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RECEIVED 29 July 2025

REVISED 06 December 2025

ACCEPTED 11 December 2025

PUBLISHED 13 January 2026

CITATION

Alaawad HA, Mohamed EAS,
Abudraz AMM and Bashir BA (2026) The
metaverse: redefining the communicative
paradigm through a critical discourse analysis
of power and policy.
Front. Commun. 10:1675927.
doi: 10.3389/fcomm.2025.1675927

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The metaverse: redefining the communicative paradigm through a critical discourse analysis of power and policy

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The metaverse presents a distinct policy challenge, effectively redefining communication, economics, and identity outside the bounds of current regulation. While corporate narratives emphasize decentralization and empowerment, they often obscure the consolidation of platform power, the replication of economic inequality, and the expansion of biometric surveillance. Using Critical Discourse Analysis, this study deconstructs these narratives to identify architectural control, digital gentrification, and the commodification of embodied identity as primary policy concerns. We propose actionable recommendations, including "fairness by design" audits, strict interoperability mandates to prevent monopolies, and the establishment of clear legal rights regarding biometric and embodiment data.

KEYWORDS

biometric rights, consumer protection, critical discourse analysis, data governance, digital media policy, metaverse, platform power, spatial governance

1 Introduction

The rise of the metaverse, a concept originally popularized in fiction (Stephenson, 1992), marks a watershed moment for digital communication, requiring immediate regulatory attention (Anderson and Rainie, 2022; Ball, 2020). By establishing a persistent, immersive, and interconnected network of virtual spaces, this technology challenges the fundamental assumptions governing the two-dimensional internet. The transformation of digital content into integrated, three-dimensional worlds redefines social presence and economic exchange. Although industry leaders frame this shift as a natural evolutionary step, it provokes urgent policy questions. Specifically: How does the architecture of these spaces embed power and control?. How are user identities monetized in an environment of embodied interaction?. And where do existing legal frameworks fail to address these novel risks?

Dominant industry discourse promises empowerment, creativity, and a decentralized future. However, these utopian narratives threaten to mask a reality where power is consolidated by the platform owners controlling the underlying infrastructure.

Methodology: Critical Discourse Analysis We investigate these dynamics using Critical Discourse Analysis (CDA), applying the frameworks of Fairclough (1995) and van Dijk (2001). This method transcends surface-level content to reveal how language reinforces power structures. Our analysis covers a corpus of industry white papers, policy documents, and user forums published between 2021 and 2024. By dismantling specific linguistic strategies—such as labeling speculative asset markets as "democratization"—we expose the disparity between corporate promises and the socio-technical reality of surveillance and control.

2 The policy problem: power, control, and inequality

Traditional communication models fail to capture the complexity of the metaverse. Viewing the metaverse through McLuhan's (1964) lens—where “the medium is the message”—it appears not merely as a new channel, but as a distinct media ecology reshaping social and economic interaction.

2.1 Architectural control vs. spatial liberation

Promising “limitless” freedom often disguises subtler mechanisms of control. Governance shifts from content moderation to “spatial governance”—the rigorous control of architectural design. Unlike the 2D web, where moderation involves removing posts, metaverse platforms control movement and visibility. Wang et al. (2023) note that the placement of storefronts, algorithmic curation of hubs, and visibility of activities serve as powerful environmental “nudges.” For instance, a platform might architecturally funnel users through commercial zones to access social spaces, effectively treating attention as a spatial resource. This shifts control from the message to the environment itself, allowing owners to arbitrate interaction beyond the reach of traditional speech-focused moderation policies.

2.2 Digital gentrification vs. economic democratization

While technologies like NFTs and blockchain promise a creator-led economy, practice suggests a trend toward “digital gentrification.”

- *Case Study: The Digital Land Grab.* In ecosystems like Decentraland, initial land distribution triggered a speculative rush, creating substantial financial barriers to entry.
- *Inequality.* Joshi (2022) observes that this mirrors real-world disparities, favoring real estate speculators and corporate brands over individual creators.

Consequently, the rhetoric of decentralization legitimizes speculative markets that concentrate economic power. This fosters new monopolies within “walled gardens” (Radoff, 2021), where early investors, rather than the community, capture the generated value.

2.3 Embodied identity as a data commodity

The avatar, ostensibly a tool for self-expression, serves as a new frontier for data extraction. The harvesting of “embodiment data”—biometric signals including gestures, gaze, vocal inflections, and emotional states—introduces unprecedented privacy risks. Unlike clickstream data, embodiment data exposes intimate physiological and psychological baselines, enabling sophisticated manipulation and discrimination (Yao et al., 2024; Hsu and Lin, 2021).

Current frameworks like the GDPR and the EU Digital Services Act (DSA) were not designed for such intimate, persistent surveillance. While GDPR protects biometric data used for *identification*, it remains

ambiguous regarding behavioral data used for *inference*—such as detecting fatigue or vulnerability to target advertising.

3 Policy options and implications

Policymakers face a decisive choice in metaverse governance. Their approach will determine if the metaverse evolves into an equitable public square or a privately controlled commercial enclave (Table 1).

3.1 Option A: maintain the status quo (industry self-regulation)

This model leaves platforms to enforce their own codes of conduct and economic rules. While it may spur rapid development, it incentivizes commercial interests over user protection. Precedents in social media demonstrate that self-regulation rarely solves systemic issues like

TABLE 1 Governance frameworks comparison.

Criteria	Option A: status quo (self-regulation)	Option B: incremental adaptation (existing laws)	Option C: systemic regulation (proactive)
Primary mechanism	Corporate terms of service and community guidelines.	Application of GDPR, antitrust laws, and consumer protection acts.	New “Metaverse Acts,” fairness audits, and biometric rights legislation.
User safety and privacy	Low. High risk of behavioral manipulation and unchecked biometric surveillance.	Medium. Protects PII but struggles with inferred “embodiment data.”	High. Mandates “safety by design” and prohibits manipulative architectural nudging.
Market	Low. Favors “walled gardens” and first-mover monopolies; high barriers to entry.	Medium. Addresses traditional monopoly behavior but slow to react to platform lock-in.	High. Enforced interoperability ensures asset portability and fair competition.
Impact on innovation	Rapid but commercial. Innovation focuses on monetization and extraction.	Constraint-based. Innovation continues within current legal boundaries.	Ethical and directed. Innovation focuses on accessibility, equity, and user agency.
Feasibility	High. Requires no legislative action; low cost to state.	Medium. Uses existing bodies but requires new legal interpretations.	Low. Requires significant political capital and international cooperation.
Long-term outcome	Corporate capture. A privatized, commercial mall.	Regulatory gaps. Patchwork protections lagging behind harm.	Digital public square. An open ecosystem aligned with public interest.

algorithmic bias. In the metaverse, this likely ensures entrenched digital gentrification and the normalization of biometric surveillance for profit.

3.2 Option B: apply existing legal frameworks (incremental adaptation)

Extending current laws (e.g., GDPR, antitrust) offers partial protection but remains reactive. GDPR is ill-suited for the continuous, passive generation of “embodiment data.” Likewise, antitrust laws focused on price struggle to address power derived from architectural control and vendor lock-in. This leaves regulatory gaps where harms like spatial manipulation can flourish.

3.3 Option C: develop proactive, metaverse-specific governance (systemic regulation)

We recommend creating forward-looking frameworks that specifically address spatial communication, virtual economies, and embodied identity. This comprehensive approach fosters a more equitable ecosystem by design. Although it requires significant political will and international cooperation, it is essential for aligning the metaverse with public interest values and preventing the replication of physical-world inequalities.

4 Actionable recommendations

To achieve systemic regulation (Option C), policymakers must move from high-level principles to concrete enforcement.

4.1 Regulate spatial governance

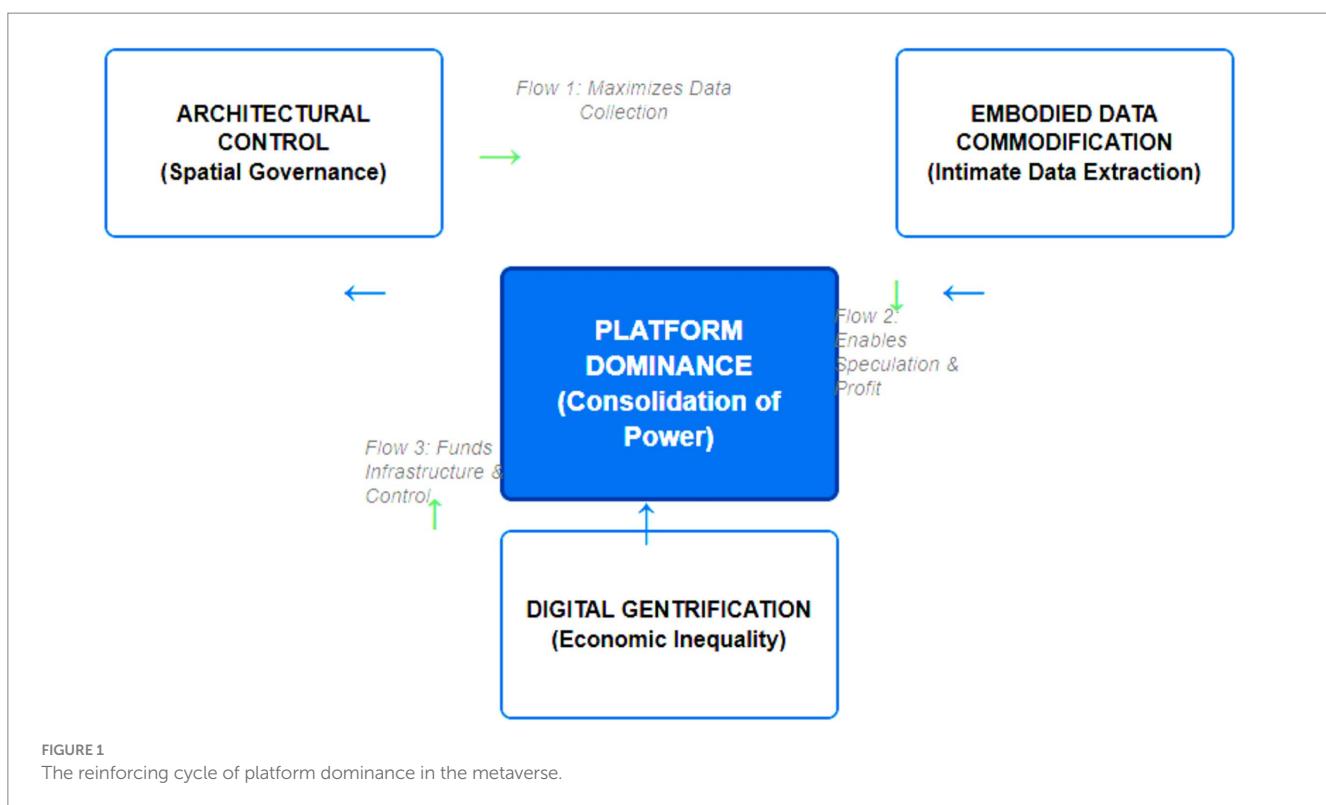
Not just content regulation must pivot from monitoring speech to auditing architecture. We propose mandating independent “fairness by design” (Parisi, 2021) audits for public virtual environments. These audits would identify manipulative “dark patterns” in 3D navigation and behavioral nudging. Furthermore, the algorithms curating social hubs and visibility must meet transparency requirements, treating virtual architecture as a matter of public interest.

4.2 Promote economic equity and fair competition

To dismantle “walled gardens” (Radoff, 2021), regulators must enforce interoperability. Ensuring that assets (avatars, goods) and data are portable prevents lock-in and drives genuine competition. Policymakers should also explore economic levers, such as taxes on high-value virtual land transactions, to curb the rampant speculation currently observed. Revenue generated could fund digital literacy and accessibility programs.

4.3 Expand data protection to cover embodied identity

Legal definitions of protected data require modernization. We advocate for a new category of “embodiment data”—covering biometric and behavioral information derived from avatars—afforded the highest level of protection. Users must possess explicit biometric rights, including control over the monetization of their expressions and movements. Crucially, advertising standards must prohibit targeting based on emotional or cognitive states inferred from this data (Figure 1).



Mechanism: The diagram illustrates how the three core policy challenges—Architectural Control, Embodied Data Commodification, and Digital Gentrification—are mutually reinforcing, creating a structural loop that solidifies Platform Dominance.

- Flow 1 (Control → Data): Architectural design maximizes the passive collection of intimate embodiment data.
- Flow 2 (Data → Money): Sophisticated data extraction enables targeted manipulation, driving profitable speculation in virtual land and assets.
- Flow 3 (Money → Architecture): Concentrated wealth from digital land grabs funds the proprietary infrastructure, reinforcing the platform's ability to exert Architectural Control.
- Final Loop: All three elements directly feed back into, and ensure the continuation of, Platform Dominance.

5 Conclusion

The metaverse acts as a contested arena where today's policy decisions will define the future of the digital economy and social interaction. A passive approach cedes control to dominant platforms, entrenching inequality and opening new avenues for harm. Policymakers must look past the hype to adopt a proactive, systemic regulatory framework. By addressing the foundational structures—architecture, economy, and identity—we can ensure the metaverse evolves not as a tool for extraction, but as an accessible, ethical medium for human potential.

Author contributions

HA: Methodology, Writing – review & editing. EM: Investigation, Methodology, Resources, Supervision, Validation, Writing – original draft, Writing – review & editing. AA: Conceptualization, Data

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curation, Writing – review & editing. BB: Conceptualization, Project administration, Writing – original draft.

Funding

The author(s) declared that financial support was not received for this work and/or its publication.

Conflict of interest

The author(s) declared that this work was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author(s) declared that Generative AI was not used in the creation of this manuscript.

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