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From Faster Machines to Better Livelihoods: Building an Inclusive AI Economy in South Africa

1. Introduction

South Africa is entering a period in which artificial intelligence (AI) could change how businesses operate, how people work and how governments deliver services. AI can process information, identify patterns and perform tasks that previously required significant human effort. For businesses, this presents opportunities to reduce costs, improve productivity and compete more effectively. However, for a country already struggling with unemployment and inequality, these opportunities also raise an important economic question: who will benefit from the productivity improvements?

According to Statistics South Africa (2026a), the official unemployment rate reached 33.6% in the second quarter of 2026, while unemployment among young people aged 15–34 stood at 47.4%. These figures suggest that South Africa cannot approach technological change in the same way as economies with stronger labour markets.

AI could improve the performance of existing workers, but it could also reduce demand for certain skills, particularly where employees perform repetitive administrative tasks. The International Labour Organization (ILO, 2025) estimates that approximately one in four workers globally are employed in occupations with some exposure to generative AI. However, exposure does not necessarily mean that those workers will lose their jobs. Much depends on how businesses introduce the technology and whether employees are given opportunities to adapt.

The challenge facing South Africa is therefore not simply to encourage the adoption of AI. It is to ensure that technological progress contributes to broader economic development.

This essay argues that South Africa should follow an inclusive AI productivity strategy built around three connected reforms. First, the education system must strengthen foundational learning while preparing students and existing workers to use AI responsibly. Second, industrial policy should support AI adoption in sectors where it can improve production, expand markets and encourage employment. Third, fiscal incentives should reward investments that generate measurable productivity gains alongside skills development and labour-market opportunities.

The central argument is that higher productivity should be treated as a means of improving economic welfare, rather than an end in itself. If businesses become more efficient while unemployment and inequality continue to rise, South Africa will have achieved technological progress without sufficiently improving people's lives.

2. Understanding the economic opportunities and risks

Productivity refers to the amount of output produced from a given quantity of inputs, such as labour, capital and materials. When a business produces more using the same resources, its productivity increases.

AI offers several ways of achieving this. A manufacturing company could use AI to predict equipment failures and reduce production delays. A logistics business could improve delivery routes, while a financial institution could process information more quickly and identify unusual transactions.

These improvements may reduce costs, increase output and make South African businesses more competitive.

Research by Brynjolfsson, Li and Raymond (2025) provides useful evidence. Their study of 5,172 customer-support agents found that access to generative AI assistance increased productivity by approximately 15% on average. Interestingly, less experienced workers benefited more than highly experienced employees.

This finding challenges the assumption that AI will only benefit people who already possess advanced technical skills. When properly introduced, AI may help inexperienced employees perform more effectively and learn faster.

However, productivity improvements do not automatically result in employment growth.

A company that previously required ten employees to complete a particular process might use AI to perform the same work with seven employees. Although output per employee increases, three workers may lose their jobs.

Alternatively, if improved efficiency allows the business to reduce prices, attract customers and expand production, the company may eventually employ additional workers.

The outcome depends on the relationship between productivity, market demand, investment and labour costs.

This creates two possible effects. The **substitution effect** occurs when technology replaces tasks previously performed by workers. The **complementary effect** occurs when technology helps employees perform their work more effectively.

A further benefit may arise when lower production costs stimulate demand and create new opportunities elsewhere in the economy. However, these gains may take time to emerge and may not benefit the workers initially displaced.

South Africa cannot assume that economic growth will automatically absorb everyone affected by automation. Its labour market already struggles to create sufficient opportunities for new entrants.

The International Monetary Fund (IMF, 2024) estimates that approximately 40% of employment in emerging market economies is exposed to AI. The IMF also cautions that countries with weaker infrastructure and skills may benefit less from technological advances, potentially widening existing inequalities.

This is particularly relevant to South Africa, where large corporations have greater access to capital, reliable technology and skilled employees than many smaller businesses.

The country's AI strategy must therefore consider not only how much productivity increases, but also how the benefits are distributed between businesses, workers and society.

3. Redesigning education: preparing people to work with AI

Education should form the foundation of South Africa's AI strategy. However, introducing AI into schools without addressing existing educational weaknesses would be an ineffective use of public resources.

The Progress in International Reading Literacy Study revealed that 81% of South African Grade 4 learners could not read for meaning in any language in 2021 (University of Pretoria, 2023).

This is concerning because the ability to use AI effectively depends on more than access to technology. A learner must understand information, evaluate its accuracy and apply it to real problems.

A student who struggles with basic reading or mathematics may find it difficult to determine whether an AI-generated answer is correct.

Government should therefore prioritise foundational literacy, numeracy and critical thinking before expanding advanced AI education.

3.1 Introducing AI literacy without neglecting basic education

AI literacy should gradually become part of the school curriculum. Learners should understand what AI is, how it is used and why its outputs cannot always be trusted.

This does not require every learner to become a programmer. Instead, schools should teach learners how to ask useful questions, interpret information, identify unreliable results and protect personal information.

Practical learning could include using AI to explain mathematical concepts, explore economic problems and compare possible solutions.

However, learners must still demonstrate that they understand the underlying work. Otherwise, AI could encourage dependence on technology rather than genuine learning.

UNESCO (2023) recommends a human-centred approach to generative AI in education, including appropriate safeguards and the development of human capabilities.

South Africa should adopt this principle.

Teachers should also receive training before schools are expected to use AI extensively. A teacher who understands the technology can use it to prepare lessons, identify learning difficulties and offer additional support.

Nevertheless, AI should support teachers rather than replace them. Human interaction, encouragement and an understanding of individual learning needs remain essential parts of education.

3.2 Addressing unequal access to technology

South Africa must also recognise that access to technology is unequal.

Statistics South Africa (2026b) reported that 85.6% of households had access to some form of internet connection in 2025. However, access to the internet does not necessarily mean that households have affordable data, suitable devices or reliable connectivity for educational purposes.

A learner accessing the internet through a shared cellphone is not in the same position as a learner with a personal computer and reliable home broadband.

If AI education is introduced without addressing these differences, technology could deepen existing educational inequality.

Government should prioritise affordable connectivity, functional computer facilities and teacher support in under-resourced rural and township schools.

For example, a learner in a rural Eastern Cape school should not be excluded from opportunities in the digital economy simply because their school lacks the infrastructure available in better-resourced urban areas.

Public investment should therefore be guided by educational need rather than institutions' existing technological capabilities.

3.3 Reforming universities and professional education

Universities should also reconsider how they prepare graduates for employment.

In accounting, for example, AI can assist with processing transactions, analysing financial information and identifying unusual patterns. However, it cannot remove the need for professional judgement, ethical responsibility and a proper understanding of accounting standards.

Consider the recognition of expected credit losses under IFRS 9. An AI system may assist with analysing historical defaults and forecasting future losses, but management must still assess whether the assumptions are reasonable and supported by appropriate evidence.

Likewise, an auditor using AI to identify unusual transactions must still evaluate the audit evidence and exercise professional scepticism.

These examples demonstrate why professional education should focus increasingly on interpretation, ethical reasoning and the ability to challenge automated conclusions.

Universities should introduce practical AI applications into existing qualifications rather than treating AI as an entirely separate discipline.

3.4 Supporting lifelong learning

Educational reform should not focus exclusively on young people.

Many existing employees may have completed their formal education before AI became widely used. Without access to further training, these workers could become increasingly vulnerable.

South Africa should establish flexible, affordable training programmes through universities, TVET colleges and accredited training providers.

Singapore offers a useful international example. Its SkillsFuture initiatives support workers through training subsidies, career guidance and programmes designed to help people adapt to changing employment requirements (Singapore Government, 2026).

South Africa cannot simply copy Singapore's approach because the countries have different fiscal resources and labour-market conditions. However, the principle of continuous skills development is relevant.

Short, accredited courses in digital literacy, data analysis, AI-assisted administration and technical skills could help employees move into changing occupations.

Training should also respond to actual employer demand. Producing large numbers of certificates without creating employment opportunities would repeat existing weaknesses in skills-development programmes.

The success of education reform should therefore be measured not only by the number of people trained, but also by whether participants obtain employment, improve their earnings or advance into more productive roles.

4. Redesigning industrial policy: using AI to strengthen production

Education reform will have limited economic benefits if businesses cannot create opportunities for skilled workers.

Industrial policy must therefore support the productive use of AI throughout the economy.

South Africa's Industrial Development Strategy 2026 identifies slow growth, declining industrial capacity, weak investment and infrastructure constraints as challenges facing the economy (Department of Trade, Industry and Competition, 2026).

AI could help address some of these challenges. However, technology cannot independently resolve electricity shortages, unreliable transport networks or inadequate infrastructure.

Government should avoid treating AI as a replacement for essential structural reforms.

Instead, AI should form part of a broader industrial strategy that improves the conditions under which businesses operate.

4.1 Prioritising sectors with economic potential

Industrial policy should support sectors where AI can improve efficiency, increase domestic production and create opportunities for expansion.

In agriculture, AI-assisted tools could help farmers monitor crop conditions, predict irrigation requirements and identify possible production risks. Better planning could reduce waste and improve output.

However, the benefits should not be limited to large commercial farms. Small-scale farmers may require shared digital services, affordable connectivity and practical training to use these tools.

In manufacturing, AI could help businesses improve quality control, reduce equipment downtime and manage inventories more effectively.

These improvements could make domestic producers more competitive against imported products.

In logistics, AI could improve the planning and movement of goods. This is particularly relevant because transport inefficiencies increase the cost of doing business and limit the competitiveness of South African exports.

The financial services sector also presents opportunities. AI can assist with fraud detection, customer service and risk assessment.

However, where automated decisions affect people's financial opportunities, institutions must ensure that their systems remain fair, reliable and subject to appropriate human oversight.

These examples show that the most useful AI investments are not necessarily the most technologically advanced. They are the investments that address genuine economic problems.

4.2 Supporting small and medium-sized businesses

A major weakness of a technology-led industrial strategy is the risk that its benefits become concentrated among large businesses.

Large companies generally have better access to finance, technical expertise and expensive technology.

Smaller businesses may understand the potential benefits of AI but lack the resources to introduce it.

Government should therefore establish regional AI support centres linked to universities, TVET colleges and existing business-development institutions.

These centres could assist small businesses with affordable software, training, cybersecurity and practical improvements to their operations.

For example, a small clothing manufacturer might use an AI-supported inventory system to reduce excessive stock purchases. A local retailer could use simple forecasting tools to predict demand and avoid unnecessary losses.

Such applications may appear less impressive than advanced robotics, but their economic value could be significant.

Importantly, government support should encourage the adoption of technology that improves existing businesses and helps them expand, rather than encouraging technology expenditure for its own sake.

4.3 Encouraging local innovation

South Africa should also develop the capacity to create and adapt AI solutions locally.

If most AI systems are purchased from foreign suppliers, a significant share of the associated expenditure may leave the country.

Foreign technology can still be valuable, particularly when it is cheaper or more effective than locally available alternatives. However, relying entirely on imported systems may limit domestic opportunities to develop technical skills and intellectual property.

Government should encourage partnerships between universities, researchers, technology businesses and established industries.

Local developers could focus on problems that are especially relevant to South Africa, including multilingual education, agricultural productivity, financial inclusion and public-service delivery.

Public procurement could support credible local innovation where it offers value for money, but local ownership should not automatically justify purchasing ineffective or overpriced products.

Industrial policy must remain competitive, transparent and guided by measurable results.

5. Redesigning fiscal incentives: rewarding productivity that benefits society

Fiscal policy is particularly important because it influences the investment decisions of businesses.

Government may encourage desired economic activities through tax deductions, tax credits, grants and targeted expenditure.

However, South Africa does not have unlimited resources.

In the October 2026 Medium-Term Budget Policy Statement, National Treasury revised expected real economic growth for 2026 to 1.2%. The government also emphasised fiscal discipline, improved spending efficiency and the need to manage public debt (National Treasury, 2026).

These constraints mean that a broad tax incentive for all AI-related expenditure would be difficult to justify.

Government must consider whether the economic benefits of an incentive outweigh the revenue it sacrifices.

5.1 Learning from existing tax incentives

South Africa already provides a tax incentive for qualifying research and development under section 11D of the Income Tax Act.

According to the South African Revenue Service (SARS, 2026a), qualifying companies may claim a deduction of 150% of approved operational research and development expenditure, subject to the applicable requirements.

This illustrates how the tax system can encourage technological innovation.

However, the value of a tax deduction should not be confused with the value of a direct government payment.

For example, assume that a profitable company incurs R1 million of qualifying expenditure and can utilise the full 150% deduction. At the standard corporate income tax rate of 27%, the additional 50% deduction represents a potential tax saving of R135,000 compared with an ordinary 100% deduction.

The company does not receive R1.5 million from government. Instead, its taxable income is reduced, subject to the relevant tax rules and its circumstances.

This distinction is important when assessing the effectiveness and cost of tax incentives.

It also highlights a limitation: companies without sufficient taxable income may not receive the immediate benefit available to profitable businesses.

A fiscal strategy relying entirely on income tax deductions could therefore favour established companies while providing less immediate assistance to new businesses.

Furthermore, an incentive encouraging research and development does not necessarily ensure that workers benefit from the resulting technology.

5.2 Introducing an AI Productivity and Employment Credit

South Africa should consider introducing a targeted **AI Productivity and Employment Credit** as a limited pilot programme.

The proposed incentive would encourage businesses to adopt productive AI while also investing in employees and creating opportunities for workers to adapt.

Unlike a general deduction for buying AI software, the credit would focus on verified expenditure relating to employee training, workplace redesign and the responsible introduction of technology.

A qualifying business would need to demonstrate that its investment has a credible business purpose and a plan for improving workers' capabilities.

For example, consider a manufacturing company that introduces AI to improve production planning.

If the technology reduces wasted materials and allows the company to increase output, the investment may improve productivity. However, the company should also explain how existing employees will be trained to operate the new systems or take on more valuable tasks.

The government could offer a capped credit against tax payable for eligible expenditure on training and workplace integration, provided the business meets specified reporting requirements.

Businesses without sufficient taxable profits, particularly smaller firms, could instead apply for limited matching grants through existing industrial-support structures.

This two-part approach would avoid placing profitable and unprofitable businesses on the same footing when their ability to benefit from tax relief differs.

The incentive should not automatically require companies to maintain an unchanged workforce indefinitely. Such a requirement could discourage investment and prevent necessary restructuring.

Instead, businesses should demonstrate credible efforts to retrain, redeploy or support affected workers while reporting changes in employment.

5.3 Measuring whether the incentive creates real value

The most important requirement would be independent evaluation.

A company should not qualify simply because it purchased software or reported that employees attended training.

Before receiving support, businesses should establish baseline information on production, employment, worker training and operating performance.

Subsequent reporting should examine whether meaningful improvements occurred.

Productivity measures could include changes in output per labour hour, value added, production defects and operating efficiency.

Employment measures should consider job retention, new recruitment, wage progression and whether workers moved into higher-skilled roles.

Training should be assessed through demonstrated competence rather than attendance certificates alone.

Government should also consider whether improved performance would have occurred without the incentive.

This is known as **additionality**.

If a large corporation had already decided to invest in AI, offering a tax benefit may simply reduce its tax liability without changing its behaviour.

The resulting loss of public revenue would represent an opportunity cost because those funds could otherwise have supported education, infrastructure or essential services.

This is why the incentive should prioritise investments where government support can reasonably influence decisions.

The pilot should have an annual expenditure ceiling, a limited initial duration and a published evaluation process.

SARS, National Treasury and the relevant industrial-development institutions would need to coordinate administration and verify claims.

The same expenditure should not be subsidised twice through overlapping incentives.

Where businesses deliberately misrepresent their results, appropriate penalties and recovery of benefits should apply.

These safeguards would help ensure that the programme is an investment in economic development rather than an open-ended tax concession.

5.4 Why a conditional incentive is economically preferable

The proposed incentive offers a balance between encouraging innovation and protecting the public interest.

A blanket tax reduction could encourage technology investment, but government would have little control over whether the resulting benefits extend beyond company profits.

A conditional incentive would link public support to clearly defined economic objectives.

Nevertheless, conditional programmes also create risks. Excessive reporting requirements could discourage smaller businesses, while complicated eligibility rules could increase administrative costs and opportunities for manipulation.

The solution is not to abandon accountability, but to make compliance proportionate to the value of the benefit claimed.

Smaller businesses should face simpler reporting requirements, while larger claims should receive more detailed scrutiny.

Government should also publish the results of the pilot, including the cost per additional worker trained, the productivity improvements achieved and the quality of employment outcomes.

If the evidence shows limited additional benefits, the incentive should be revised or discontinued.

Sound fiscal policy requires government to recognise when a programme is not working, even when its original objectives were worthwhile.

6. Protecting workers during the transition

Even with improved education and appropriate fiscal incentives, some occupations will experience disruption.

Government should acknowledge that not every worker affected by AI can immediately move into a new occupation.

A person who has spent many years performing administrative duties may require substantial training before entering a more technical role.

The transition may also involve lost income, transport costs and time away from employment.

Businesses, government and training institutions should therefore cooperate to create realistic pathways into new work.

Sector-specific training partnerships could identify occupations likely to change and prepare workers before large-scale displacement occurs.

Workers should also be involved in decisions concerning AI adoption. Consultation can help identify practical problems and reduce resistance to technological change.

However, protecting workers should not mean preventing businesses from improving efficiency.

South Africa's economy needs investment and productivity growth to become more competitive.

The objective should be to reduce unnecessary displacement and improve workers' ability to move into new opportunities.

This distinction matters because maintaining every existing task indefinitely would prevent some productivity gains, while allowing uncontrolled displacement could deepen unemployment and inequality.

A successful policy must recognise both risks.

7. Governance, accountability and implementation

Effective implementation will depend on the quality of South Africa's institutions.

In 2026, the government withdrew its draft national AI policy after problems were identified with references in the document. The withdrawal highlighted the importance of credible evidence, proper verification and accountability in developing public policy (The Presidency, 2026).

The lesson is directly relevant to the proposed economic strategy.

If government expects businesses to use AI responsibly, public institutions must demonstrate similar standards.

AI systems can produce convincing outputs that contain incorrect information. Consequently, decisions involving public money, taxation and employment should remain subject to appropriate human review.

The implementation of the proposed strategy should take place in stages.

During the first stage, government should strengthen foundational education, identify priority industries and establish baseline measures for evaluating AI-related investments.

The second stage should involve carefully selected pilot programmes in sectors such as manufacturing, agriculture and business services.

In the third stage, independently evaluated results should inform decisions about expanding, changing or discontinuing the programmes.

A coordinating structure involving National Treasury, the departments responsible for education and industrial development, SARS, employers and worker representatives could oversee this process.

However, creating an entirely new institution may add unnecessary administrative costs.

Existing institutions should be used wherever they have the necessary capacity.

Public reporting should focus on a limited number of meaningful indicators, including productivity, investment, employment outcomes and the cost of government support.

Importantly, these indicators should be evaluated together.

An increase in productivity accompanied by substantial job losses may require a different policy response from an increase in productivity that creates new markets and improves workers' earnings.

Likewise, an employment programme that preserves jobs without improving production may not be financially sustainable.

The purpose of evaluation should be to understand the overall economic impact rather than to celebrate isolated improvements.

8. Conclusion

Artificial intelligence presents South Africa with an important opportunity to improve productivity and strengthen economic competitiveness. However, these benefits will not automatically solve the country's unemployment and inequality challenges.

The success of AI will depend on the policy choices made by government, businesses and educational institutions.

Education must equip learners and workers with the ability to understand and use technology, while industrial policy must support productive investment across businesses of different sizes.

Fiscal incentives should be carefully targeted, financially sustainable and subject to measurable outcomes. In particular, government should avoid rewarding technological expenditure without considering whether it generates additional economic value.

The proposed AI Productivity and Employment Credit provides one way of connecting private investment with wider social objectives, provided it is introduced cautiously and evaluated independently.

Ultimately, South Africa should not measure progress by how many tasks machines can perform or how many employees businesses can replace.

It should measure progress by whether technology enables the economy to produce more, compete more effectively, create opportunities and improve living standards.

The real achievement would not be building an economy in which machines do more work. It would be building an economy in which technological progress allows more South Africans to live better lives.

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