 2: Role Reconfiguration

Actors assume new positions within value creation systems:

a) Recommerce - Consumers become simultaneously buyers and sellers. Platforms transform users into micro-entrepreneurs. Value creation becomes distributed rather than producer-centric.
b) Generative AI (contextual link) - Algorithms in generative tools become co-creators, redistributing authorship authority.
c) BNPL - Checkout interfaces become embedded financial intermediaries. Retailers transform into micro-credit access points.
d) Non-Alcoholic Beverages - Bars and hospitality venues become curators of sobriety-inclusive experiences. Ritual design adapts to support non-drinkers without marginalization.

Role reconfiguration restructures participation and redistributes agency.

This redistribution alters participation structures and changes how value is co-created (Vargo & Lusch, 2008).

Mechanism 3: Practice Stabilization

Novel behaviors must become routinized (Shove et al., 2012). Repetition transforms innovation into taken-for-granted practice:

a) Recommerce - Resale becomes habitual. Consumers adopt buy–wear–resell cycles. Platform use becomes normalized across Gen Z cohorts (ThredUp, 2024).
b) Non-Alcoholic Beverages - Dedicated alcohol-free menu sections institutionalize sober participation. Non-drinking becomes socially unremarkable.
c) BNPL - Installment selection becomes a default checkout behavior. Micro-debt normalizes through repeated interface exposure.
d) Digital Minimalism - Scheduled digital detox and device switching become recurring routines. Autonomy practices stabilize through repetition.

Practice stabilization converts value re-specification into durable behavioral transformation.

Without stabilization, innovation remains episodic, experimental, or symbolic rather than systemic.

Mechanism 4: Influential preference Tendencies
Cultural innovation is filtered through heterogeneous preference structures:

a) Health and Wellness Orientation - The growth of Athletic Brewing aligns with increasing wellness preferences. Health-conscious consumers are predisposed to adopt alcohol-free alternatives.
b) Sustainability Preference - Recommerce adoption is strongest among cohorts with strong environmental identity markers.
c) Immediacy Orientation - BNPL diffusion correlates with preferences for low-friction consumption and immediate gratification.
d) Autonomy and Digital Fatigue - Minimalist devices resonate with individuals exhibiting strong autonomy-seeking tendencies and digital fatigue.

Influential preference tendencies determine selective usage. Early adopters are those whose identity frameworks align with the new evaluative criteria.
Over time, as practices stabilize and institutions reinforce legitimacy, preferences themselves may shift, creating a feedback loop.
Individuals and groups do not respond uniformly to value re-specification or new affordances. Instead, adoption and stabilization are shaped by evolving preference tendencies—deep-seated orientations toward health, sustainability, immediacy, autonomy, risk, or identity expression.

6. Theoretical Propositions

Departing from the previous analysis of different cases related to technological innovation and cultural innovation processes and from the created multi-level model of cultural innovation, based on the model of Cultural Innovation Process, I may introduce four different new propositions.
Proposition 1 (Value Primacy) - Cultural innovation is primarily driven by value re-specification rather than technological radicalness. Value re-specification drives cultural innovation primarily in contexts characterized by normative fluidity.
Proposition 2 (Infrastructural Mediation) - Technological innovation influences cultural transformation indirectly through practice reorganization. Technological innovation influences cultural transformation indirectly except in cases of direct infrastructural coercion (e.g., mandated platforms).
Proposition 3 (Stabilization Threshold) - Cultural innovation becomes durable when new practices achieve institutional endorsement. Practice stabilization produces durable cultural innovation only when institutional permeability exceeds a minimum threshold.
Proposition 4 (Visibility Paradox) - The greater the infrastructural invisibility of technology, the more seamless the cultural embedding. The effect of technological visibility on cultural embedding is contingent upon discursive framing and socio-political alignment.

7. Theoretical Propositions

7.1 Reconceptualizing Innovation

Innovation should not be equated with technological advancement alone. Instead, it must be understood as a reconfiguration of value systems embedded in stabilized practices and institutionally reinforced norms. This reconceptualization does not reject the Schumpeterian emphasis on capability expansion (Schumpeter, 1934); rather, it reframes it. Technological Innovation expands the space of possible actions, but Cultural Innovation determines which of those possibilities become socially legitimate, routinized, and durable.

From a sociotechnical perspective (Geels, 2002), technological systems introduce new affordances that destabilize existing regimes. However, regimes do not shift merely because new technologies exist; they shift when practices reorganize and institutions recalibrate evaluative standards. Similarly, practice theory (Shove et al., 2012) emphasizes that change occurs when meanings, competences, and materials realign into new stabilized configurations.

Our framework integrates these traditions by distinguishing between:

- Capability expansion (technological layer)
- Value re-specification (cognitive–normative layer)
- Role reconfiguration (participatory layer)
- Practice stabilization (behavioral layer)
- Institutional reinforcement (legitimacy layer)
- Preference filtering (micro-foundational layer)

Innovation becomes culturally transformative only when these layers align. Technological novelty alone produces potential disruption; Cultural Innovation produces structural change.

7.2 Theoretical Contributions

This article contributes to four principal concepts, each directly linked to the propositions advanced earlier.

1. Integrating Technological Innovation and Cultural Innovation within a Unified Framework - Proposition 1 (Value Primacy) argues that cultural innovation is driven primarily by value re-specification rather than technological radicalness.

This integration resolves a long-standing divide in innovation research between technology-centric and meaning-centric perspectives. By positioning technological innovation as infrastructural and cultural innovation as evaluative reordering, the framework demonstrates that both are necessary but analytically distinct.

Technological advancement creates new affordances, yet it is the redefinition of what counts as valuable that determines adoption trajectories and diffusion intensity. For example, spatial computing does not transform culture because it is immersive; it transforms culture when immersion becomes a desirable and legitimate mode of participation.

2. Identifying Value Re-Specification as the Primary Mechanism of Cultural Transformation - Proposition 2 (Infrastructural Mediation) posits that technological

innovation influences cultural transformation indirectly through practice reorganization.

Value re-specification precedes behavior change because actors must reinterpret what is desirable before altering routine. This aligns with institutional theory's emphasis on legitimacy shifts as precursors to structural transformation.

In the cases examined, sobriety becomes aspirational before non-alcoholic consumption stabilizes; sustainability becomes status before resale normalizes; autonomy becomes desirable before minimalist devices diffuse.

Thus, cultural innovation is cognitively anchored before it is behaviorally stabilized.

3. Introducing Practice Stabilization as the Decisive Mediator - Proposition 3 (Stabilization Threshold) asserts that innovation becomes durable when practices are routinized and institutionally endorsed.

This contribution bridges innovation theory and practice theory by identifying routinization as the mechanism converting novelty into permanence. Without stabilization, innovations remain symbolic, episodic, or niche.

Practice stabilization performs three functions: (i) it reduces cognitive effort; (ii) it embeds repetition into daily life; and, (iii) it signals legitimacy through normalization.

Institutional endorsement (e.g., menu redesign, platform integration, regulatory acceptance) reinforces this stabilization, creating feedback loops that anchor new norms.

4. Explaining Why Modest Offerings Produce Disproportionate Impact - Proposition 4 (Visibility Paradox) suggests that infrastructurally invisible technologies may produce deeper cultural embedding.

This insight explains why modest consumption offerings—such as resale platforms or BNPL systems—can generate more sustained cultural change than highly visible frontier technologies. When technology recedes into infrastructure, evaluative and behavioral shifts occur with less resistance.

Low-visibility technological mediation often allows smoother re-specification of norms because it does not trigger overt technological contestation.

By introducing the influential preference mechanism, the model also explains patterned diffusion: cultural innovation scales when aligned with dominant preference tendencies (e.g., wellness, sustainability, autonomy).

7.3 Implications for Innovation Research

This framework suggests several directions for future research.

Measuring Evaluative Shifts - Innovation metrics should incorporate changes in evaluative hierarchies, not merely adoption rates. Longitudinal surveys and discourse analysis can track how criteria of desirability evolve.

Examining Practice Routinization - Researchers should operationalize routine stabilization as an outcome variable. Frequency, habituation, and normalization indices can provide more robust indicators of cultural embedding than diffusion curves alone.

Investigating Institutional Reinforcement - Institutional actors—platforms, regulators, media, brands—mediate the transition from selective usage to normative expectation. Future research should examine how endorsement, standardization, and symbolic validation accelerate stabilization.
Incorporating Preference Heterogeneity - Innovation research should integrate micro-foundational preference structures to explain uneven diffusion. Generational, cultural, and identity-based heterogeneity can clarify why some innovations scale while others stall.

7.4 Managerial Implications

Firms seeking transformative impact must recognize that technological superiority is insufficient.
Reframing Evaluative Criteria - Managers should strategically redefine what counts as value within a category. This may involve symbolic repositioning rather than functional improvement.
Enabling Role Reconfiguration - Innovation succeeds when participation structures shift. Firms should design ecosystems that allow consumers to become co-creators, curators, or intermediaries.
Supporting Practice Stabilization - Behavioral repetition requires infrastructural support: subscription models, interface defaults, menu redesigns, loyalty mechanisms.
Aligning with Preference Tendencies - Successful cultural innovation aligns with emerging macro-preferences (e.g., sustainability, autonomy). Firms should monitor evolving identity narratives and value orientations.

7.5 Counter-Arguments and Boundary Conditions

While the proposed four-mechanism framework offers a multi-level explanation of Cultural Innovation, several counter-arguments and boundary conditions must be acknowledged.
Recognizing these limits strengthens both theoretical precision and empirical testability.

7.5.1 Counter-Argument 1: Technological Determinism

A potential critique is that technological affordances alone may be sufficient to drive cultural change. From a strong technological determinist perspective, new capabilities restructure behavior regardless of evaluative reinterpretation.
For example:
Smartphones altered communication patterns rapidly without explicit value re-specification campaigns.
Social media platforms reshaped attention economies through structural design rather than symbolic reframing.
Response:
While technological affordances can trigger immediate behavioral shifts, sustained

Cultural Innovation requires normative stabilization. Early behavioral adoption does not necessarily imply cultural embedding. Many technologies experience rapid diffusion yet fail to generate durable normative change (e.g., certain wearable devices or short-lived digital platforms).
Our framework therefore distinguishes between:
- Behavioral displacement (short-term adjustment)
- Cultural transformation (institutionally stabilized norm change)

The latter requires value re-specification and practice stabilization.

7.5.2 Counter-Argument 2: Market Success Without Cultural Change

Another critique concerns innovations that achieve high adoption rates without altering value systems (e.g., incremental smartphone upgrades).
High sales volumes may reflect utility enhancement rather than cultural innovation.
Boundary Condition 1: Functional Saturation
In mature product categories where evaluative criteria remain stable, technological innovation may produce economic value without cultural transformation.
Thus, the framework applies primarily to contexts where:
- Evaluative hierarchies are contested or fluid.
- Identity tensions are unresolved.
- Normative expectations are in transition.

7.5.3 Counter-Argument 3: Preference Endogeneity

A further critique concerns the directionality of preference tendencies. One could argue that preferences are shaped by institutional actors and technological infrastructures rather than functioning as independent filters.
For instance:
Platform design may cultivate immediacy preferences.
Marketing campaigns may generate sustainability orientations.
Boundary Condition 2: Preference Plasticity
Preference tendencies are not fixed exogenous variables. They may evolve through feedback loops with practice stabilization and institutional reinforcement.
Thus, Mechanism 4 (Influential Preference Tendencies) operates dynamically rather than statically.
The model should therefore be interpreted as recursive:
- Preferences filter adoption,
- Stabilized practices reshape preferences.

7.5.4 Counter-Argument 4: Institutional Resistance

Cultural innovation may stall despite strong value re-specification and practice adoption due to institutional resistance.
Examples:
- Regulatory barriers to fintech expansion.
- Legal disputes surrounding generative AI and copyright.

- Cultural conservatism limiting sobriety normalization in certain societies.

Boundary Condition 3: Institutional Rigidity

Cultural innovation requires a minimum threshold of institutional permeability. In highly rigid institutional environments, technological affordances and preference alignment may not suffice.

Thus, institutional reinforcement is not automatic; it is contingent on power structures and regulatory openness.

7.5.5 Counter-Argument 5: Visibility as Double-Edged Sword

The "visibility paradox" proposition suggests infrastructurally invisible technologies embed more seamlessly. However, high visibility may also accelerate institutional legitimation.

For example:

- Public discourse around sustainability increases resale legitimacy.
- Media attention accelerates sober-curious normalization.

Boundary Condition 4: Contested Visibility

Visibility may either:

- Accelerate embedding (if discourse is favorable), or
- Trigger backlash (if cultural threat perception arises).

Therefore, visibility effects are contingent on framing and socio-political climate.

7.5.6 Scope Conditions

The framework is most applicable under the following conditions:

- Normative Fluidity
- Cultural categories undergoing evaluative contestation (e.g., health, sustainability, autonomy).
- Technological Infrastructure Availability
- Platforms capable of scaling practice stabilization.
- Identity-Relevant Domains
- Markets where consumption intersects with self-concept (e.g., fashion, food, lifestyle, finance).
- Moderate Institutional Flexibility
- Environments permitting new participation structures.

The model may be less explanatory in:

- Highly utilitarian industrial innovation contexts.
- Purely efficiency-driven B2B technological upgrades.
- Highly regulated or culturally homogeneous environments.

7.6 Integrative Perspective

By incorporating counter-arguments and boundary conditions, the framework avoids technological reductionism while also avoiding cultural voluntarism.

Cultural Innovation is neither technologically deterministic nor purely symbolic. It is:

- Technologically enabled,
- Normatively mediated,
- Preference-filtered,
- Behaviorally stabilized,
- Institutionally reinforced.

Only when these dimensions align does innovation transcend market novelty and become societal transformation.

8. Conclusion

Technological advancement expands possibility; cultural innovation determines permanence. However, technological innovation remains indispensable to cultural change for three reasons.

First, technological systems introduce new affordances that destabilize existing evaluative hierarchies. Without new material possibilities, value re-specification lacks anchoring. Technologies create the structural conditions under which alternative practices become feasible.

Second, technological infrastructures enable scalability. Cultural change requires repetition and diffusion; platforms, algorithms, and digital systems provide the mechanisms through which practices stabilize across populations.

Third, technological mediation alters participation architectures. By redistributing roles, embedding defaults, and lowering friction, technological systems reorganize how actors engage with value creation. Thus, technological innovation is not sufficient for cultural transformation—but it is often necessary. It functions as an enabling architecture that makes value re-specification actionable.

Cultural innovation, in turn, determines whether technological possibility becomes institutionalized reality. When evaluative criteria shift, participation structures realign, preference tendencies filter adoption, and practices stabilize within institutional frameworks, innovation transcends novelty and becomes structural change.

By reconceptualizing innovation as a multi-level reconfiguration of value systems, this article advances a framework capable of explaining why some technologies merely disrupt markets while others reshape culture itself.

Innovation research must therefore move beyond radical artifacts and examine how technological infrastructures interact with evaluative hierarchies, preference structures, and practice stabilization to produce enduring cultural transformation.

Only then can we fully understand how Technological Innovation becomes Cultural Innovation.

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