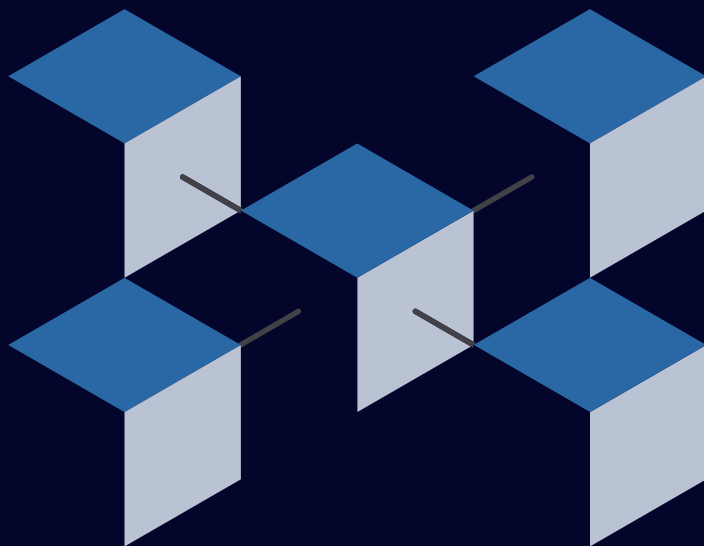

Indigenous Perspectives on Digital Trade

DR. ASHLEY CORDES
DR. SUDHANSHU SANE



TAUHOKOHOKO 2026

TABLE OF CONTENTS

INTRODUCTION	2
QUESTIONS	4
PRECOLONIAL INDIGENOUS TRADE NETWORKS AS TETHERED TO DIGITAL TRADE	5
WHAT IS DIGITAL TRADE AND WHY DOES IT MATTER FOR INDIGENOUS PEOPLES?	9
DIGITAL SOVEREIGNTY AND THE INFRASTRUCTURE OF INDIGENOUS TRADE	13
TRADE IN DIGITAL ASSETS: CRYPTO CURRENCIES AND SOVEREIGNTY	16
DIGITAL TRADE AGREEMENTS AND INDIGENOUS RIGHTS	21
DATA GOVERNANCE AND INTELLECTUAL PROPERTY	27
POLICY AND PRACTICAL RECOMMENDATIONS	31
CONCLUSION	35
REFERENCES	36



AUTHORS

Ashley Cordes, Ph.D., is a citizen of the Coquille/KōKwel) Nation. She specializes in how Indigenous culture and technology producers leverage emerging technologies including cryptocurrency, blockchain, and AI/ML to advance Tribal representational and data sovereignty, cultural revitalization, and the resurgence of Indigenous knowledge systems. She is the author of [Indigenous Currencies: Leaving Some for the Rest in the Digital Age](#) (MIT Press).

Sudhanshu Sane is a Staff Visualization Engineer at Luminary Cloud and holds a Ph.D. in Computer Science from the University of Oregon. His interests lie at the intersection of data visualization, applied machine learning and high-performance computing.

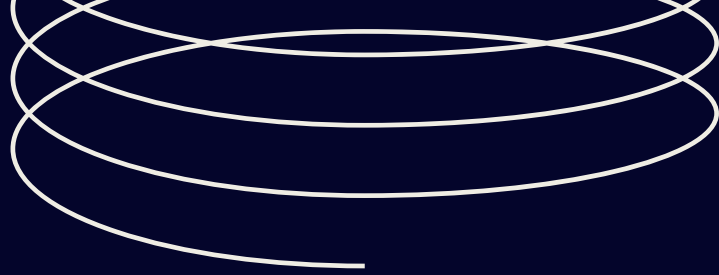
Cordes and Sane are part of Oregon Native Consultancy Arts and Tech Specialization (ONCATS).

Citation: Cordes, A., & Sane, S. (2026). Indigenous perspectives on digital trade. *Tauhokohoko*.

INTRODUCTION

As Indigenous peoples, histories and practices of trading are held within our bodies, written in laws, archives, and treaties, and ultimately mediate relationships with land, communities, and technologies. The rapid and widespread adoption of networked communication in our Digital Age, and simultaneous financial uncertainty, have contributed to the creation and adaptation of new conditions of exchange. Digitality offers Indigenous peoples unique opportunities to trade across long distances while building economies on sovereign terms. In contrast to other forms of trade, digital trading is by nature highly reliant upon the Internet and its underlying infrastructures. These include transmission media: high-speed fiber optic cables; wireless spectrum; networking equipment: routers, switches, cell towers, satellite ground stations; end devices: laptops, phones, servers; and the core network software: the Internet protocol stack. Digital ledger systems (e.g., blockchain), digital wallets, encryption for secure transactions, security, machine learning/artificial intelligence (AI), and compliance protocols are particularly critical to the future of digital trading.

Digital governance, digital infrastructure ownership, and digital jurisdiction emerge as central concerns for Indigenous digital trading futures. Who controls the rails (infrastructure) of exchange, who sets the rules of participation, and who benefits from value creation are situated in Indigenous political economics. For Indigenous Nations, digital trade infrastructures intersect with longstanding assertions of sovereignty, self-determination, and responsibilities to Lands and future generations. The organization of digital economies through platforms, protocols, standards, and trade agreements is often framed in technooptimistic versus pessimistic terms: they can reproduce extractive relations or be reconfigured to support Indigenous governance, consent-based data movements, and relational economic models grounded in care, reciprocity, and continuity.



In other words, within the Digital Age, trading has adapted and is frequently framed as creating opportunities for Indigenous peoples. However, trading also presents significant dangers. These dangers or threats can occur through colonial governance and economic models that undermine Indigenous movements of digital data, inclusive of resources/belongings, languages, and Traditional Ecological Knowledges, all of which are moved by digital rails. Indigenous perspectives and innovation provide critical correctives and directions, and also afford thinking within and beyond the aforementioned binary view of digital trading as positive or negative for Indigenous peoples.

This report brings together synthesis, analysis, and stories of Indigenous digital trade. Methodologically, it draws on Indigenously written trading briefs, scholarship, conference proceedings, news reports, and Indigenous thought from economists and technologists to better scope how digital trade affects and is affected by Indigenous Nations and communities. The aim of this report on trading is not to assert a singular Indigenous voice, as that does not exist. Rather, this report seeks to recognize the multiplicity of ways of knowing, doing, and being that shape Indigenous digital trading. The purpose is also to expand the scope of Nā Danielle Lucas' (2025) report, "Māori Perspectives on Digital Trade," which is focused on digital trade policy impacts on primarily Māori communities and disentangling Māori e-commerce and trade in digital assets. In expanding the scope, the geopolitical Indigenous foci of this report include Native Nations in what is now known as North America (e.g., Navajo, Sakewew p'sim iskwew, Opaskwayak Cree, Muscogee Creek, Oglala Lakota, Spirit Lake Lakota, Sicangu Lakota Kanien'keha:ka, Kō-Kwel, Cherokee, and Mvskoke) but also references global Indigenous movements and cases. This approach allows for a demonstration of the diverse relations to Lands, histories, and digitalities that inform and contour the corpus of Indigenous perspectives highlighted in this report.

QUESTIONS THAT HAVE PROMPTED EXTANT INDIGENOUS PERSPECTIVES ON TRADE :

QUESTION 1

How might Indigenous Nations assert digital sovereignty over online marketplaces and data flows, and in what ways do these practices challenge or expand conventional understandings of governance, ownership, and jurisdiction?

QUESTION 2

In what ways can Indigenous digital trade circulate knowledges, languages, and cultural expression while simultaneously generating economic opportunities? And how might these networks reconfigure ideas of value beyond settler-colonial logics?

QUESTION 3

Where do infrastructure, access, and technological barriers intersect with Indigenous innovation, and how are communities designing tools and platforms that both respond to and reshape these constraints?

QUESTION 4

How do national and international digital trade policies, copyright regimes, and online content regulations enable or limit Indigenous participation, and what strategies emerge to navigate, resist, or transform these frameworks?

QUESTION 5

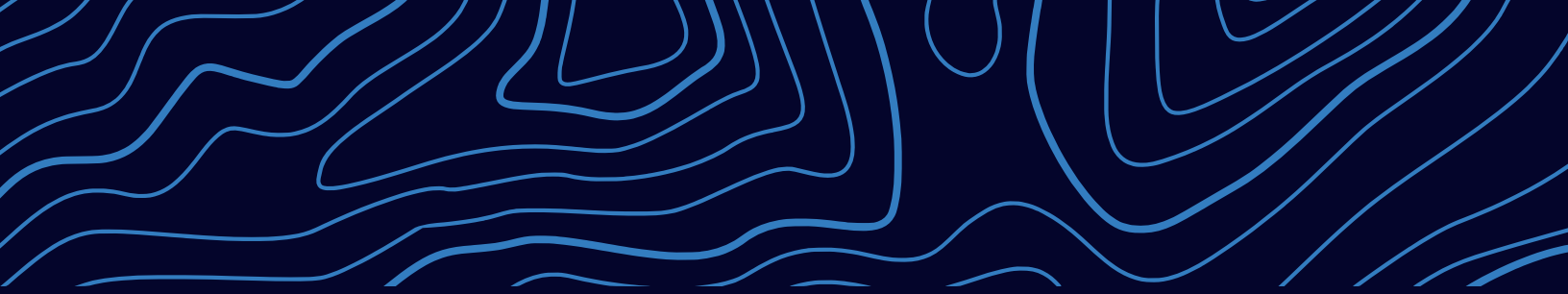
How are Indigenous digital trade networks reimagining relationality, reciprocity, and exchange, and in what ways do they extend, adapt, or depart from pre-existing social, cultural, and economic connections?



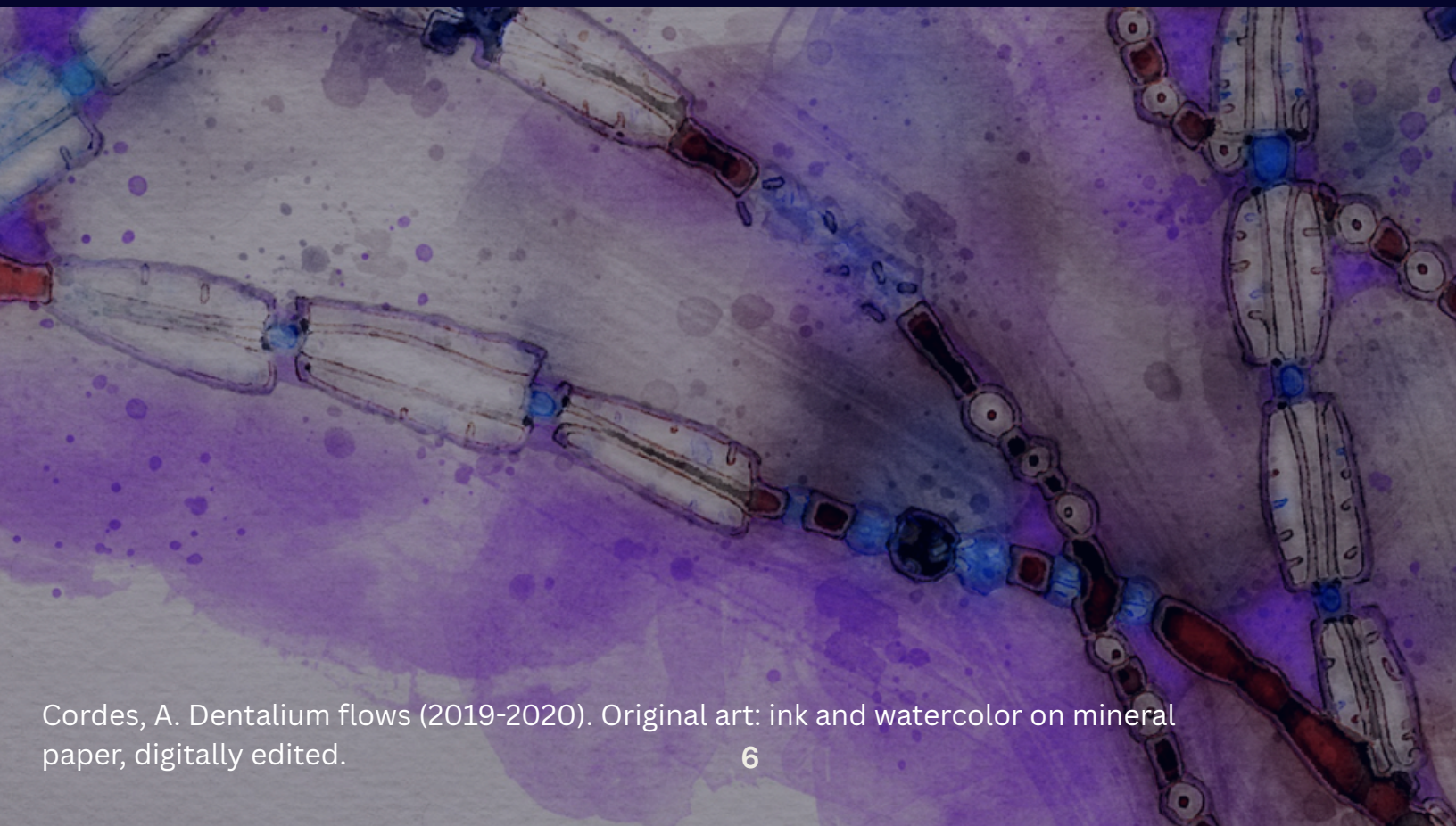
PRECOLONIAL INDIGENOUS TRADE NETWORKS AS TETHERED TO DIGITAL TRADE



Trading itself long predates colonial contact and modern nation-state systems. Indigenous trade networks were extensive, sophisticated, and governed by legal, diplomatic, and ethical frameworks often rooted in relationships rather than accumulation. Goods, knowledges, ceremonial items, foods, technologies, and stories moved along land- and water-based routes that connected Nations across vast geographies.



For example, Dentalium, an off-white shell of scaphopod mollusks, functioned for millennia as a valued trade material among the Coquille, Tolowa, Yurok, and many other Indigenous Nations of the Pacific Northwest and beyond. Collected primarily from waters near present-day Vancouver Island, these shells entered systems of exchange that followed coastlines and river systems, linking oceanic and inland communities. These types of infrastructures existed long before colonial arrival and were not based on territorial borders or capitalist state-based markets. Over distance, dentalium accrued value through its movement within these relational networks, where exchange supported material circulation and also the transmission of language, knowledge, and intergenerational responsibility (Cordes, 2025). Similar trading in what is now known as the United States occurred with Indigenous currencies such as wampum, olivella, woodpecker scalps, copper, baskets, and hundreds of other intermediaries.



Cordes, A. Dentalium flows (2019-2020). Original art: ink and watercolor on mineral paper, digitally edited.

Again, long before fiber-optic cables and underground sea cables crisscrossed this planet (Starosielski, 2015) to afford trade of and with digital assets, Indigenous peoples innovated and maintained sophisticated trade networks and expressed ingenuity in how they overcame the “double coincidence of wants,” which occurs when someone attempts to trade goods with a person who has no interest in, need for, or use for them (Meneger, 1892). The “All Roads Lead to Chaco Canyon” (2018) conference reminds us that Chaco Canyon was once an Indigenous trade hub where turquoise, cacao beans, macaw feathers, and seashells traveled across the Western Hemisphere (Austin & Crepelle, 2018). How Indigenous peoples trade and what they trade with reflect how they live and communicate. These exchanges were, and still are, embedded within systems of kinship, treaty-making, and ecological stewardship.

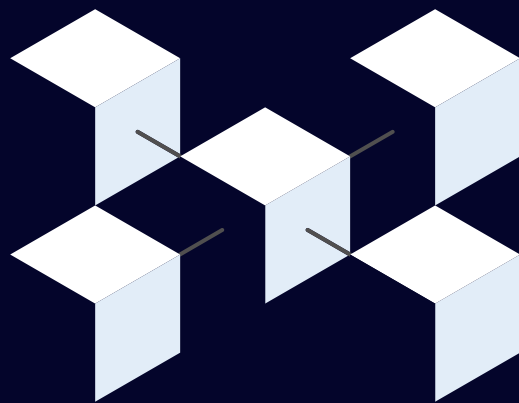
Trading functioned, and still functions, as a means of maintaining balances among peoples, territories, and more-than-human relations. Colonial expansion and entrepreneurial colonial terrorism violently disrupted these systems through land dispossession, imposed borders, forced assimilation, and the criminalization or regulation of Indigenous economies (Shaler, 2020). Trade was restructured to serve imperial markets, extractive industries, and settler state interests, often severing Indigenous peoples from their own economic infrastructures, currencies, and decision-making authority (Bhandar, 2018).

In the postcolonial and late-capitalist period of our contemporary, global trade agreements, financial institutions, and regulatory regimes have continued to marginalize Indigenous economic participation by privileging state-centric sovereignty and corporate actors (Pasternik, 2023).

More recently, digital trade agreements and policies that are misrepresented as neutral and innovation-driven extend these dynamics into cyberspace. Yet the legal frameworks governing those activities and where they take place often fail to recognize various forms of sovereignty, particularly when considering the vast diversity within and across Indigenous peoples. Globally, there are an estimated 476 million Indigenous peoples across more than 90 countries, representing approximately 6% (though percentages are contested and vary) of the world's population (UN, 2023). For the purposes of this report, "Indigenous" refers to peoples who self-identify as such, have historical continuity with their Indigenous communities, maintain distinct cultural, political, or social institutions, and possess enduring relationships to their lands and resources.

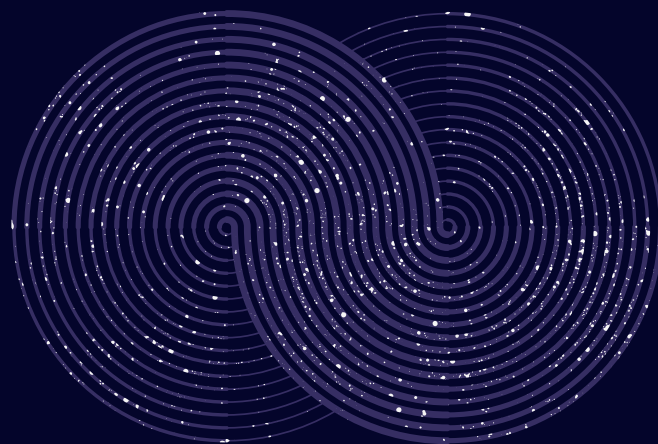
Provisions governing data flows, intellectual property, platform governance, and financial technologies risk enclosing Indigenous knowledge systems, monetizing cultural and ecological data without consent, and further eroding Indigenous jurisdiction (FNIGC, n.d.). At the same time, Indigenous Nations and communities are actively intervening in these spaces, asserting rights to data sovereignty (Hudson et al., 2023), developing tribally governed digital infrastructure, creating Indigenous-led fintech and platform cooperatives, and articulating alternative visions for digital trade that refuse extractive logics.

WHAT IS DIGITAL TRADE AND WHY DOES IT MATTER FOR INDIGENOUS PEOPLES?



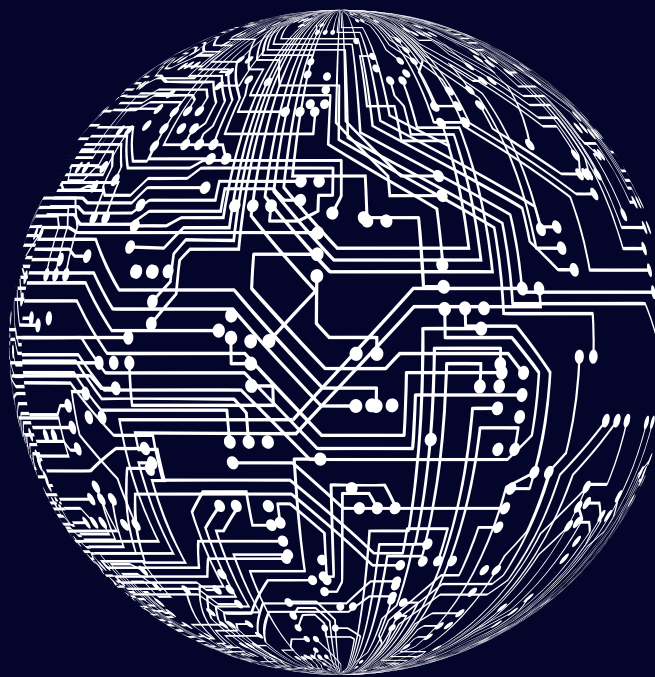
Digital trade generally encompasses the cross-border exchange of digital products, services, and data. E-commerce, which overlaps and diverges with digital trade in important ways, typically refers to online retail transactions, which flourished in the Web 2.0 era and engendered user-driven and digitally social marketplaces. Digital trade, however, is broader in its inclusion of streaming media, cloud computing, online payment systems, and algorithmic data flows, which, within dominant nation-states and capitalist systems, tends to commodify most aspects of life. International and multinational trade scholars suggest that existing trade rules were designed before the Internet era and do not adequately apply to digital goods and services generally, and fail to protect and enable digital trade Indigenously (Burri, 2021).

For Indigenous communities, digital trade is not an abstract concept but a living practice that shapes the way knowledge is shared, ceremonies are practiced, and economies are developed in Indigenous spaces and places. Indigenous spaces and places vary, for example, from remote and insular to diasporic and cosmopolitan, and take place in virtual and land-based places. Indigenous digital activities can range from running barter exchanges on Facebook (Finau & Scobie, 2022) to streaming and sharing Indigenous films, to experimenting with Indigenous cryptocurrencies (Cordes, 2025; Alcantara & Dick, 2017), and are shaped by digital environs themselves.



For example, the metaverse, a persistent, immersive, and networked virtual environment where users interact, create, and exchange value, represents a new space and place for digital trade, cultural expression, and governance. The Australian First Nations' proposal for a metaverse-based cultural embassy demonstrates how virtual spaces can be leveraged to advance Indigenous self-determination in digital economies (Pierucci, 2025). Grounded in the principles of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), the cultural embassy establishes a framework in which control over digital land, data, and cultural representation can potentially align with Indigenous laws, ethical protocols, and governance practices. Within this context, the metaverse, as well as other platforms such as Decentraland and the Sandbox, function as a relational space where knowledge, cultural assets, and digital resources circulate under Indigenous stewardship (Momtaz, 2022).

When asserting authority over these virtual so-called territories and the trade of digital goods and information, Indigenous communities create mechanisms of governance that are designed to resist colonial logics embedded in mainstream digital platforms.



As an additional example, during the COVID-19 pandemic, iTaukei (Indigenous Fijians) used Facebook groups to organize a barter economy. Finau and Scobie (2022) found that this system leveraged Indigenous values of accountability in which participants frame digital barter as acts of reciprocity and tradition rather than abstract transactions. This demonstrates how digital platforms can, when critically engaged, foster reciprocal economies that challenge capitalist logics and align with Indigenous ethics. Indigeneity in Oceania, in a broader sense, should not be understood as small, marginal, or isolated in its ability to participate in digital trade. Rather, it constitutes an expansive and continually shifting Indigenous force shaped by longstanding traditions of trade, mobility, and relational exchange.

Assertions that Polynesian, Melanesian, and Micronesian societies are too geographically dispersed, economically limited, or politically constrained to sustain meaningful autonomy rely on narrow forms of economic and geographic determinism. Views in this vein obscure deep histories of Indigenous commerce, navigation, and interisland governance, as well as contemporary practices through which Pacific Islanders actively extend social, economic, and political networks across the ocean (Hau'ofa, 1994). Through everyday movements, remittances, exchange, and transoceanic trade, Pacific Peoples continue to challenge colonial spatial logics and affirm Indigenous economic sovereignty and, in turn, digital economic sovereignty.

DIGITAL SOVEREIGNTY AND THE INFRASTRUCTURE OF INDIGENOUS TRADE

Indigenous scholars and activists use the term *digital sovereignty* to describe Indigenous community control and governance over both intangible data and the physical infrastructure through which that data moves. As Davida Delmar (2023) of the National Digital Inclusion Alliance suggests, digital sovereignty brings together two closely related principles: data sovereignty, or the right to determine who accesses, stores, and uses Indigenous information, and network sovereignty, a concept developed by Duarte (2017) to describe the authority to build, own, and manage the infrastructure that carries Indigenous communications over the Internet. Together, these forms of sovereignty extend longstanding claims to self-determination into digital environments, framing data governance and infrastructure ownership as matters of jurisdiction more than technical administration. Efforts to build Indigenous-owned networks that support digital trade reflect this broader assertion of authority. Such projects function as forms of nation-building, reconnecting communities separated by distance while reshaping the speed and scale at which economic, political, and cultural relationships unfold (Delmar, 2023). Digital infrastructure, in turn, does more than enable participation in digital economies; it helps produce the conditions under which Indigenous nations exercise control over their digital trading futures.

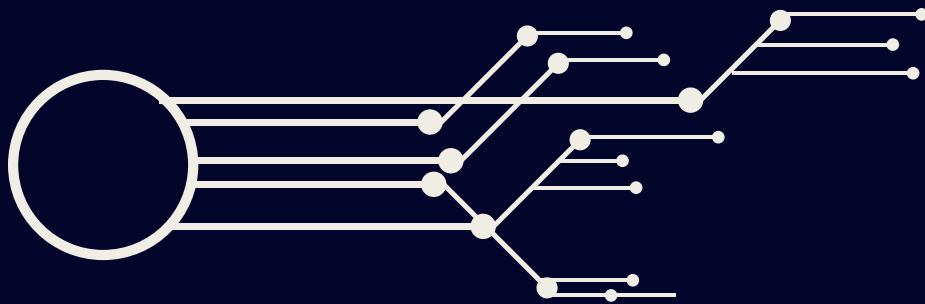
These efforts, however, unfold within a persistent digital divide. Despite legislative and policy interventions, including the Tribal Internet Expansion Act of 2025, and a growing number of Indigenous-led initiatives, many Indigenous communities across North America continue to lack reliable broadband access. Indigenous leaders increasingly frame these limitations as infrastructure deficits and as barriers to digital trade and economic participation. At a 2023 Māori trade conference in Aotearoa, Māori digital sovereignty was identified as a central concern in contemporary trade agreements, underscoring the relationship between connectivity, economic engagement, and Indigenous authority (Mika & Maniapoto, 2023). Tribal Nations in what is now known as the United States face comparable challenges, where limited access in more rural reservation contexts continues to constrain participation in digital economies.

Federal programs such as the Tribal Broadband Connectivity Program have begun to address some of these gaps, while Indigenous-led community networks demonstrate alternative pathways forward. The Tallgrass Network in Oklahoma offers one such example, illustrating how Tribal Nations can design, build, and manage their own fiber infrastructure in ways that reflect local governance priorities and community needs (Strover, 2021). These initiatives point toward connectivity models that emphasize Indigenous control rather than dependence and are essential for meaningful participation in the broader digital economy.

At the same time, the rules governing digital trade increasingly shape how data may be stored, processed, and moved across borders. Provisions within digital trade agreements that restrict data localization can limit Indigenous nations' ability to establish their own data stewardship centers, particularly where sensitive knowledges is concerned (Alipio, García-Coló, & Fox, 2024). Samlidis and Mitchell (2024) note that while some dominant governments have reserved limited policy space in these agreements to acknowledge Indigenous data sovereignty, such protections remain uneven and insufficient. The development of these provisions is frequently marked by conflict and relies heavily on Indigenous advocacy, work that is often unpaid, highlighting persistent power imbalances within trade governance.

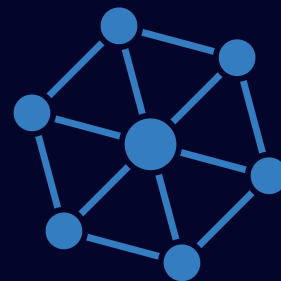
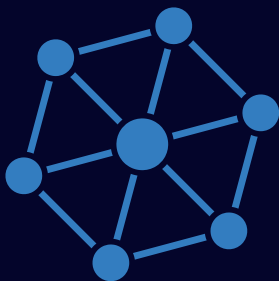
Within this evolving landscape, Indigenous nations are also engaging with digital finance and fintech initiatives, including peer-to-peer lending platforms, digital payment systems, and business financing tools (Levon, Congcong, Thu, & Kerry, 2023). These partnerships raise questions of AI, digital jurisdiction, and online gaming, particularly as Tribal regulatory frameworks seek to balance innovation with consumer protection. Fintech initiatives are often framed as offering the potential to expand access to capital for Indigenous entrepreneurs and support greater financial inclusion, while also introducing risks related to fraud, cybersecurity, and regulatory entanglement with non-Indigenous authorities. Digital finance thus further illustrates how Indigenous participation in digital trade is shaped by ongoing negotiations between technological innovation, governance, and sovereignty.

TRADE IN DIGITAL ASSETS: CRYPTO CURRENCIES AND SOVEREIGNTY



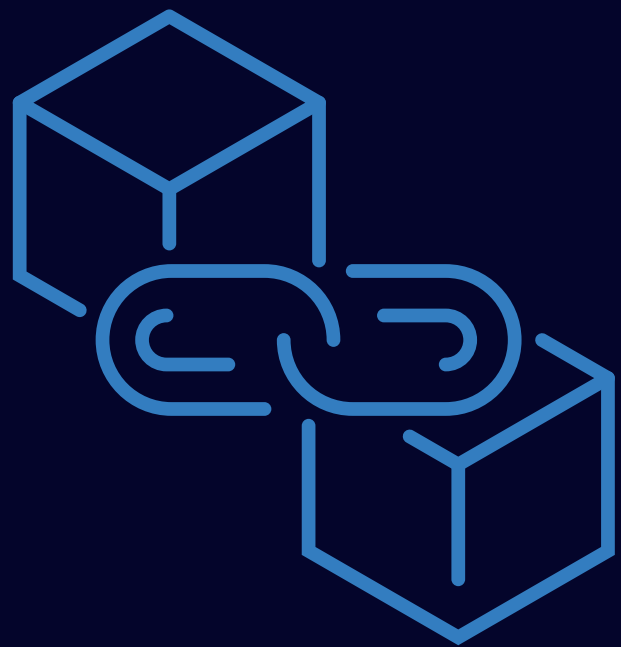
Digital currencies, or digital peer-to-peer currencies or assets, have also often been framed as a potential pathway toward economic autonomy and expanded participation in digital trade (Cordes, 2024). Blockchain, the underlying technology of cryptocurrency, refers to a system in which blocks of data are linked into an immutable digital chain. Blockchain operates as an often open source, decentralized, distributed ledger that records ownership and transactions of digital assets without reliance on a central authority such as a bank (Nakamoto, 2008; Antonopoulos, 2017).

Political scientists Christopher Alcantara and Caroline Dick (2017), in their article “Decolonization in a Digital Age: Cryptocurrencies and Indigenous Self-Determination in Canada,” examine how Indigenous leaders in Canada considered adopting Bitcoin or the Lakota-based MazaCoin as a means of reducing reliance on colonial currencies to enable various forms of digital trade. Their analysis highlights the significant technological, legal, and financial hurdles facing Indigenous cryptocurrency initiatives, while also calling for further research into how crypto innovations might better support Indigenous self-determination (Alcantara & Dick, 2017). In the United States, the Oglala Lakota Nation was briefly associated with MazaCoin, an Indigenous cryptocurrency that underscores both the symbolic power of Indigenous digital currencies and the practical challenges they face, including market volatility, limited adoption, and regulatory uncertainty. While the rhetoric surrounding Indigenous cryptocurrencies frequently invokes sovereignty, community, and self-determination, scholars have cautioned that such projects may also reinscribe neoliberal values embedded in broader crypto-economic systems (Tekobbe & McKnight, 2016). As a result, ongoing questions remain regarding whether cryptocurrencies can deliver tangible, sustained benefits to propel Indigenous digital trade and economic development.



Cryptocurrencies function as fungible tokens on a blockchain. For example, two Bitcoin tokens are interchangeable, much like two dollar bills (Antonopoulos, 2017). However, cryptocurrencies are treated more as assets than currencies like the dollar. In contrast, non-fungible tokens (NFTs) are unique cryptographic tokens that cannot be replicated or exchanged on a one-to-one basis (ERC-721 Standard, 2018). An NFT is important to the digital trade of Indigenous data, authentication, and provenance. That is because an NFT is a unit of data stored on a blockchain that certifies a digital asset as unique, providing a verifiable digital certificate of ownership and authorship (Kugler, 2021). NFTs allow for the establishment of provenance, offering transparent records of who created, owns, and previously owned a digital object, and distinguishing the “original” from its many copies. A wide range of Indigenous digital objects can be associated with NFTs, including images, videos, audio files, health records, and other forms of media.

These tokens are now commonly used to commodify digital objects across art, gaming, and sports collectibles markets, to name a few. Indigenous artists, in particular, are remixing provenance as a practice of sovereignty, relationality, and accountability (Christen, 2018; Christen & Anderson, 2019). This reclaims and resituates Indigenous NFT art as digitally tradable beyond narrow concerns of circulation, appropriation, and ownership, while expanding provenance studies into Indigenous digital futures.



Another emerging area of blockchain innovation involves Indigenous-led data sovereignty projects that prioritize Indigenous ownership and responsible data governance. Historically, Indigenous peoples' genomic and health data have frequently been collected, stored, and used without consent (Rainie et al., 2017). In response, a team of researchers, including Tim K. Mackey and Keolu Fox (Kanaka Maoli), proposed an Indigenous data sovereignty blockchain network designed to address these longstanding injustices. As they describe it, the network enables "distributed community-mediated management of Indigenous genomic data, digital sequencing information, and associated metadata ... in a privacy-preserving manner" that can still support ethical research and innovation (Mackey et al., 2022). Concerns related to data sovereignty, the right of Indigenous communities to control their own data, were central to the design of this model (Kukutai & Taylor, 2016).

Immutable data storage has also been considered in relation to the respectful stewardship of sacred objects, cultural belongings, and ancestral remains, issues that are particularly salient given legislation such as the Native American Graves Protection and Repatriation Act (NAGPRA, 1990). However, subsequent research has yet to fully assess the effectiveness and long-term implications of these blockchain-based approaches.

More broadly, blockchain technology holds the potential to provide Indigenous communities with greater autonomy over governance, identity, and economic development. Decentralized digital ledgers may enable communities to manage records such as land titles or identity systems without reliance on external institutions. Blockchain-based digital assets and currencies could also create new economic opportunities and pathways for diversification.

At the same time, these possibilities must be weighed against substantial risks, including the need for technical capacity, infrastructure, and protections against extractive market dynamics discussed earlier (Alcantara & Dick, 2017; Taherdoost, 2023). Despite their diverse applications, Indigenous economists, artists, creators, and technologists working with blockchain are collectively contributing to a more creative, flexible, and politically engaged digital ecosystem, one that challenges dominant models of value while articulating Indigenous futures in digital trade (Christen & Anderson, 2019; Lewis & Skawennati, 2020; Cordes, 2025).

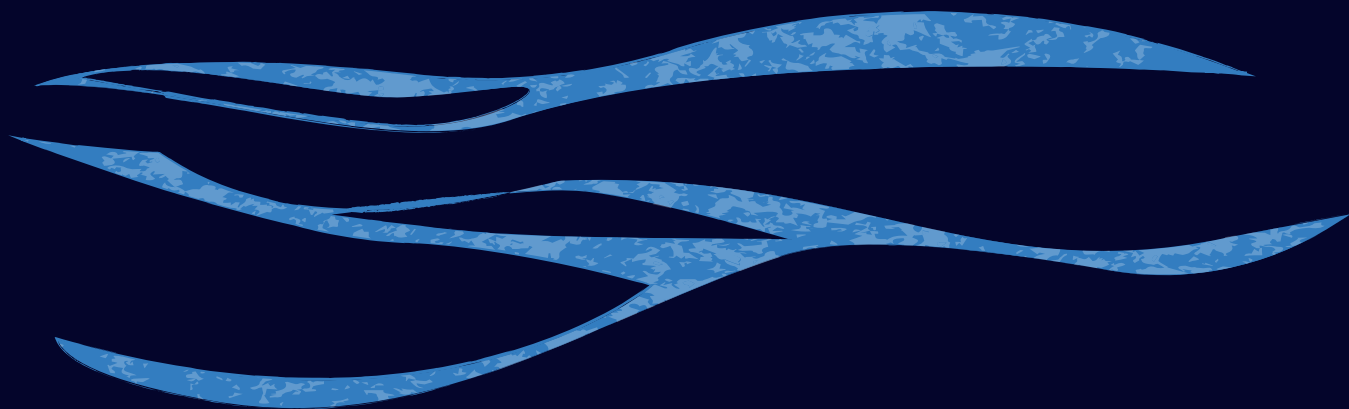
DIGITAL TRADE AGREEMENTS AND INDIGENOUS RIGHTS

I. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and Trans-Pacific Partnership (TPP).

II. North American Agreements.

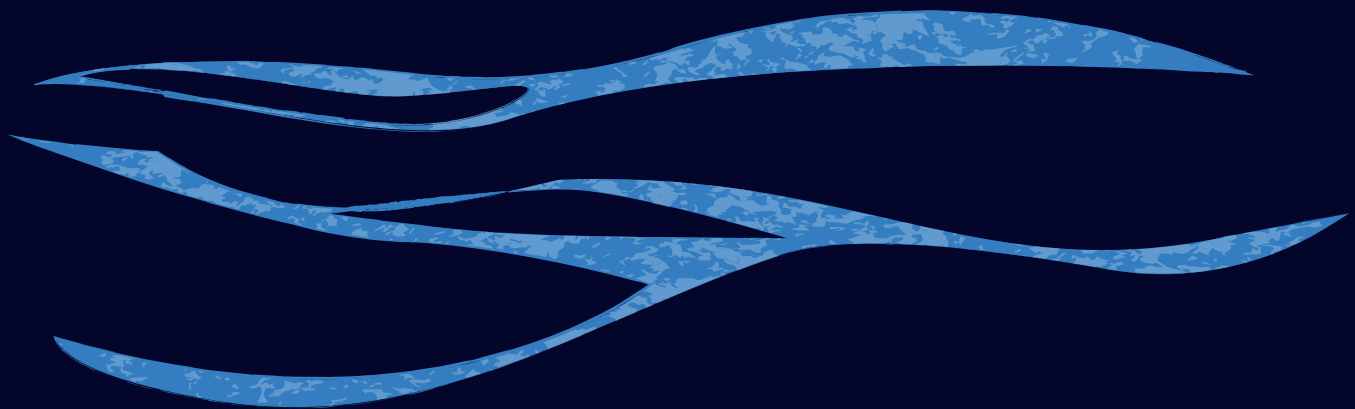
I. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and Trans-Pacific Partnership (TPP).

Since a purpose of this report is to build upon Nā Danielle Lucas' (2025) report, "Māori Perspectives on Digital Trade," it is helpful to move away from novel digital asset innovation and to back up to detail the ways Aotearoa (what is now often referred to as New Zealand) offers various lessons at the intersections of digital trade agreements and digital rights. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) is a multilateral trade agreement among eleven nations, including Australia, Canada, Japan, Mexico, Singapore, Chile, Malaysia, Peru, Vietnam, and New Zealand, formed after the United States exit from the original Trans-Pacific Partnership (TPP). CPTP establishes comprehensive rules on various trade in goods and services, investment, intellectual property, digital commerce, labor standards, and environmental protections, shaping the regional economic and regulatory landscapes.



During negotiations for the Trans-Pacific Partnership Agreement (TPPA), Māori claimants argued that the e-commerce chapter threatened mātauranga Māori or traditional knowledges. The Waitangi Tribunal detailed how that chapter breached the so-called Crown's obligations to protect Māori knowledges, despite the inclusion of a Treaty of Waitangi exception clause (Mika & Maniapoto, 2023). The hearings presented issues of engagement, secrecy, plant variety rights, and Māori digital sovereignty (Mika & Maniapoto, 2023). This demonstrates that a narrow exception clause is insufficient when digital trade rules allow foreign corporations to patent Indigenous knowledges or require the free flow of data offshore.

In response, the Te Kāhui ā Kiwa conference in 2023 produced various recommendations, calling on the CPTPP ministers to design partnership-based frameworks for Indigenous representation, endorse Indigenous-designed trade models, prioritize climate and other environmental issues, and adopt broad separations for e-commerce that better account for Indigenous rights (Mika & Maniapoto, 2023). Capacity-building for Indigenous trade policy experts is critical, as is the need for meaningful participation rather than tokenized or performative consultation (Mika & Maniapoto, 2023).



II. North American Agreements.

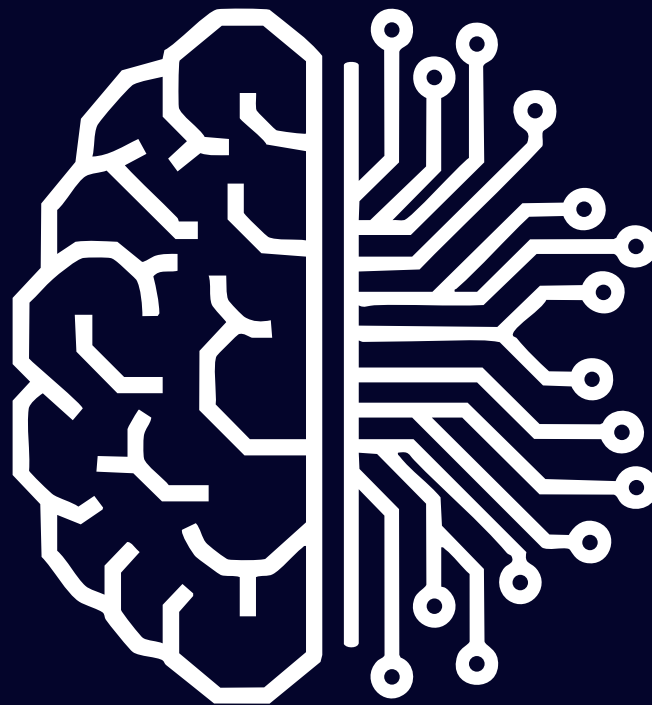
Elsewhere, the Canada-United States-Mexico Agreement (CUSMA/USMCA) recognizes Indigenous rights in its preamble and includes a general exception allowing member states to adopt measures that purport to protect Indigenous interests. Canadian First Nations advocate and National Chief Perry Bellegarde of the Assembly of First Nations went so far as to say it was the most inclusive trade agreement for Indigenous peoples to date (Schwartz & Whiteduck, 2020). Meanwhile, the World Trade Organization's (WTO Agreement on Government Procurement contains annexes permitting Canada, New Zealand, and Australia to set aside contracts for Indigenous businesses (Kawharu, 2020).

This has supported Indigenous procurement programs. Even with these programs, however, Indigenous peoples continue to feel that their voices are limited or not included meaningfully in WTO governance. Schwartz and Whiteduck (2020) state that Indigenous peoples can only intervene in trade disputes through amicus curiae briefs and are often disproportionately economically affected by disputes (e.g., the EU's ban on seal products). They suggest that a joint declaration on trade and Indigenous peoples is needed and again highlight New Zealand's Treaty of Waitangi exception as a model, particularly given the ways Māori advocates have linked rights to myriad forms of data. Indigenous digital trade debates are not confined to North America and Aotearoa.

From a more global Indigenous perspective, Africa's AfCFTA (African Continental Free Trade Area) negotiations have featured discussions about protecting traditional knowledge and the interests of Indigenous peoples. De Beer (2020) cites scholars such as Nilce Ekandzi and Caroline Ncube, who argue that the AfCFTA can confront definitional issues around traditional knowledge and encourage ethical protections for Indigenous heritage. African countries are also grappling with data localization policies, and some see them as a way to maintain sovereignty, while others fear they may hinder trade (de Beer, 2020). Again, this harks back to how perspectives are binary or bifurcated. These debates also mirror Indigenous concerns in what is now known as the Americas.

The World Trade Organization is considering new rules on e-commerce, but digital trade rule-making remains fragmented across regional agreements like the CPTPP and USMCA. Burri (2021) observes that existing WTO rules are largely pre-Internet in nature and leave unanswered questions about how to categorize digital goods and services. Indigenous peoples currently have little voice in these multilateral negotiations, but the rising discourse on digital sovereignty offers a chance to influence future agreements and to care about individual Indigenous communities. As a specific example, Inuk filmmaker Alethea Arnaquq-Baril's digitized documentary *Angry Inuk* (2016) documents how the EU's seal products ban devastated Inuit livelihoods. The WTO dispute that upheld the ban failed to consider Inuit voices (Arnaquq-Baril, 2016). Her film underscores the human cost of trade policies that ignore Indigenous realities and reinforces the need to bring those stories to global trade forums.

DATA GOVERNANCE AND INTELLECTUAL PROPERTY



As noted in the previous section, global digital trade negotiations are intensifying alongside data movements. As Samlidis and Mitchell (2024) argue, a global Indigenous data sovereignty movement is continuing to build momentum, driven by concerns about how international economic agreements affect Indigenous peoples' stewardship and control over their digital data. Newer digital trade agreements include policy space for measures protecting Indigenous data, but again, these are not adequate (Carroll & Rodriguez Lonebear, 2019). At a theoretical level, legal scholars Peter Drahos and John Braithwaite (2002) warn of "information feudalism," in which IP regimes concentrate control over knowledge. Indigenous data sovereignty challenges this by asserting that communities own their data. Similarly, Susan Ariel Aaronson and Patrick Leblond (2018) describe global data governance as divided into realms dominated by the United States, the EU, and China. Indigenous nations may represent what is sometimes termed a "fourth realm," advocating for relational, consent-based data practice.

Intellectual property (IP) and digital trade are deeply intertwined (Jeremy de Beer, 2020). In contemporary trade, streaming content, databases, and algorithms are all becoming economic goods within capitalism, and in turn, cyber-policy issues like data localization requirements and control over source code intersect with IP laws. De Beer's strategy for Canada emphasizes raising Indigenous IP awareness, collecting data on Indigenous businesses' use of IP, and supporting Indigenous participation in international law. Empowering Indigenous peoples requires linking traditional knowledge protections to data sovereignty, and while some countries' emerging data localization laws may hinder trade, they also provide models for regulating data flows (Carroll, Hudson & Figueroa-Rodríguez, 2023). Legal scholar Doris Estelle Long (2011) argues that a rational trade secret regime could protect Indigenous innovation if it better respects Indigenous rights and includes material transfer agreements and traditional knowledge databases to prevent misappropriation.

In the United States, however, trade secrets law has historically prioritized corporate interests rather than communal knowledge systems. Creating community-controlled databases and benefit-sharing agreements could potentially help safeguard sacred knowledge while allowing some commercial use on Indigenous terms.

Prażmowska (2020) warns that digitizing Indigenous cultural heritage, while making it more accessible, also, of course, makes it more vulnerable to misappropriation. Western intellectual property frameworks often strip knowledge from its cultural context, treating it as a commodity. She argues that IP tools must be used carefully to protect cultural heritage (Prażmowska, 2020). Indigenous peoples view it as intertwined with land, ancestors, and future generations, which often clash with Western preservation approaches. These insights reinforce the need for community-driven digitization projects that respect cultural protocols and restrict access when necessary, such that they do not become vulnerable to appropriation within digital trade pipelines.

The development of AI raises new challenges in this conversation. A recent Global Watch on Culture and Digital Trade report details that Canada's Online Streaming Act requires large streaming services (earning over CAD 25 million) to contribute 5% of their revenues to funds that support local news, French-language content, and Indigenous content (International Federation of Coalitions for Cultural Diversity et al., 2025). This policy shows how digital platforms can be regulated to support Indigenous creators. UK and EU debates over creating exceptions to copyright law for AI training datasets are shifting, while some governments propose broad free-use provisions to allow AI training on existing creative works. Rights holders warn that exceptions will undermine creators' control. Indigenous artists, whose languages and stories are often underrepresented or misrepresented in AI training corpora, should be compensated to help shape these policies (Lewis et al., 2020).

Canada's requirement that large streaming services fund Indigenous and local content illustrates how domestic law can steer global platforms toward social responsibility. U.S. policymakers could adopt similar measures, ensuring that Indigenous languages and stories are not lost in algorithmic feeds. Meanwhile, debates over AI training data and copyright in the UK and EU emphasize the need for transparency and dynamic licensing models that could prevent AI companies from exploiting Indigenous content without consent.

Indigenous peoples often also engage with policy when trade law disputes harm their economies. In the WTO *Softwood Lumber* case, the Interior Alliance of Indigenous Nations submitted an amicus brief arguing that Canada's failure to recognize Aboriginal title amounted to an unjustifiable subsidy; however, their arguments were largely ignored (Manuel & Schabus, 2005). Activists in Aotearoa New Zealand organized mass protests against the TPPA, drawing tens of thousands to the streets to demand protection for Māori rights.

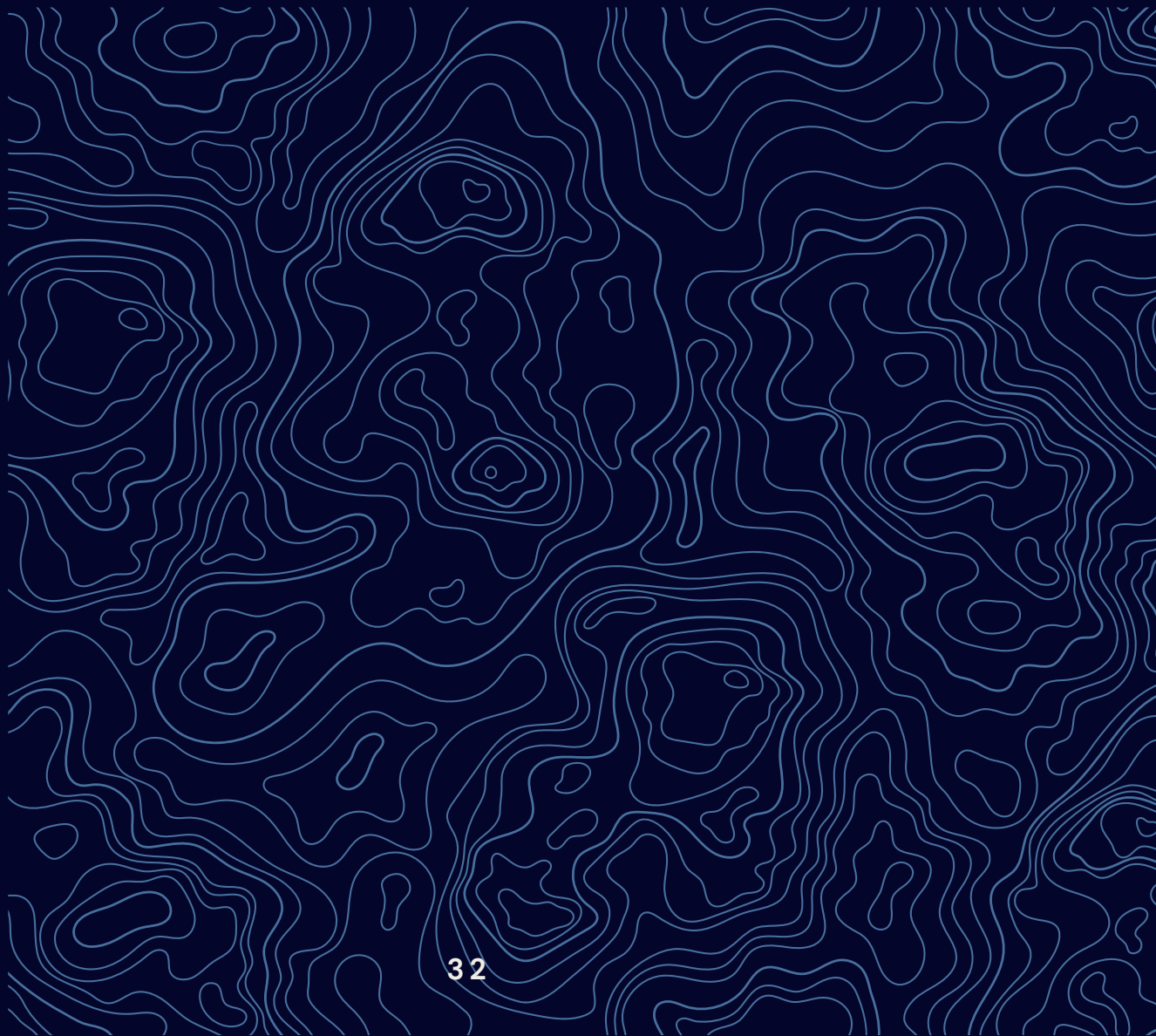
In the United States, campaigns like #IndianCountryCalls highlight the need for digital equity and resist policies that undermine network sovereignty. These movements reveal the labor Indigenous peoples undertake to assert their rights in spaces that often marginalize them. In terms of equity in digital trade, there is also a critical gendered dimension. Nair and Pareek (2025) argue that integrating Indigenous women into global trade through legal reforms supports climate action and sustainable development goals. Indigenous women contribute cultural, social, and economic knowledge, yet often face legal and financial barriers to participation (Nair & Pareek, 2025). Recognizing Indigenous women's leadership in digital entrepreneurship, encompassing language-preservation apps to online craft markets, is crucial for inclusive digital trade.

Further creating events and opportunities for Indigenous peoples that are inclusive in nature and address the convergence of digital technologies that are emerging to shape digital trade is critical. For example, the All Roads Lead to Chaco Canyon: Navigating Streams of the Digital Economy conference is one inclusive event of this type that brings together Indigenous leaders, scholars, and entrepreneurs to explore fintech, digital trading, AI, data centers, digital jurisdiction, online gaming, and Indigenous cultures. Hosting the event on Native land affirms tribal jurisdiction and creates a space where Indigenous perspectives shape conversations about digital futures. Conference organizers encourage participants to “reignite the entrepreneurial spirit” and rebuild pre-colonial trade relations across the hemisphere. Similarly, the United South and Eastern Tribes have highlighted upcoming digital trade events focused on data centers, sovereignty, and online gaming, signaling growing interest in these topics across Indian Country.

POLICY AND PRACTICAL

RECOMMENDATIONS

Drawing on these perspectives, this report proposes eight considerations for Indigenous Nations and interfacing national and multinational governments, and ends with considerations for Indigenous communities from a broader geographical situatedness.



POLICY AND PRACTICAL RECOMMENDATIONS 1–4:

1.

Institutionalize Indigenous participation in trade negotiations. Indigenous nations should have independent and significant influence at negotiation tables (as recommended by the Te Kāhui ā Kiwa conference) (Mika & Maniapoto, 2023). Governments must fund Indigenous delegations and integrate traditional protocols into negotiation processes.

2.

Enshrine digital sovereignty carve-outs in trade agreements. Future trade agreements should explicitly allow Indigenous nations to store data on-territory, require free, prior, and informed consent for data transfer, and recognize Indigenous governance over traditional knowledge. Existing exceptions, such as New Zealand's Treaty of Waitangi clause, should be broadened to cover new technologies (Mika & Maniapoto, 2023).

3.

Support Indigenous network infrastructure. Expand funding for Tribal broadband and data centers, building on programs like the Tribal Broadband Connectivity Program. Encourage partnerships that prioritize Indigenous ownership and control of network infrastructure (Delmar, 2023).

4.

Strengthen community-driven IP frameworks. Develop Indigenous-led intellectual property registries and benefit-sharing agreements, drawing on Long's call for trade secret reforms (Long, 2011). Work with WIPO and the U.S. Patent and Trademark Office to recognize communal rights and limit misappropriation (Pražmowska, 2020).

POLICY AND PRACTICAL RECOMMENDATIONS 5–8:

5.

Promote more inclusive digital economies. Fund incubators and training programs for Indigenous women and youth to participate in digital trade (Nair & Pareek, 2025). Encourage peer-to-peer economies and social enterprises that reflect reciprocity and sustainability (Finau & Scobie, 2022).

6.

Regulate digital platforms to support and encourage Indigenous content. Adopt requirements similar but more robust than Canada's Online Streaming Act, mandating that streaming services contribute a share of revenues to funds supporting Indigenous content creation. Ensure transparency and accountability in AI training datasets so that tech companies cannot exploit Indigenous content without consent.

7.

Build more nuanced transnational Indigenous alliances, but respect Individual Indigenous communities' desires if they wish to act independently. Engage with Indigenous peoples with differing geographical situatedness to compare and contrast practices and thereafter advocate for different strains of data sovereignty and governance toward ethical digital trade. Scholars like Chidi Oguamanam have begun to outline frameworks linking traditional knowledge with data governance (Oguamanam, 2020).

5.

Amplify Indigenous media and storytelling. Support Indigenous filmmakers, journalists, and digital creators who document the impacts of trade policies following the example of Angry Inuk (Arnaquq-Baril, 2016). Storytelling is a powerful tool for changing narratives and influencing policy.

CONCLUSION

This report examined the interplay between digital trade law, Indigenous rights, and Indigenous economies, focusing on North America and also drawing insights from global Indigenous movements using cases or stories as examples. Digital trade is not a tangential area of concern and opportunity for Indigenous peoples; rather, it is embedded and enacted into the everyday lives of Indigenous peoples, shaping how they barter, communicate, innovate, and assert sovereignty. Indigenous nations and communities have not been passive in digital trade agreements, but rather, the perspectives shared in this report affirm that they are innovators, entrepreneurs, activists, forces of interruption, and knowledge keepers. Yet the mainstream or dominant hegemonic legal and economic frameworks governing digital trade are too often crafted without adequate Indigenous consultation and undermine essential rights to fiscal autonomy and sovereignty. By better understanding the relevant perspectives and histories of Indigenous trade, the contemporary challenges of digital sovereignty, and the global movements for Indigenous data rights, Indigenous peoples can create momentum toward more just and equitable digital trading futures.

Institutionalizing Indigenous participation and leadership, aggressively carving out digital sovereignty protections, building network infrastructure, reforming IP systems, promoting inclusive and diverse economies, regulating digital platforms, enabling transnational alliances and independences, and amplifying Indigenous media are productive pathways towards those futures. In conclusion, digital trade can be an expression of self-determination when guided by Indigenous governance frameworks and the values of reciprocity, respect, and relationality that frequently guide them.

REFERENCES

- Aaronson, S. A., & Leblond, P. (2018). Another digital divide: The rise of data realms and its implications for the WTO. *Journal of International Economic Law*, 21(2), 245-272.
- Alcantara, C., & Dick, C. (2017). Decolonization in a digital age: cryptocurrencies and indigenous self-determination in Canada. *Canadian Journal of Law and Society/La Revue Canadienne Droit et Société*, 32(1), 19-35.
- Alipio, K. U., García-Colón, J., Boscarino, N., & Fox, K. (2024). Indigenous data sovereignty, circular systems, and solarpunk solutions for a sustainable future. In *Biocomputing 2025: Proceedings of the Pacific Symposium* (pp. 717-733).
- Antonopoulos, A. M. (2017). *Mastering Bitcoin* (2nd ed.). O'Reilly Media.
- Arnaquq-Baril, A. (Director). (2016). *Angry Inuk* [Film]. Unikkaat Studios Inc. & National Film Board of Canada.
- Austin, J., & Crepelle, A. (2018, March 23-24). All roads lead to Chaco Canyon: Revitalizing trade between Native Nations [Conference presentation]. Indigenous Peoples Law and Policy Program, University of Arizona.
- Bhandar, B. (2018). *Colonial lives of property: Law, land, and racial regimes of ownership*. Duke University Press.
- Burri, M. (2021). Towards a new treaty on digital trade. *Journal of World Trade*, 55(1).
- Buterin, V. (2014). *A next-generation smart contract and decentralized application platform* [White paper]. Ethereum Foundation.
- Carroll, S. R., Rodriguez-Lonebear, D., & Martinez, A. (2019). Indigenous Data Governance: Strategies from United States Native Nations. *Data science journal*, 18, 31. <https://doi.org/10.5334/dsj-2019-031>
- Christen, K. (2018). Relationships, not records: Digital heritage and the ethics of sharing Indigenous knowledge online. In *The Routledge companion to media studies and digital humanities* (pp. 403-412). Routledge.
- Christen, K., & Anderson, J. (2019). Toward slow archives. *Archival Science*, 19(2), 87-116.
- Cordes, A. (2024). Storying Indigenous cryptocurrency: Reckoning with the ghosts of U.S. settler colonialism in the cultural economy. *Journal of Cultural Economy*, 17(4), 434-451.
- Cordes, A. (2025). *Indigenous currencies: Leaving some for the rest in the digital age*. MIT Press.
- Drahos, P., & Braithwaite, J. (2002). *Information feudalism: Who owns the knowledge economy?* Earthscan.
- Duarte, M. E. (2017). *Network sovereignty: Building the internet across Indian country*. University of Washington Press.
- de Beer, J. (2020). *An international intellectual property and digital trade strategy for Canada* (Special report). Centre for International Governance Innovation. <https://www.cigionline.org/publications/international-intellectual-property-and-digital-trade-strategy-canada/>

REFERENCES

- Delmar, D. (2023, July 19). Indigenous digital sovereignty: From the digital divide to digital equity. *National Digital Inclusion Alliance*. <https://www.digitalinclusion.org/blog/indigenous-digital-sovereignty/>
- Dowling, M. (2022). Is non-fungible token pricing driven by cryptocurrencies? *Finance Research Letters*, 44, 102097.
- ERC-721 Standard. (2018). Non-fungible token standard. *Ethereum Improvement Proposals*.
- Finau, G., & Scobie, M. (2022). Old ways and new means: Indigenous accountings during and beyond the pandemic. *Accounting, Auditing & Accountability Journal*, 35(1), 74-84. <https://doi.org/10.1108/AAAJ-08-2020-4753>
- First Nations Information Governance Centre. (2016). Pathways to First Nations' data and information sovereignty. In T. Kukutai & J. Taylor (Eds.), *Indigenous data sovereignty: Toward an agenda* (pp. 139-156). ANU Press.
- Hau'ofa, E. (1994). Our sea of islands. *The Contemporary Pacific*, 6(1), 148-161.
- Hudson, M., Carroll, S. R., Anderson, J., Blackwater, D., Cordova-Marks, F. M., Cummins, J., & Rowe, R. K. (2023). Indigenous peoples' rights in data: A contribution toward Indigenous research sovereignty. *Frontiers in Research Metrics and Analytics*, 8, 1173805.
- Hudson, M., Carroll, S. R., Anderson, J., Blackwater, D., Cordova-Marks, F. M., Cummins, J., ... & Rowe, R. K. (2023). Indigenous Peoples' rights in data: a contribution toward Indigenous Research Sovereignty. *Frontiers in Research Metrics and Analytics*, 8, 1173805.
- International Federation of Coalitions for Cultural Diversity, Centre for International Studies on Integration & Globalization, & Groupe de recherche sur l'intégration continentale. (2025). *Global watch on culture and digital trade: Culture and digital trade—Political and economic issues* (No. 50). <https://ficdc.org/wp-content/uploads/2025/01/DECEMBER-2024-No50.pdf>
- Kawharu, A. (2020). The Treaty of Waitangi exception in New Zealand's free trade agreements. In J. Borrows & R. Schwartz (Eds.), *Indigenous peoples and international trade* (pp. 274-294). Cambridge University Press.
- Kugler, L. (2021). Non-fungible tokens and the future of art. *Communications of the ACM*, 64(9), 19-20.
- Kukutai, T., & Taylor, J. (Eds.). (2016). *Indigenous data sovereignty: Toward an agenda*. ANU Press.
- Blue, L., Xing, C., Pham, T., & Bodle, K. (2024). Exploring the challenges and opportunities of alternative finance products with Indigenous peoples. *Financial Planning Research Journal*, 9(1), 1-25.
- Lewis, J. E., Arista, N., Pechawis, A., & Kite, S. (2023). Making kin with the machines. *Feminist AI*. Oxford University Press, Oxford, 19-31.
- Long, D. E. (2011). Trade secrets and traditional knowledge: Strengthening international protection of Indigenous innovation. In R. C. Dreyfuss & K. J. Strandburg (Eds.), *The law and theory of trade secrecy* (pp. 342-365). Edward Elgar Publishing.

REFERENCES

- Lucas, D. (2025). *Māori perspectives on digital trade*. Te Kotahi Research Institute.
- Mackey, T. K., Calac, A. J., Chenna Keshava, B. S., Yracheta, J., Tsosie, K. S., & Fox, K. (2022). Establishing a blockchain-enabled Indigenous data sovereignty framework for genomic data. *Cell*, 185(15), 2626-2631. <https://doi.org/10.1016/j.cell.2022.06.030>
- Manuel, A., & Schabus, N. (2005). Indigenous peoples at the margins of the global economy: A violation of international human rights and international trade law. *Chapman Law Review*, 8, 229.
- Menger, C. (1892). On the origin of money. *Economic Journal*, 2(6), 239-255.
- Mika, J. P., & Maniapoto, M. (2023). *An interim report: Te Kāhui a Kiwa*. Te Kotahi Research Institute. <https://www.waikato.ac.nz/assets/Uploads/Research/Research-institutes-centres-and-groups/Institutes/TKRI/CPTPP-Interim-Report.pdf>
- Momtaz, P. P. (2022). Some very simple economics of Web3 and the metaverse. *FinTech*, 1(3), 225-234. <https://doi.org/10.3390/fintech1030018>
- Nair, R. S., & Pareek, U. (2025). Integrating Indigenous women into global trade. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.5355460>
- Nakamoto, S. (2008). *Bitcoin: A peer-to-peer electronic cash system*.
- Native American Graves Protection and Repatriation Act, 25 U.S.C. §§ 3001-3013 (1990).
- Oguamanam, C. (2020). Indigenous peoples, data sovereignty, and self-determination: Current realities and imperatives. *The African Journal of Information and Communication*, 26, 1-20.
- Pasternak, S. (2023). How colonialism makes its world: Infrastructure and First Nation debt in Canada. *Annals of the American Association of Geographers*, 113(6), 1290-1305.
- Pierucci, F. (2025). "The land on which we meet": Modes of Indigenous self-determination in the metaverse. *Digital Society*, 4(2), 36.
- Prażmowska-Marcinowska, K. (2020). Misappropriation of Indigenous cultural heritage-intellectual property rights in the digital era. *Santander Art and Culture Law Review*, 6(2), 119-150. <https://doi.org/10.4467/2450050XSNR.20.013.13016>
- Rainie, S. C., Lee Schultz, J., Briggs, E., Riggs, P., & Palmanteer-Holder, N. L. (2017). Data as a Strategic Resource. *International Indigenous Policy Journal*, 8(2), 1-29.
- Samlidis, T., & Mitchell, A. D. (2024). Protecting policy space for Indigenous data sovereignty. <https://doi.org/10.2139/ssrn.4887819>
- Schwartz, R., & Whiteduck, J. (2020). A proposal for a joint declaration on trade and Indigenous peoples. Centre for International Governance Innovation. <https://www.cigionline.org/articles/proposal-joint-declaration-trade-and-indigenous-peoples/>

REFERENCES

- Shaler, A. (2020). Indigenous peoples and the California gold rush: labour, violence and contention in the formation of a settler colonial state. *Postcolonial Studies*, 23(1), 79-98.
- Starosielski, N. (2015). *The undersea network*. Duke University Press.
- Strover, S., Riedl, M. J., & Dickey, S. (2021). Scoping new policy frameworks for local and community broadband networks. *Telecommunications Policy*, 45(10), 102171.
- Taherdoost, H. (2023). Non-fungible tokens (NFTs): A systematic review. *Applied Sciences*, 13(3), 1217.
- Giri, S., & Du, D. (2024). Non-Fungible Tokens (NFTs): A Systematic Review of the State of Art of Valuation, Regulation, and Perception. In IISE Annual Conference. Proceedings (pp. 1-6). Institute of Industrial and Systems Engineers (IISE).
- Tekobbe, C., & McKnight, J. C. (2016). Indigenous cryptocurrency: Affective capitalism and rhetorics of sovereignty. *First Monday*, 21(10). <https://doi.org/10.5210/fm.v21i10.6955>