

# Global Data Flow Imbalance and the Construction of a New International Communication Order from the Perspective of Digital Colonialism

WANG Yannan

Sichuan University of Media and Communications, 67 Xueyuan Street, 611745, Pidu District, Chengdu, Sichuan Province, China  
502171495@qq.com

**ABSTRACT** The contemporary global data landscape exhibits profound structural imbalances that reproduce and extend historical patterns of colonial extraction. This study examines the dynamics of digital colonialism as they manifest in international communication systems, analyzing how data flow asymmetries between the Global North and Global South undermine equitable participation in the global information order. Through critical analysis of policy documents, trade statistics, and governance frameworks from 2019 to 2025, this research identifies three dimensions of data colonialism in international communication: infrastructural asymmetry, epistemic extraction, and governance marginalization. The study proposes a normative framework for constructing a new international communication order based on data sovereignty, equitable participation, and South-South cooperation. Key recommendations include establishing regional data governance frameworks, investing in indigenous digital infrastructure, and reforming multilateral institutions to ensure meaningful representation of Global South interests. The findings contribute to ongoing debates about digital justice and provide policy-relevant insights for rebalancing global communication power structures.

**INDEX TERMS** Digital colonialism, data flow imbalance, international communication order, data sovereignty, Global South, global governance.

## 1. INTRODUCTION

The architecture of global data flows has become a central arena of contemporary geopolitical contestation. As digital technologies increasingly mediate economic production, political deliberation, and cultural exchange, the distribution of control over data infrastructure, processing capabilities, and governance frameworks has emerged as a critical determinant of international power relations [1]. The current configuration of global data flows exhibits stark asymmetries: while the majority of the world's population resides in the Global South, the predominant share of data extraction, processing, monetization, and governance authority remains concentrated in a handful of corporations and states located in the Global North. These imbalances, which scholars have increasingly characterized through the lens of digital colonialism, carry profound implications for the structure and legitimacy of the international communication order.

Digital colonialism refers to the systematic extraction of data from populations and territories in the Global South by

entities based in the Global North, coupled with the concentration of digital infrastructure ownership, algorithmic development, and governance authority in the hands of a small number of dominant actors [2]. Unlike historical colonialism, which relied on direct territorial control and physical resource extraction, digital colonialism operates through the architecture of global internet infrastructure, platform ecosystems, and data governance frameworks that enable continuous, granular extraction of digital resources without formal political domination [3]. The result is a pattern of structural dependency in which Southern populations generate data wealth that primarily enriches Northern corporations, while local economies and innovation ecosystems remain underdeveloped.

The international communication order, understood as the institutionalized patterns of information production, distribution, and reception that structure global public discourse, has been fundamentally shaped by these data asymmetries [4]. The dominance of Western media conglomerates, the concentration of internet infrastructure

in Northern jurisdictions, the Anglophone bias of algorithmic systems, and the marginalization of Southern perspectives in global governance forums all reflect and reinforce digital colonial power structures [5]. As artificial intelligence systems increasingly mediate communication processes, from content recommendation to automated translation to information synthesis, the risks of epistemic marginalization intensify, potentially silencing diverse voices and homogenizing global discourse [6].

This study addresses the urgent need for systematic analysis of how digital colonialism manifests in international communication and how a more equitable order might be constructed. Drawing on dependency theory, critical data studies, and international relations scholarship, we examine the mechanisms through which data flow imbalances perpetuate communication inequalities and propose a framework for reform grounded in the principles of data sovereignty and participatory governance. The central research questions are: (1) What are the key dimensions of digital colonialism in contemporary international communication? (2) How do data flow imbalances between the Global North and South reproduce structural inequalities in global communication? (3) What institutional reforms are necessary to construct a more equitable international communication order?

## 2. THEORETICAL FRAMEWORK: DIGITAL COLONIALISM AND INTERNATIONAL COMMUNICATION

### A. 2.1 Conceptualizing Digital Colonialism

The concept of digital colonialism builds on postcolonial theory and political economy of communication to analyze how digital technologies reproduce historical patterns of extraction and domination [2]. Couldry and Mejias [3] argue that data extraction represents a new form of resource appropriation that mirrors the colonial land grab, where the raw material, data, is harvested from the Global South and processed into value in the Global North. This extraction is enabled by the global architecture of submarine cables, data centers, cloud platforms, and mobile ecosystems that channel data from peripheral regions to core processing centers.

Three characteristics distinguish digital colonialism from earlier forms of media imperialism [7]. First, the scale and granularity of data extraction far exceeds previous capabilities, enabling continuous surveillance and behavioral prediction at the individual level. Second, the locus of extraction has shifted from state-controlled enterprises to private technology corporations, complicating traditional frameworks of state sovereignty and accountability. Third, the extraction process is increasingly automated and opaque, mediated by algorithmic systems that obscure the flow and utilization of data from those who generate it [8]. These features make digital colonialism both more pervasive and less visible than historical colonialism,

requiring new analytical frameworks and political responses.

### B. 2.2 Data Flow Imbalances: Infrastructure, Economics, and Governance

The empirical reality of global data flow imbalances is well-documented. An estimated 80% of intra-African internet traffic is routed through servers in Europe, introducing latency, higher costs, and vulnerabilities to external surveillance [9]. Latin America's digital connectivity exhibits similar structural dependence on foreign-owned infrastructure, with major hub cities such as Miami and Sao Paulo serving as conduits for data traffic controlled by Northern entities. The cloud services market is dominated by Amazon Web Services, Microsoft Azure, and Google Cloud, which together control approximately 67% of global market share, creating what has been termed cloud empires that dictate terms of service, pricing, and data governance standards [10].

Economically, the extraction dynamics are stark. Digital advertising revenue generated in Lagos, Nairobi, or Jakarta flows overwhelmingly to shareholders in California and Seattle. E-commerce transactions throughout the Global South enrich platforms domiciled in the North, while local economies capture minimal value through taxation or domestic innovation. Content moderation labor, essential for maintaining platform functionality, is outsourced to workers in Kenya, the Philippines, and India at wages significantly below Northern standards, while these workers are exposed to severe psychological trauma [11]. This global division of digital labor reproduces colonial-era patterns of value extraction paired with exploitation of workers in peripheral regions.

### C. 2.3 Governance Asymmetries

The governance dimension of digital colonialism is equally consequential. The foundational rules, standards, and norms of the global digital order are predominantly crafted in Washington, Brussels, and Silicon Valley, while the voices and interests of the Global South remain marginalized in key international forums [12]. Institutions governing critical internet resources, such as ICANN, and standard-setting bodies like the ITU, continue to be disproportionately shaped by Northern governments and corporate interests. As a result, global standards for cybersecurity, data governance, and artificial intelligence are established with insufficient input from the Global South, reflecting neither its needs nor its values [13].

The legal frameworks governing cross-border data flows exemplify this asymmetry. The European Union's General Data Protection Regulation (GDPR) and data adequacy decisions effectively export European privacy standards globally, while the United States maintains a market-oriented approach that privileges the commercial interests of its technology corporations. Most countries in the Global South lack the bargaining power to negotiate favorable

terms in bilateral data agreements and must accept standards developed elsewhere, often at the cost of domestic regulatory autonomy. Without meaningful representation in global digital governance, Southern nations risk remaining perpetual rule-takers rather than rule-makers, perpetuating a new generation of structural dependency.

### 3. DIMENSIONS OF DIGITAL COLONIALISM IN INTERNATIONAL COMMUNICATION

#### 3.1 *Infrastructural Asymmetry*

The physical infrastructure of global communication, submarine cables, satellite constellations, data centers, and mobile networks, remains overwhelmingly owned and controlled by entities headquartered in the Global North. Tech giants such as Google, Meta, and Amazon have increasingly financed and deployed private undersea cables, effectively privatizing what is essentially a global public good. While these investments expand connectivity, they also entrench neo-colonial dependency: access to the global digital economy becomes contingent on the commercial and strategic interests of a few corporations, directly challenging the regulatory sovereignty of states in the Global South.

The infrastructural dependency creates cascading vulnerabilities. Countries that lack domestically controlled data centers must store sensitive government, financial, and personal data on foreign servers, subjecting it to the jurisdiction and potential surveillance of other states. During geopolitical crises, this dependency can be weaponized through data sanctions or connectivity disruptions. Furthermore, the routing of intra-regional traffic through Northern exchange points imposes significant economic costs and constrains the development of regional digital integration. Addressing infrastructural asymmetry requires substantial investment in indigenous digital infrastructure, including submarine cable landing stations, regional internet exchange points, and sovereign cloud platforms.

#### 3.2 *Epistemic Extraction*

Beyond physical infrastructure, digital colonialism operates through the extraction and appropriation of knowledge and cultural content from the Global South. Artificial intelligence systems that increasingly shape global communication are trained predominantly on datasets generated in the Global North, embedding specific cultural values, linguistic patterns, and epistemological frameworks that systematically disadvantage non-Western populations. The effects are tangible and pervasive: voice recognition systems that fail to process diverse accents, facial analysis technologies that misidentify non-white features, machine translation that performs poorly for low-resource languages, and recommendation algorithms that marginalize local cultural production [14].

In the domain of international communication, epistemic extraction manifests through the dominance of Western news agencies, entertainment platforms, and social media algorithms in shaping global narratives [15]. Local cultural production in the Global South struggles to achieve visibility on global platforms whose algorithms are optimized for Northern user preferences and advertiser demands. When Southern content does achieve prominence, it is often through frames and formats dictated by platform architectures designed elsewhere. This constitutes a new hierarchy of knowledge, where the Global South is once again defined by, and subjected to, a foreign epistemological framework.

#### 3.3 *Governance Marginalization*

The governance of global digital communication remains heavily skewed toward Northern interests and perspectives. Despite rhetorical commitments to multistakeholder governance and inclusive participation, decision-making processes in key forums, from the ITU to the Internet Governance Forum, continue to reflect power asymmetries that disadvantage Southern actors [16]. The capacity to participate effectively in global digital governance requires significant technical expertise, financial resources, and diplomatic leverage, all of which are unevenly distributed.

Recent initiatives such as the Global Digital Compact and the G20 Data20 proposal represent partial responses to these governance gaps [17]. However, meaningful reform requires more than procedural inclusion; it demands substantive redistribution of agenda-setting power, resource allocation, and normative authority. The call for a Digital Bandung Conference, modeled on the 1955 Afro-Asian Conference, reflects growing Southern demands for a fundamental restructuring of global digital governance rather than incremental reform within existing frameworks.

## 4. TOWARD A NEW INTERNATIONAL COMMUNICATION ORDER

#### 4.1 *Principles for Reform*

Constructing a more equitable international communication order requires grounding institutional reform in clear normative principles. Drawing on the growing body of scholarship on data justice and digital sovereignty, we propose four foundational principles. First, data sovereignty: nations and communities have the inherent right to govern how data about them is collected, stored, processed, and utilized [18]. This principle, exemplified by New Zealand's Maori Data Sovereignty framework integrating CARE principles (Collective Benefit, Authority to Control, Responsibility, Ethics), recognizes that data governance is not merely a technical matter but a matter of self-determination [19].

Second, equitable participation: global communication governance must ensure meaningful representation and influence for Global South actors, not merely token presence [20]. This requires capacity building, language

accessibility, funding for Southern participation, and structural reforms to decision-making processes that currently privilege Northern expertise and corporate lobbying. Third, mutual benefit: data flows and communication exchanges should generate reciprocal benefits for all parties, rather than enabling unidirectional extraction from South to North. Fourth, cultural diversity: the international communication order should protect and promote diverse cultural expressions, languages, and epistemologies against the homogenizing pressures of algorithmic platforms and globalized content industries [21].

#### 4.2 Institutional Mechanisms

Translating these principles into practice requires institutional innovation at multiple levels. At the regional level, the development of data governance frameworks among Southern regional blocs, such as the African Union's Data Policy Framework, ASEAN's Digital Masterplan, and initiatives within MERCOSUR and the Shanghai Cooperation Organization, can provide collective bargaining power and shared standards [22]. Regional digital infrastructure initiatives, such as the African Union's ambition for a continental digital single market, can reduce dependency on Northern infrastructure while fostering intra-regional connectivity and economic integration.

At the multilateral level, reform of existing institutions and the creation of new bodies are both necessary. The proposal for a Digital Stability Board, modeled on the Financial Stability Board established after the 2008 financial crisis, could provide coordinated oversight of global digital governance, including standards for data protection, competition policy, and algorithmic accountability. The establishment of Data20 as a dedicated G20 working group on data governance, as proposed by the T20 Brazil process, would elevate data issues to the level of heads of state and ensure sustained high-level attention [23]. The UN Global Digital Compact, adopted at the 2024 Summit of the Future, provides a foundational framework but requires robust implementation mechanisms and adequate resourcing to achieve its objectives [24].

At the national level, countries in the Global South must develop comprehensive data governance frameworks that balance openness with sovereignty, learning from but not simply copying Northern models. Brazil's General Data Protection Law (LGPD), India's Digital Personal Data Protection Act, and South Africa's Protection of Personal Information Act (POPIA) represent diverse approaches to crafting contextually appropriate data protection regimes. Investment in digital public infrastructure, open-source technologies, and domestic technology ecosystems can reduce dependency on foreign platforms while fostering local innovation.

## 5. CONCLUSION

Digital colonialism represents a defining structural challenge of the twenty-first century, with profound

implications for the international communication order. The analysis presented in this study demonstrates that current patterns of global data flow, characterized by infrastructural asymmetry, epistemic extraction, and governance marginalization, reproduce and extend historical patterns of colonial domination. These asymmetries undermine the capacity of the Global South to participate equitably in global information flows, shape international narratives, and benefit from the digital economy.

Addressing these challenges requires a comprehensive reform agenda grounded in the principles of data sovereignty, equitable participation, mutual benefit, and cultural diversity. The construction of a new international communication order is not merely a technical or regulatory task but a fundamentally political project that challenges entrenched power structures and demands redistribution of resources, authority, and voice. While the obstacles to reform are substantial, given the concentrated economic and political power of incumbent actors, the growing assertiveness of Southern states, the emergence of regional digital governance initiatives, and the increasing recognition of digital justice as a global public policy priority create conditions for meaningful change. The path forward requires sustained commitment from governments, civil society, academia, and international organizations to transform the architecture of global digital communication from an instrument of extraction into a foundation of equitable global cooperation.

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