SCOTT TIMCKE AND ANDREW RENS: Clear industrial policies vital for shaping AI uptake

The stakes regarding artificial intelligence (AI) are high. Why?

Think how 20th century globalisation, exemplified by digital technology, brought prosperity for a tiny number but impoverishment for many more. While a few other countries may have a bigger economic cushion to address similar challenges introduced by AI, SA lacks the luxury of trial and error. Clearly articulated and robust industrial policies will be crucial tools for shaping the distributional effects of AI at an early stage.

Like many African national AI strategies, SA has limited its imagination on AI. Thus far, the state and its officials focus too much on user experience and front-end skills development and not enough on production and competition, let alone market formation and procurement.

Unless there are opportunities for those who acquire their skills to use them, they will end up serving other economies. Without strategic procurement, the state will be a minor customer of global providers for whom their spend is a data point.

While many future uses of AI are still unknown, it can be shaped and determined through proactive policymaking focused on enabling processes and environments rather than specific products. A forward-thinking industrial policy should aim to create viable options for new AI-driven markets to emerge, fostering pathways and networks that facilitate SA innovation and economic growth.

Industrial policy in the networked age requires grappling with two fundamental tensions. The first is that computer code wields more governing power and has a broader distributional effect than national statutes. The second is that capital dictates the development of code. Without the state mobilising its capital and improving its cost projections, the industrial policy of big demand nodes such as the US or China will become ours, by default.

Another point of leverage in savvy industrial policy is state financing to build robust public digital infrastructure. Bedrock investment is crucial for driving economic change. This practice also allows for states to engage in conditionality, such as requiring vendors to join shared governance councils to devise open standards for computer systems.

Savvy investor

To improve SA’s position in the dynamic world of AI, the state should become a catalyst for innovation. This can be achieved through a two-pronged approach: strategic infrastructure development and long-term, diversified investments.

The first pillar involves laying the groundwork through building the physical and digital infrastructure that forms the foundation for AI research & development.

Second, the state should act as a savvy investor providing long runways for promising firms, similar to a venture capitalist. This means making calculated bets on promising AI companies and providing it with long-term support structures.

By spreading investments across a diverse range of ventures, the state increases the chances of achieving breakthroughs, even if not every investment succeeds. This approach embraces the inherent risk associated with innovation but maximises the potential for breakthroughs that drive economic growth and technological

advancement. But these bets can’t simultaneously serve other policy priorities however important they may seem.

Another thing that the state can do is to promote open-source and common-source initiatives to foster a collaborative ecosystem for AI development. This includes enabling the sharing of general usage infrastructure and reducing the rental costs associated with computing resources.

By treating computing resources as utilities with transparent pricing models, the overall cost of AI development and deployment can be reduced, making these technologies more accessible to a wider range of stakeholders. Open source also avoids vendor lock-in and enables the state to secure its own systems.

Shape markets

Catalytic power lies in fostering accessible, scale-free digital utilities. Secure, high-bandwidth networks and computing resources engineered with open foundational layers empower individuals and communities to flexibly adapt to AI by providing a participatory environment. Rather than being beholden to proprietary systems controlled by a few dominant players, an open digital infrastructure can unleash the creative potential of South African minds, fostering a thriving AI ecosystem that drives economic growth and development.

Open infrastructure includes open spectrum. SA must rapidly build on Icasa’s recent moves to free up spectrum to make it a shared resource, not hoarded for decades by a handful of corporations.

As much as states can fight markets, they can also shape them through legal frameworks, financial tools, incentive structures, subsidies, and soft policy signals such as charters. Successful policy requires a multifaceted approach leveraging all the available instruments.

Imagine a future in which SA technology firms are the primary providers of technology to all public entities, with a depth and assurance to invent the next technologies, those that come after AI. Imagine that SA has vibrant, networked markets based on multi-decade investments in cutting-edge algorithms but also the foundational digital infrastructure to power them.

For that future, SA must chart an audacious, sociopolitical industrial policy driven by inclusive infrastructural investments to create economic opportunities for all citizens to thrive with and through technological change, not to be subjugated by it. This is the imagination we need.

Source: Scott Timcke and Andrew Rens - https://www.businesslive.co.za/bd/opinion/2024-05-17-scott-timcke-and-andrew-rens-clear-industrial-policies-vital-for-shaping-ai-uptake/

Date Published: May 17, 2024