The Digital Inflection Point - Is There Hope at the End of the Tunnel?

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Limits of the Tech-Transfer Paradigm

Today, development agencies and international fora increasingly champion the potential of the new technological paradigm to tackle persisting realities of underdevelopment and inequality. The policy consensus on the agenda of inclusion and digital infrastructure, including to address systemic crises like climate change, reflects a strong determinism; a faith that the digital will liberate 'a world of worry'.

The prescriptions of the digital policy agenda however betray a deep anachronism. Ideas of 'technology transfer' or 'knowledge sharing' – important and pertinent as they may sound, defy the dominant logic of digitalisation and development. Unlike an earlier epoch where technology transfer facilitated the emergence of manufacturing capabilities in new parts of the world, digital technologies operate differently. With 'digital industrialization', what we have is a fundamental reorganization of existing economic sectors. Here, as scholars have noted, platform firms are able to capitalize on their position in the value-chain network, using their capacity for generating digital intelligence through large-scale data mining, to function as the 'brain' of a particular sector. The platform model has unleashed a new dynamic – with efficiencies accruing to first-mover firms that gobble up a massive market-share even as they wipe out competition and hollow out local capabilities. We are all-too-familiar with the Amazonification or Uberization of the economy, a phenomenon that signals a new architecture of the crisis we face. The materiality of data, AI and platforms – controlled by powerful platform firms – renders ideas of 'technology transfer' somewhat peripheral, as knowledge that generates value is not just locked-up, and corporatized, but funneled out of nations and places. The digital inflection point marks a neo-colonial moment.

Additionally, as critiques by scholars like Ha Joon Chang and Calestous Juma show us, 'technological transfer' has been a successful strategy largely when countries already possess strong economic momentum, and have the leverage to be able to mandate such transfers as a condition for access to their markets. This was true of America in its early development, much as it was of the east Asian economies in the 90s. Conversely, in conditions where countries must compete with each other to attract foreign direct investment, we see a race to the bottom with respect to worker conditions, and the technological infrastructure becoming an apparatus of extractivism and exploitation.

In the current context too, the hegemonic digital industrial model continues to entrench such extractivism (fine tuning it through data-enabled 'innovations'). 'Policy assistance' through ODA – another easy prescription to accelerate digital inclusion, could therefore conceal a more cynical agenda – onboarding new populations into existing platforms for data mining and market capture.

Revisiting the Development-Technology Conjuncture

With the fruits of technological progress being monopolized by a small set of actors, there is an urgent need to challenge the status quo. Pathways to digital transformation need not need be singular. Rather, they must be home-grown, and responsive to local needs for economic regeneration and social justice. However, to actually produce such transformation requires strong regulatory restrictions on today's tech giants, as well as a much more comprehensive approach to infrastructural capabilities and legislative frameworks so that local innovation can be nurtured.

Moreover, what goes by the name of industry 4.0 is still an unfolding phenomenon of nebulous 'breakthroughs' - be it with respect to AI and digital technology, synthetic biology or green tech. The ethics and politics of these evolving models and how they may (or may not) be integrated into our socio-economic life is a debate that has barely begun. During the Fordist era, manufacturing models were more clearly defined, and so the connection to possible development strategies was much clearer. As the economist Dani Rodrik put it, the manufacturing paradigm could "absorb large numbers of workers with moderate skills, providing them with stable jobs and good benefits". This was an ideal motor for developing countries with large low-skilled labor forces.

In comparison, digitalization and its incredible efficiencies have brought brand new challenges for humanity, eviscerating many jobs, and creating a polarization between highly-skilled, white-collar tech work and the extreme precarity of the gig economy. The recent turn to a more austere financial climate has revealed glaring weaknesses in the business models of the platform economy. Indeed, with their stocks plummeting and the faucets of endless venture capital turned off, many of these companies are having to scale back dramatically. Major gig economy players like Uber and Airbnb have suffered hugely disappointing IPOs in recent years, and reached a scale where they still have no clear sight to profitability, even as they see their services falter and cope with scams.

All this goes to show that in finding ways to tether the use of these technologies to the creation of economic value, there is much that has only seemed to work, but is now failing, and we are yet at a formative stage in the digitalization of the economy. In fact, recent research has stressed the 'rentierism' that is rampant in much of platform business strategy that actually restricts the dynamism of market competition.

Digital technologies can generate public value only when close attention is paid to how data infrastructures may be put to the service of local economies and human capabilities facilitated for decent work and meaningful livelihoods. Without appropriate models that link development priorities and digitally-enabled value creation, digitalization cannot deliver on the promise for economic momentum widely and repeatedly articulated in policy circles. The UNCTAD report on "Industry 4.0 for inclusive development" attests to this in its recommendation that technology transfer should be accompanied with transfer of innovation capabilities i.e., ability to use technology to generate value.

A Disastrous Digital-Ecological Turn

Complicating the crisis of digitalization and development are the attendant environmental costs of the current techno-economic shift. Here, apart from the massive consumption of energy that the digital economy runs on, there are also strong concerns around the environmentally disruptive extraction of minerals that are needed for building the technology, and the huge quantities of digital waste we continue to accumulate.

The contradictions of digital transformation in relation to the ecological question are gathering acute urgency, made graver by the measures adopted to deal with them. From Big Tech's attempts to take the lead over decarbonization efforts, to their movement into 'digitalizing' fossil fuel production for greater efficiency, and larger trends around 'climate smart agriculture', 'geoengineering' and 'carbon credits', steps to ostensibly mount a battle against climate change clearly seek to uphold profit motives, and obscure the harms they generate. Private sector showmanship ellides the move to more radical pushes for decarbonization and distracts from environmentally catastrophic supply chains of rare-earth mining that underwrites their expansion. Similarly, 'climate-smart agriculture' is backed by large industrial interests, and often includes destructive practices such as large-scale monoculture, factory farming, or GMOs, leading to a dynamic that strengthens the very agribusiness and seed companies responsible for destroying farmers' livelihoods and agricultural biodiversity, and contributing to, rather than, solving, the climate crisis. Likewise, it is increasingly apparent that reckless experiments in geo-engineering could be disastrous for our biodiversity, and that the carbon trading markets are simply becoming a hotbed of greenwashing. Research by the ETC group captures how green projects are increasingly turning into a site for the expansion of financialization, particularly through the digitalization of agriculture. A proliferation of 'green' financial instruments and assets seeks to enable new modalities of speculation while perpetuating carbon-intensive technologies. As the research puts it, such arrangements lock farmers into practices dictated by corporations, undermining their rights and autonomy.

What is of concern in these rapid developments is the policy agnosticism about the ethics and governance frameworks of corporate-led digitalization. As the scaffolding infrastructure of market power, digital technologies have deepened the democratic deficit in the international development order, dangerously subsuming local knowledge and development priorities within the workings of global capital.

Can the Digital Inflection Point Lead to Equality and Justice?

So how, then, can we proceed? What is to be done if technology, while being linked to development potential, is hopelessly mired in the hegemonic development order? Putting back old ideas of people's sovereignty at the center of the new debate is non-negotiable. Development also

presupposes policy autonomy for all nations to have the space to tailor their technology and development trajectories and to determine how techno-social systems can be envisioned, designed and governed in particular contexts towards socially just outcomes.

Such an approach would broadly be in line with a capabilities orientation to encourage local ecosystems of innovation, as opposed to the philosophy of expansionism – a race to adopt existing models uncritically. The role of international development assistance then, including through IFIs, is to create a virtuous dynamic in local/national economies - where investments and infrastructure create the ability to respond to local challenges over time through local actors. Digital infrastructures to equip the local economy are indeed important, but they must be embedded in public digital ecosystems in which all kinds of enterprise models (including Social and Solidarity Economy) are valued. Instead of vacating the space for Big Tech to set the rules of the game, it is vital for the state to proactively foster enabling conditions and shape the development of technology infrastructures and regulatory frameworks in ways that then subsequently allow private actors to take up the baton of innovation and job creation.

As has been argued here, the novelty of the digital/AI paradigm, persisting power asymmetries, and the imperatives of environmental concerns, all create a complex of difficulties that will need to be overcome through diligent engagement. However, they will also need firm and robust legislative interventions at both the national and international levels. As the ETC Group argues, the costs of market-led digitalization for biodiversity, the environment and peoples' rights are unsustainable, and point to the need for reparation from countries of the Global North and transnational corporations for community-based mitigation and adaptation actions. From preventing Big Tech impunity, to ensuring that new taxation frameworks are instituted in the digital economy, governing the resource of data and AI for global justice and peace, safeguarding environmental justice in the pursuit of digitalization, and reining in the financial markets, bold interventions are needed. Indeed, these may be diametrically opposed to current orthodoxies, but they are likely to effect a sea change for the majority who are at the margins of the current paradigm. Whether public reason will prevail and be able to catalyze the political will to make these measures a reality is the most immediate and significant challenge to a genuine synergy between technology and international development.