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THE ORIGINS AND FATE OF DIGITAL SOVEREIGNTY

SOONER OR LATER, EUROPE WOULD HAVE TO CHOOSE BETWEEN OPENNESS AND DEPENDENCE, OR HAVE THAT CHOICE MADE FOR IT

By Robin Rivaton

Robin Rivaton is chief executive officer of Stonal, a European technology company, an adviser to the French business confederation the Movement of the Enterprises of France and an affiliate of the Paris-based think tank Fondapol. He is the author of eight books.

In June 2023, OpenAI chief executive officer Sam Altman visited New Delhi to address entrepreneurs and investors. Asked whether three Indian engineers with US$10 million could build something comparable to OpenAI, his response was blunt: It was "totally hopeless" for start-ups with limited resources to compete with established players in developing foundation models. Nineteen months later, the Chinese start-up DeepSeek demonstrated that a leading model could be trained at a fraction of the cost that many in Silicon Valley had considered essential.

Obviously, Altman was wrong in universalizing Silicon Valley's cost structure, but his broader point still holds: Building an independent digital industry is extraordinarily difficult.

This asymmetry remains a defining feature of the global tech landscape. Among the world's major economies, only two — China and Russia — have managed to build digital ecosystems that are significantly insulated from US platforms. Other economies, such as India and Brazil, have deep pools of talent, abundant capital and large markets, but nothing approaching the same degree of technological autonomy.

The gap reflects the economics of digital markets, where serving one additional user of a search engine, a social network or a large language model costs almost nothing. Reinforced by network effects, near-zero marginal costs tend to produce natural monopolies as first movers accumulate users, data, distribution and engineering talent faster than competitors can catch up. As returns compound, the gap widens.

In most digital markets, the first entrant is from the US. Once such a platform reaches critical mass, local competition becomes structurally unlikely, not because of a lack of talent, but because near-zero marginal costs leave little room for viable alternatives. When a product is already free, trained on vastly more data and deeply embedded in user habits, meaningful competition is effectively foreclosed. Under these conditions, the only reliable way to sustain domestic competition is to prevent foreign entrants from establishing dominance before local firms can scale.

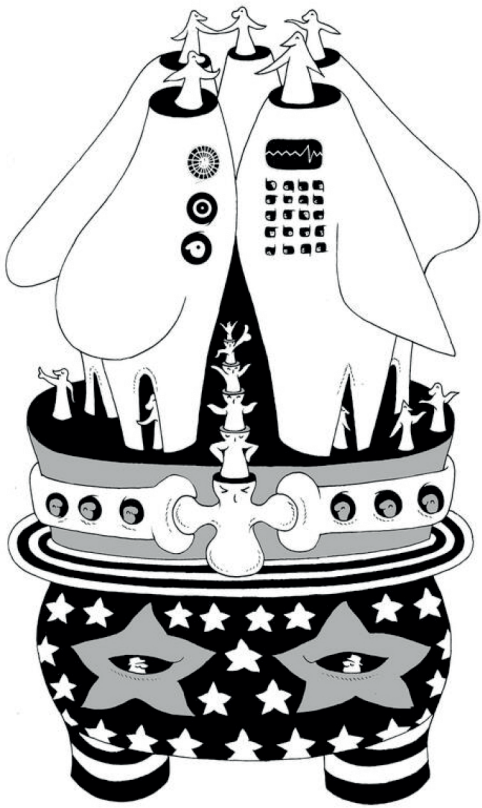

Illustration: Mountain People

China has done exactly that, although its digital sovereignty was not initially conceived as part of an industrial strategy. In the early 2000s, the Chinese government focused mainly on controlling information flows rather than cultivating national tech champions. As late as 2009, Google held 40 percent of China's search market.

At the time, Chinese authorities' primary concern was limiting political dissent, not reducing economic dependence, so foreign companies could hold significant stakes in domestic technology companies. Yahoo, for example, invested US$1 billion in Alibaba in 2005, acquiring a 40 percent equity stake in what was already one of China's most promising firms.

That is what makes China's digital trajectory so instructive. There was no master plan for companies such as Tencent or ByteDance to become tech giants, nor any clear roadmap for building a self-sufficient consumer Internet. The "Great Firewall" was built for political purposes; its economic consequences were, at first, incidental.

After the July 2009 Urumqi riots in Xinjiang, China, dramatically tightened its Internet controls. Facebook and Twitter were blocked, while YouTube — already intermittently restricted — became permanently inaccessible. Unwilling to comply with the government's censorship requirements, Google effectively withdrew from the Chinese market.

The resulting vacuum in China's digital sphere was not filled overnight. Instead, it was gradually occupied by domestic platforms, led by Tencent's expanding social-media ecosystem and Alibaba's broader digital infrastructure. WeChat, launched in 2011, helped consolidate this fragmented landscape into a single, integrated platform.

US companies found themselves shut out. To this day, Yahoo's 40 percent stake in Alibaba — worth well over US$100 billion at its peak and ultimately generating about US$40 billion in returns — remains one of the most expensive geopolitical miscalculations in corporate history, leaving Yahoo outside the market it helped build.

Once Chinese firms achieved domestic scale, they did something US platforms had rarely been forced to do: rebuild increasingly large portions of the technology stack themselves. The project, known as de-IOE, aimed to replace IBM mainframes, Oracle databases and EMC storage across the banking and manufacturing sectors.

This shift, driven by national security concerns, was reinforced by policy. In 2014, a Chinese government directive set a target of bringing 75 percent of the technology used by the banking sector under domestic control by 2019. The result was a homegrown ecosystem — from AliSQL to OceanBase and beyond — that gave China far greater autonomy across the stack, from applications and cloud infrastructure to core enterprise software. In other words, scale came first, and sovereignty followed.

Russia reached a similar outcome by different means. As in China, early state involvement in the sector was not driven primarily by industrial policy. The search engine Yandex emerged in the late 1990s and was incorporated as a standalone company in 2000, while the social-media platform VKontakte launched in 2006, well before digital-sovereignty laws were enacted.

The survival of these firms was not simply the result of state planning. Language barriers gave local services an early advantage over US platforms, as Russian founders were targeting users whose digital experience was already shaped by their own cultural sensibilities, habits and search patterns.

That domestic digital ecosystem was later institutionalized through the 2019 Sovereign Internet law and further entrenched by the economic sanctions that followed Russia's 2022 invasion of Ukraine. However, protection did not begin as explicit industrial policy. Linguistic and regulatory barriers were enough to create room for local firms to grow.

To be sure, Russia's path to digital sovereignty was less deliberate than China's, and it did not go as far. Still, the structural lesson is similar: When a market is even partly shielded from dominant US platforms, domestic capacity can emerge.

With a population of 1.4 billion people, one of the world's largest English-speaking developer communities, and a well-established entrepreneurial culture, India should have produced its own globally dominant digital champions. Like China, it experienced a smartphone-driven mobile boom that enabled it to leapfrog the PC era.

Yet while India has produced exceptional engineers — many of whom, such as Alphabet CEO Sundar Pichai and Microsoft CEO Satya Nadella, now lead major US tech firms — it has not produced a globally dominant digital platform. Flipkart, India's most successful e-commerce company, sold a controlling stake to Walmart in 2018 for US$16 billion. Ride-hailing platform Ola never established decisive supremacy over its largest US competitor, Uber, and later suffered a sharp valuation reset. Paytm, despite becoming one of the world's most downloaded finance apps at its peak, never became as integral to the economy as Alipay did in China.

The only real success came outside the private market. India's Unified Payments Interface is a genuine infrastructure success, but as a government-run system, it does not compete head-to-head with US incumbents. In essence, the state succeeded where private entrepreneurs could not by creating a public payments system that foreign platforms could not easily displace.

By contrast, every attempt by Indian founders to compete directly in open consumer markets ran into the same constraint: US platforms arrived before local alternatives had matured and network effects did the rest. While fragmentation, monetization challenges, governance and income levels also played a role, openness denied local firms the protected demand that allows dominant private platforms to emerge.

Brazil offers another telling example. Although it produced genuine digital champions, they were often acquired by foreign firms before they could achieve regional or global scale. Buscape, the country's leading price-comparison platform, was acquired by the South African conglomerate Naspers in 2009. iFood, developed within the mobile start-up studio Movile, grew into Latin America's leading food-delivery service, but was ultimately absorbed by Prosus, Naspers' Dutch-listed investment arm, which now holds a majority stake.

Not all firms followed this path. Totvs remained a leading enterprise software company, but never reached consumer-platform scale. Meanwhile, MercadoLibre — the region's most successful e-commerce platform — was founded in Argentina and entered the Brazilian market as a foreign competitor.

Brazilian entrepreneurs identified opportunities, built competitive products, and achieved meaningful scale. Still, they could not prevent foreign capital, whether US or South African, from taking control just as their firms became valuable. Rather than producing national champions, open capital and digital markets left Brazilian companies under foreign control, with much of the value realized abroad.

As in India, when the state built digital infrastructure rather than waiting for private champions to emerge, the results were markedly different. Pix, launched by Brazil's central bank in 2020, quickly became the country's most widely used instant-payment system, showing that digital sovereignty is possible when a country controls a foundational layer of the digital economy that foreign incumbents cannot simply overwhelm with capital or scale.

However, market protection is not enough. Without domestic control over the firms that emerge within the protected space, the gains would be captured elsewhere.

The same dynamic is now playing out in artificial intelligence (AI). For example, DeepSeek was founded in Hangzhou, China, in 2023. That same year, China introduced generative-AI regulations requiring public-facing services to register with the Chinese Cyberspace Administration, leading to the removal of non-compliant apps from domestic app stores.

In July 2024, OpenAI shut down API access for developers in China. Restricted access to leading US models gave Chinese firms more room to experiment and improve their systems. With domestic protection no longer just defensive, companies such as Alibaba, Moonshot, MiniMax and ByteDance were able to move quickly from imitation to deployment before foreign incumbents could establish dominance.

The EU has taken the opposite approach. US AI products entered European markets quickly and, despite some regulatory friction, faced no comparable structural barriers. Consequently, European start-ups are now competing for users who already have access to products backed by firms that have spent billions of dollars on computing infrastructure and model development. Even Mistral AI, Europe's leading lab, is seeking scale through partnerships rather than competing directly with major US incumbents.

That, in itself, is revealing. What Mistral often offers to European clients is not just frontier innovation, but also sovereignty, openness and control. When even that proposition depends on partnership with US chipmakers, the gap between the EU's rhetoric and its industrial position becomes hard to ignore.

European policymakers have spent years trying to address digital dependence through regulation, including the General Data Protection Regulation (GDPR), the Digital Markets Act, and the AI Act. While the Digital Markets Act might curb some abuses of market power, none of this legislation creates the sheltered demand conditions that domestic champions require. Compliance costs might slow incumbents, but they do not reverse the first-mover dynamics that secured their position in the market.

The window for building digital champions opens early, closes quickly and usually requires some form of protected market space for domestic capacity to develop. China restricted foreign competition and only later incorporated that position into its industrial strategy; India had the talent, but not the protection; and Brazil had the talent, but not the capital controls. Europe, for its part, devotes far more energy to debating the ethics of AI than to creating the industrial conditions needed to compete.

This is not to suggest that Europe should imitate China or Russia. It simply means that sovereignty requires some degree of preference. The EU can choose to protect specific layers of its market — data, regulated sectors, public procurement and critical infrastructure — and accept the short-term costs of reduced openness as the price of long-term capability. Alternatively, it can remain open and accept a certain level of structural dependence on US technology.

What the EU cannot do, despite a decade of trying, is regulate its way to digital sovereignty while leaving market-access conditions unchanged. This tension is not new. In its 2020 Schrems II ruling, the Court of Justice of the EU struck down the Privacy Shield, the main EU-US data-transfer framework, on the grounds that US surveillance law and the lack of effective judicial redress did not meet EU standards, particularly those set by the GDPR and the Charter of Fundamental Rights.

Regrettably, instead of drawing the obvious conclusion, the EU negotiated a new framework in 2023, relying on executive commitments by former US president Joe Biden's administration, whose fate under US President Donald Trump remains uncertain. For a bloc willing to strike down its own data-transfer framework on sovereignty grounds, outsourcing digital policy to another government is not a sustainable approach. Sooner or later, Europe would have to choose between openness and dependence, or have that choice made for it.