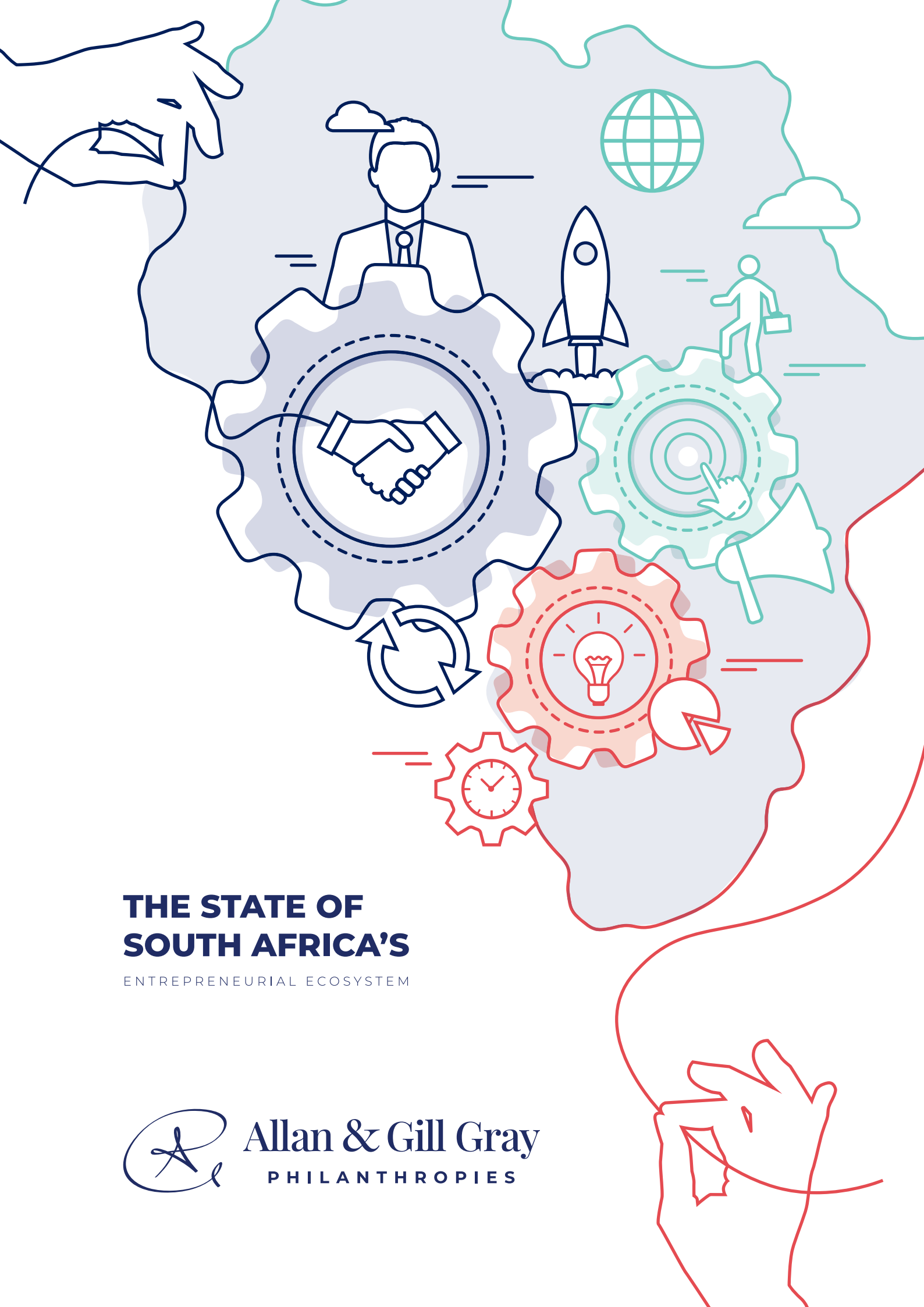




THE STATE OF SOUTH AFRICA'S

ENTREPRENEURIAL ECOSYSTEM



Allan & Gill Gray
PHILANTHROPIES

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The Entrepreneurial Ecosystem in South Africa

An important question in development economics is why some countries, regions and societies develop better and faster than others. Several theories such as; the institutional theory, geography theory, and dependency theory, work to explain the causes of uneven development. The institutional theory sees institutions as enablers of prosperity and growth by creating incentives for people to use their talent and invest. In short, institutional effectiveness defines which regions and societies will prosper based on the ability to invest in infrastructure and people. Notably, the geography theory argues that a region's geographical location determines prosperity.¹ Lastly, the dependency theory sees development as being determined by the unequal overflow of power and resources.

While the above theories have been used exhaustively, from an entrepreneurship perspective, the question is why are some countries, regions, cities, and territories more entrepreneurially successful than others. While there has been various, the ecosystems theory is gradually/exponentially emerging as a pioneer in explaining the entrepreneurial success of regions as being underpinned by the interactions of the different components that exist in the ecosystem. An ecosystem is defined as "an interdependent network of self-interested actors jointly creating value"². The entrepreneurial ecosystem focuses on distinct, yet interdependent agents and factors managed in a manner that produces a conducive environment for entrepreneurship within a particular territory or jurisdiction.³

Research has grouped the environmental conditions related to supporting entrepreneurship into five categories:

1. Government policies and procedures
2. Socioeconomic conditions
3. Entrepreneurial and business skills,
4. Financial support to businesses, and
5. Non-financial support to businesses.⁴

Leendertse, Schrijvers and Stam established an entrepreneurial ecosystem framework consisting of ten critical elements required for entrepreneurship to work. The ten conditions are:

Under Resource Endowments:

These are resources required for entrepreneurship to work;

1. Physical infrastructure,
2. Demand,
3. Intermediary services,
4. Talent,
5. Knowledge,
6. Leadership,
7. Finance (grouped under resource endowments),
8. Culture,
9. Networks and
10. Formal institutions

¹ Acemoglu, D and Robinson, JA. (2013). *Why Nations Fail: Origins of Power, Prosperity and Poverty*. London: Profile Books.

² Bogers, M., Sims, J., & West, J. (2019). *What is an ecosystem? Incorporating 25 years of ecosystem research*. Academy of Management Proceedings, 2019(1). Available at <https://ssrn.com/abstract=3437014> or <http://dx.doi.org/10.2139/ssrn.3437014>

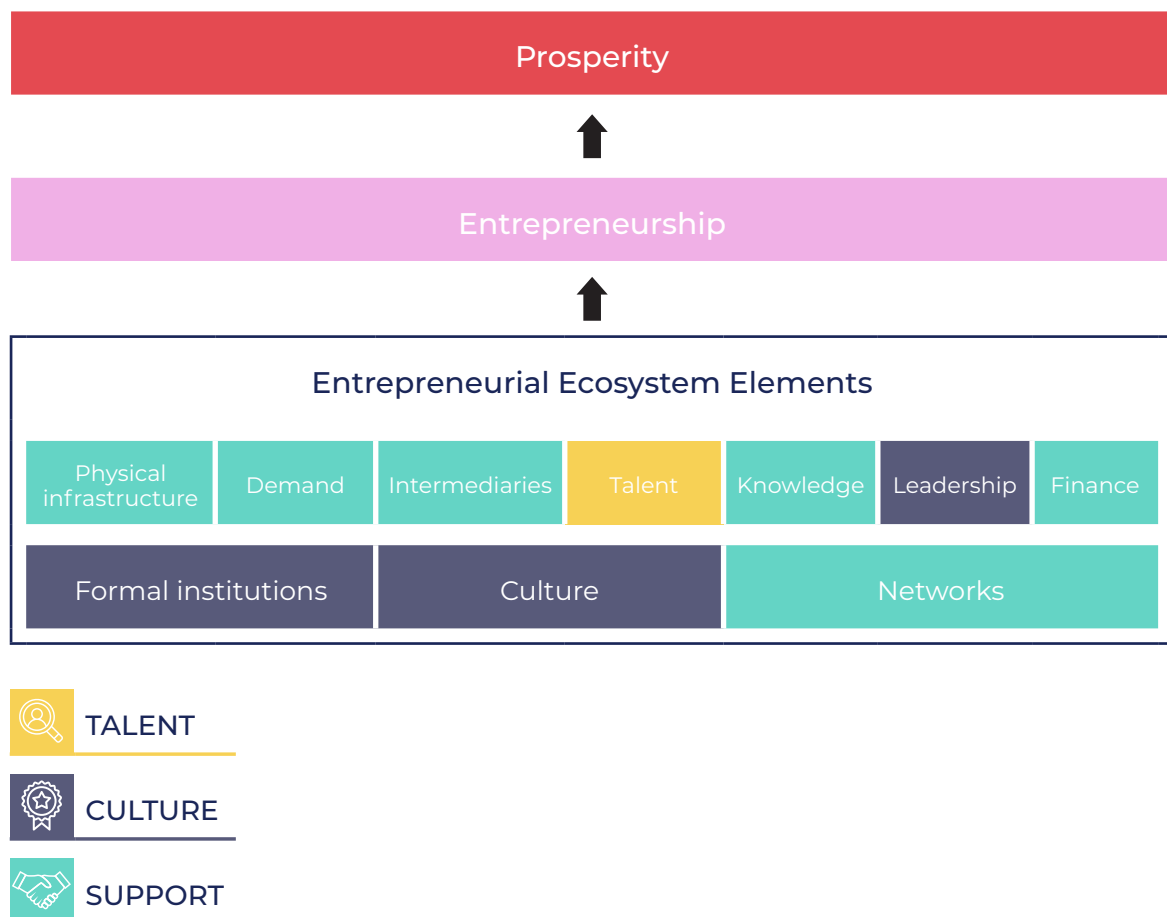
³ Stam, E. (2015). Entrepreneurial ecosystems and regional policy: a sympathetic critique. *European Planning Studies*, 23, 1759–1769

⁴ Gnyawali, D. R., & Fogel, D. S. (1994). Environments for entrepreneurship development: key dimensions and research implications. *Entrepreneurship theory and practice*, 18(4), 43–62.

Notably, in the breakdown of the five environmental conditions, it becomes clear that they constitute the ten conditions identified by Leendertse, Schrijvers and Stam. This is evident in that government policies and procedures are represented by institutions as they determine the rules of the game and set regulations in the ecosystem. Secondly, entrepreneurial and business skills are demonstrated by talent in the entrepreneurship ecosystem espoused by Leendertse, Schrijvers and Stam. Lastly, financial support to businesses is denoted through access to finance as a condition. And networks denote the non-financial aspect of support.

Allan and Gill Gray Philanthropies South Africa (AGGP_SA) aims to contribute to the advancement of dynamic and self-sustaining entrepreneurship ecosystems in South Africa; thereby improving the contexts in which entrepreneurs operate, increasing their ability to start and grow businesses that will have lasting success and create well-being for society, including meaningful employment. To do this, AGGP_SA has adopted an ecosystem approach to improving the entrepreneurial ecosystem in South Africa through evidence-based research on these ten conditions, as outlined in Figure 1. The entrepreneurial ecosystem approach will be used interchangeably with Erik Stam's model/approach based on Stam being a pioneer of the ecosystem approach.

Figure 1: AGGP_SA's Entrepreneurship Ecosystem Model



Source: AGGP_SA (2024)

Methodology

While previous ecosystem research has mainly focused on national data, Leendertse, Schrijvers and Stam have produced the first study measuring the regional entrepreneurship ecosystem. The European study was based on “a harmonized dataset in 273 regions in 28 European countries” because the European entrepreneurial ecosystem “contains a large number of regions that exhibit striking variation in socio-economic conditions, entrepreneurial activity, and economic growth”. This allows a greater understanding of sub-regions and more specific solutions by focusing on specific regions rather than a universal or one-size fits-all approach.

This approach necessitated a South African landscape review from a macro perspective to gain insight into the current state of the ten conditions and provide an assessment of what is required to obtain a regional view.

First, the data used in this study purports to create a national picture rather than a provincial or regional overview because of the lack of extrapolated data. At best, this study can be classified as a conceptual framing and definition of the ten conditions in South Africa because of the reliance on secondary data. The approach taken from this study is to start by understanding Erik Stam’s entrepreneurship ecosystem model from a national level through generic data, and then the second approach will be to do further research zoning down Stam’s model to South Africa’s regions/districts.

A moderate provincial and regional overview emerges because of the distinctiveness of provinces such as Gauteng, KwaZulu-Natal, and the Western Cape; and the regional focus emerges from data from eThekweni, Johannesburg, Tshwane and Cape Town. Preliminary output from this landscape review will inform the methodology adopted for a regional entrepreneurial ecosystem in South Africa.

Structure of the Report

The report does not follow a particular structure in listing and defining the ten conditions in South Africa. The listing is not undertaken from conditions deemed to be primary to others, but rather a general approach is adopted because the ten conditions are unique and play different roles in the entrepreneurial ecosystem. The conditions discussed follow this order: physical infrastructure, finance, formal institutions, culture, talent, leadership, knowledge, networks, intermediary services, and demand. In some aspects, the conditions are interrelated and/or share similar characteristics by virtue of the country’s entrepreneurial ecosystem.



Infrastructure

Physical infrastructure is foundational in the entrepreneurial ecosystem condition because of its connective role in enabling entrepreneurship to thrive through breaking physical barriers, connecting products with customers in different areas, and enabling cost-effective manufacturing and logistics through economies of scale. It enables entrepreneurs and potential investors to seize opportunities in any region regardless of the business or entrepreneur's physical location. The cost of business tends to be higher in areas without sufficient infrastructure, such as in Africa. Access to fast and reliable internet services, electricity, water and good roads and ports are some measures that inform how physical infrastructure supports entrepreneurs.

South Africa is Africa's most industrialised nation, with the ability to attract millions of migrants who seek job and entrepreneurial opportunities due to the country's connective infrastructure. Infrastructure development in South Africa focuses on sectors such as power, healthcare, transport, education, small, medium, and micro-sized enterprise development, and housing as sources of a commercially viable society. Table 1 shows the state of South Africa's entrepreneurial ecosystem based six indicators that have been deemed by global literature to be key indicators for infrastructure in the entrepreneurial ecosystem. The indicators include % of budget spent on infrastructure, access to water, electricity and internet, mobile network coverage and container port performance index.

Table 1: Physical Infrastructure Indicators

Indicators	Current state nationally
% of budget spent on infrastructure	6% of GDP
Access to water	87.7%
Access to electricity	90.2%
Access to internet	82.1%
Access to cellphones	92.8%
Container port performance index	Cape Town – 405/405 Coega (EC) – 404/405 Durban – 398/405 PE – 391/405

South Africa is failing to meet the NDP target of spending 30% of GDP on infrastructure, as observed in the decline of SOE investment from 29.7%. As per Table 1, South Africa currently spends around close to 6% of its GDP on infrastructure. To be specific, between 2012 and 2022, public capital investment in infrastructure averaged 5.4%.⁵ The effect of low spending on infrastructure is also evident in how the country's seaports have regressed in performance over the last decade.

The World Bank's Container Port Performance Index for 2023 revealed that South Africa's seaports are the worst globally, with Cape Town ranked 405 out of 405 countries, followed by Coega at 404, Durban at 398 and Port Elizabeth at 391.⁶ These challenges impact the performance of the country's exports and businesses that rely on imports, thereby undermining the country's entrepreneurial ecosystem.

The Auditor General's report noted some concerns about how municipalities manage public infrastructure. The latest report revealed that,

⁵ National Treasury. (2024). National Treasury 2024 Budget Review. Pretoria: National Treasury

⁶ World Bank. (2024). Container Port Performance Index 2024. New York: World Bank

The value of infrastructure assets that local government should maintain and protect totalled R494,35 billion...the 257 municipalities spent R18,26 billion on repairing and maintaining infrastructure assets, which is roughly 4% of the total value of these assets (the same as in the last financial year). It is particularly concerning that 39% of all municipalities spent 1% or less of the value of their infrastructure on repairing and maintaining these assets.⁷

Municipal underspending in maintaining public infrastructure is a concern as municipalities are required to spend at least 8% on infrastructure, yet many fail to meet this target. Only the City of Cape Town and eThekweni spent within the established norm, at 8% and 9%, respectively.⁸ In this context, the failure to spend on infrastructure diminishes the value of infrastructure critical for a healthy entrepreneurship ecosystem. Based on the eroding connective infrastructure, South Africa has lost a functioning integrated public logistics infrastructure.

While South Africa faces infrastructure challenges in relation to its ports, the country has done well in the provision of critical infrastructure such as electricity, water, and internet access. For example, the country increased access to water to 87% by 2022.⁹ Adequate access to electricity is essential in various ways. For citizens, energy is a vital source for cooking and lighting, while it is also a necessary source for businesses to ensure the uninterrupted production of goods and services. Between 2002 and 2022, the government increased household access to electricity from 76.7% to 89.8%.¹⁰ While most provinces are above the 90% access to electricity threshold, only the North West at 83.4% and Gauteng at 82.7% are below 90%. In addition to this, the country seems to have resolved its electricity issues that caused load-shedding in 2022, thereby impacting the performance of many businesses.

The World Economic Forum's Future of Growth Report for 2024 revealed that South Africa's network coverage is at 98.5% and is one of the highest in the world. Based on high network coverage rate, the percentage of households with access to the internet as a measure of physical infrastructure in South Africa stood at 78.7% in 2022. This access is mainly in homes, work, internet cafés, places of study and public internet.¹¹ Provincially, the Western Cape, Gauteng and KwaZulu-Natal had the highest internet access rates as shown below. This is consistent with these three provinces contributing the most to the country's GDP. A concern that must be noted is that only 10% of South Africans have access to the internet at home as per the above figure. Consistency of the Western Cape at 25.9%, Gauteng at 6.4% and KwaZulu-Natal at 6.4% having the highest access to the internet at home are also noted, except for Free State at 7.1%, scoring higher than KwaZulu-Natal.¹² Access to the internet is also higher across metropolitan municipalities than in other categories of municipalities.

The African Union Commission and the OECD observed that sub-Saharan Africa requires extensive infrastructure investment to boost access to digital infrastructure.¹³ Their estimates suggest that over 300 million Africans live over 50 kilometers away from a fibre source. These observations are critical for engaging African governments to invest in digital infrastructure to ensure broad access and that no one is outcasted in the digital economy era. The South African government actioned its spectrum to resolve this impasse, generating over R14 billion for the fiscus and unlocking new investment opportunities.¹⁴ Further to this, the government also invested R800 million to develop digital and technological skills. Increasing investment in this sector may likely generate interest from Fintech entrepreneurs and create space for new entrants in the market, particularly from previously marginalized groups. In this context, the country has a good digital ecosystem capable of creating economies of scale, but also requires extensive support to ensure it follows the country's financialisation capacity.

⁷ Auditor General, 2023

⁸ Ibid

⁹ Stats SA (2023). General Household Survey (GHS), 2023

¹⁰ Ibid.

¹¹ Ibid

¹² Ibid

¹³ AU Commission & OECD (Organisation for Economic Co-operation and Development) (2019). *Africa's development dynamics 2019: Achieving productive transformation*. Paris: OECD

¹⁴ Ramaphosa, 2023



Talent

The prevalence of individuals with high levels of relevant education and skills. To create more entrepreneurs as well as talent that entrepreneurs can hire, there needs to be a high prevalence and supply of relevantly skilled people (human capital). The needed human capital is derived from educational outcomes and the skills individuals build as they access training and education (this is measured by the HDI). Important foundational skills for entrepreneurs include literacy, numeracy, entrepreneurship competencies and STEM (Science, Technology, Engineering and Maths) skills. While South Africa has some of the leading universities across developing nations, the country's basic education system struggles to meet international standards and there is minimal entrepreneurship education. This impacts the ability of the produced talent to create and staff businesses and compete internationally.

Talent can be measured by the “percentage of the population with tertiary education, the percentage of the working population engaged in lifelong learning, the percentage of the population with an entrepreneurship education, the percentage of the population with e-skills”.¹⁵ All of these skills are interlinked and have a commonality that is education being the main determinant of the required talent for entrepreneurship to take-off. Table 2 shows the state of talent in South Africa.

Table 2: Talent Indicators

Indicators	Current state nationally
Share of population with higher education	12.2%
Share of population with grade 12	36%
HDI Index	0.713 (109/194)
Share of 10-year-olds that cannot read for meaning	81% cannot read for meaning
Quality of education	119/141 globally
Availability of talent	3.8/7 – 47.3%
Education attainment	2.9/4.5 – 64.6%
Digital and technology talent	4.2/7 – 53.4%
Inequality in education	65.4 (high)

The first precondition of a population with tertiary education is slowly recognised in South Africa due to the government's effort to ensure tertiary education is accessible to the poorest and previously disadvantaged. Before the 2022 census, a report by DHET showed that only 6% (1.7 million people) of South Africans had a university degree and a 15% graduation rate and 3.4% hold technical and vocational education and training (TVET), the lowest of all OECD countries. These figures were blamed on the country's poor foundational phase education structure and outcomes that contribute to the high rate of unemployment by producing unemployable youth. The PIRLS study showed that 81% of grade ten students cannot read for meaning.¹⁶ This means that higher education inherits students who are not fully equipped for university, thereby forcing universities to implement extended programmes to cater for students to develop literacy and numeracy skills.

¹⁵ Ibid

¹⁶ UP. (2021). PIRLS. Pretoria: UP.

Recent data from the 2022 Census showed that 12.2% of South Africans have some sort of higher education qualification. Data from the General Household Survey, of the 2.1 million adults that received a university degree, most graduates were from the Education sector (503,096), followed by Business sector and Economics sector (439,719 graduates), and Health sector (221,121) and Engineering sector (219,007).¹⁷ Those who have secondary education and are neither employed nor in education or training (NEET) face higher risks of being unemployed at 52% than 21% of those with tertiary education. This shows the importance of tertiary education within talent, with the conclusion that those with tertiary education are more likely to succeed in entrepreneurship than those who have secondary education certificates.

South Africa's inadequate education attainment contributes to the country's Human Development Index being 0.713, whereas developed nations have an HDI between 0.8-0.9¹⁸. In relation to talent availability, South Africa scored 3.8 out of 7, with an indicator score of 47.3 out of 100 from the WEF.¹⁹ Further to this, the country also scored 4.7 out of 7 for digital talent. However, it is also important to consider that the country scored 65.4 out of 100 when it comes to education inequality.²⁰ This scoring is consistent with the country's inequality rate of 0.65 as per Gini co-efficient.

Despite the low graduation throughput, South Africa is increasingly witnessing a number of people enrolling for postgraduate studies throughout all South African universities. While this increase is welcome, the concern is that some are enrolling for postgraduate studies out of the fear of being unemployed and opting to continue their studies.²¹ On the positive side, the increased number of people with postgraduate studies is beneficial for the country's research and development. Evidence shows that institutions with people/or workers who have postgraduate qualifications tend to perform better than those without.²² This demonstrates the importance of lifelong learning as an approach to improving skills and human capital.

The deficiencies within South Africa's educational system have significantly influenced the nation's position within the African economy today. The legacy of discriminatory education policies from the Apartheid era, coupled with pervasive corruption within the education administration, has engendered a system that predominantly fails South African students, thus undermining the workforce. Numerous students graduate from secondary and tertiary institutions lacking the essential skills sought by employers. Despite efforts by the South African government to address structural unemployment through various programs and employment incentives, the outcomes have been mixed. This lack of competitiveness within the labour force is anticipated to yield enduring adverse repercussions, ultimately shaping South Africa's role in the African economy for years to come.

¹⁷ BusinessTech. (2017). The most popular fields of study in South Africa. Available at: <https://businesstech.co.za/news/business/155537/the-most-popular-fields-of-study-in-south-africa/#:~:text=According%20to%20the%20report%2C%202.1%20million%20adults%20aged,Economics%2028439%2C719%20graduates%29%2C%20Health%20%28221%2C121%29%20and%20Engineering%20%28219%2C007%29.>

¹⁸ UNDP. (2024). Human Development Index Report. New York: UNDP.

¹⁹ WEF. (2024).

²⁰ Ibid.

²¹ Mavundla, N. (2021). *The motives behind students pursuing postgraduate studies in the Humanities: A case study of postgraduate students at the University of KwaZulu-Natal*. KwaZulu-Natal: UKZN

²² The Presidency (2015)





Finance

The availability and sufficiency of effective and right-fit funding is essential for all businesses at any stage and size led by entrepreneurs from any background and demographic. This is instrumental in unlocking the growth in ventures. Having the right types of funding instruments at each stage of the business that is available to all that need it will unlock growth in ventures. The private sector often supplies financing for business but excludes those that might be perceived as riskier investments such as small or informal businesses or ventures led by women. Thus, government and civil society's role in either providing direct financing or guarantees to de-risk financing for the private sector is critical. This is particularly important to promote growth in small businesses in developing nations. Measures such as the funding gap and availability of finance assists in understanding how efficiently the current funding is supporting entrepreneurship.

Access to finance is important for making entrepreneurship work and creating globally competitive companies. Small businesses are recognised worldwide as an important economic and industrial development sector. It is a common cause that "government should encourage SMME development by ensuring that capital is more accessible, promoting entrepreneurship, providing business education, reducing regulations and protecting intellectual property".²³ This means that the provision of access to finance for small businesses should be at the heart of every nation hoping to spur economic growth and employment creation. In Europe, small businesses constitute 99% of all businesses, employ approximately 100 million people and contribute more than half of the EU's GDP because of a supporting entrepreneurial ecosystem.²⁴

In South Africa, small businesses contribute approximately 40% of remuneration, 52-57% of the GDP, and 60% of national employment.²⁵ On the other hand, the informal sector contributes towards South Africa's economy at about 7-20%. However, this percentage is projected because measuring the informal sector is challenging.²⁶ Table 3 shows the key indicators for access to finance as a condition in the entrepreneurial ecosystem.

Table 3: Finance Indicators

Indicators	Current state nationally
Funding gap	R364 billion
Annual Support for SMMEs from Government Institutions	R2.4 billion budgeted by DSBD for supporting businesses in 2024/25. SEFA: R2 billion to fund 80 040 SMMEs and cooperatives – creating 98 378 jobs
Annual Support for SMMEs from Private Institutions	R1.4 billion
Challenges in access to finance	High cost of borrowing (demand-side)
Share of SMMEs receiving funding	3%
Long term, venture and SMME financial availability	4.1/7 – 50.09%
Access to financial services	4.2/7 – 52.6%
Access to bank account and savings	19 of adult population

²³ Strauss, S. (2006). Government's role in encouraging small business. *Economic Perspective ejournal*, 10-12.

²⁴ European Union. (2023). *Entrepreneurship and small and medium-sized enterprises (SMEs)*. Available at: https://single-market-economy.ec.europa.eu/smes_en

²⁵ SEDA, 2016

²⁶ Ibid

As per Table 1, data from the Centre for Development Enterprises showed that South Africa has a financing gap of R364 billion. This financing gap best explains the failure of many businesses in the absence of financial assistance to support start-up enterprises in the South African context. Further, the NDP also identified the current economic environment, followed by the labour environment, financial constraints, and skill challenges as leading reasons for the non-expansion of businesses. Cumulatively, these conditions are underpinned by the lack of accessible finance as financial issues bring labour conditions, while skill challenges are also brought by the lack of access to finance for individuals to acquire quality education. Essentially, two important factors underpin finance-related challenges: capital availability and the regulatory environment. As such, the failure rate of SMMEs in South Africa is between 70% and 80% and millions of Rands are invested in the programs and are lost through failure.²⁷

The government has established various mechanisms to support businesses across all spheres, including DFIs tasked with supporting entrepreneurship and small businesses, with the IDC being a prime example of a high-value DFI. The main objective behind establishing the IDC was to avail finance for local enterprises due to the absence of capital investment to establish a secondary sector in the 1940s. Over the past 20 years (2000-2020), the IDC spent over “R128 billion (R204 billion in 2013 prices) to firms, supporting the creation of 360 000 direct jobs over the period and saving an additional 43 000 jobs”²⁸.

A Centre for Development Enterprise report found that only 3% of small businesses received financial support from the state and 40% of the government's (SEFA) loans to small businesses were non-performing.²⁹ This suggests an issue of value for money to where the government dedicates its funding. The funding challenge was also alluded to by former Finance Minister, Tito Mboweni, when he noted that despite the government taking over 94% of the risk for the R200 billion Loan Guarantee Scheme to support businesses during COVID, the banks disbursed no more than 10% of the funds.³⁰ Some of the challenges related to this predicament are caused by the high rate of informality of small businesses, which makes it impossible to support informal businesses because they do not meet business regulations.

The World Economic Forum noted that without formal business regulations, businesses cannot access finance. However, the report notes that the banking fees in South Africa are higher than in countries such as Germany, Australia, and India.³¹ Within the literature on financial inclusion, high banking costs are understood to be barriers to financial inclusion, and the same principle could be applied in the South African context. Data from the WEF shows that South Africa scored 4.1 out of 7 for access to financial services, and a further 4.7 out of 7 for financial resilience. However, as per Table 3, it is also evident from an OECD study that high costs of borrowing increase the lack of financial support for businesses, therefore stifling their growth. Research also shows that some of the incentives implemented by the government have not produced the required financial and employment returns.³²

²⁷ Ncwadi, 2012

²⁸ TIPS, 2019

²⁹ CDE, 2022

³⁰ Mboweni, (2022)

³¹ World Economic Forum. (2017). 6 challenges to financial inclusion in South Africa. Available at: <https://www.weforum.org/agenda/2017/04/financial-inclusion-south-africa/#:~:text=6%20challenges%20to%20financial%20inclusion%20in%20South%20Africa,A%20significant%20amount%20of%20business%20is%20conducted%20informally>

³² Todes, A., & Turok, I. (2018). Spatial inequalities and policies in South Africa: Place-based or people-centred?. *Progress in Planning*, 123, 1-31.



Entrepreneurial Culture

Entrepreneurship Culture is how much entrepreneurship is prioritised, valued, and encouraged in South Africa's society. In addition, it is the extent that ethical and responsible business practices are supported and encouraged so that businesses are a force for good rather than a detractor in society. The outcomes of a positive and supportive entrepreneurship culture would be that there is an increase of people in South Africa that are motivated and intend to be responsible entrepreneurs. Input measures such as the % of people that will not start a business due to the fear of failure, and entrepreneurship motivation for responsible entrepreneurship and output measures such as intention and early-stage entrepreneurial activity tell us how positive the entrepreneurship culture in a country is.

While formal institutions are created on the grounds of consensus by determining agents that enforce the adopted rules and regulations, informal institutions are not governed by an enforcer or policer but based on shared social norms.³³ Table 4 shows the indicators for entrepreneurial culture.

Table 4: Entrepreneurial Culture Indicators

Indicators	Current state nationally
Share of population that will not start a business due to the fear of failure.	69.7% believe they have the capabilities to start businesses, yet 53% will not start a business due to fear of failure.
Entrepreneurial motivation for responsible entrepreneurship	81.4% of entrepreneurial motivations in South Africa include making a difference (responsible entrepreneurship)
Entrepreneurial intentions	11.9 to 20% of South Africans have entrepreneurial intentions compared to 40% of the African continent
Total early-stage Entrepreneurial Activity (TEA)	8.5% - ranked 33 out of 49 countries
Business culture and competition	4.3/7 – 55.7%

These social norms are important because they shape culture. Other scholars include norms such as corruption, political ideology, and culture at the epicenter of informal institutions. Within the entrepreneurial landscape, informal institutions are captured through a prism of culture, where entrepreneurship is studied from the 'quality of entrepreneurial culture in the ecosystem, including motivation, cultural and social norms, and relations within the ecosystem.'³⁴

An important consideration is whether entrepreneurship is prioritised and valued in South Africa's society. Important measures for this include entrepreneurial motivation and cultural, social norms. Firstly, entrepreneurship is not prioritised in the South African schooling system as no independent subject focuses on entrepreneurship or innovation in the early phase.³⁵ This impacts learners' prospects of creating a culture of entrepreneurship from an early age. As a result, only 11.9 to 20% of South Africans have entrepreneurial intentions compared to 40% for the African continent.³⁶

³³ Ross, T. V. (2001). Institutions. Available at: <https://www.sciencedirect.com/topics/computer-science/informal-institution#:~:text=Informal%20institutionsdo%20not%20rely%20on%20an%20external%20authority%27s,%28see%20Ellickson%201991%29.%20Other%20informal%20institutions%20are%20conventions.>

³⁴ Leendertse, Schrijvers, M & Stam (2022).

³⁵ Zwane, T. (2021). *Experts say entrepreneurship must be taught at school*. Available at: <https://www.news24.com/citypress/business/experts-say-entrepreneurship-must-be-taught-at-school-20210107>

³⁶ GEMS (2020). *2019/2020 Report*. GEMS.

South Africa, just like many other African and developing nations, has an observable presence of the informal sector. South Africa's informal sector is dominated by self-employed individuals who trade as street traders, food vendors, and other economic activities. Some of these activities have lower chances of being scaled up and contribute to some informal sector activities being mere survivalist entrepreneurship projects.³⁷

This predicament can be linked to entrepreneurship being viewed as a last resort by the unemployed, rather than a means of self-employment and wealth generation. This suggests that entrepreneurship motivation does exist but needs to be nurtured in a manner capable of reaping economies of scale. While the NDP recognises the informal sector as an important player in reducing unemployment, it is equally important to be cautious of the precarious nature of the informal economy and promote decent wages within the sector. Important lessons for the entrepreneurial ecosystem can be learned through the culture of the informally employed.

GEM data shows that 69.7% people believe they have the capabilities to start businesses, yet 53% will not start a business due to the fear of failure.³⁸ This fear of failure could be derived from the high failure rate of South African businesses, thereby forcing other potential entrepreneurs to not see entrepreneurship as a viable career. This results in South Africa having a low total early-stage entrepreneurial activity of 8.5%, and South Africa being ranked 33 out of 49 countries.³⁹

Further data from GEM estimates that 11-20% of South Africans have entrepreneurial intentions compared to 40% of non-South Africans.⁴⁰ This can also explain the developments where local spaza shops are predominately owned by foreign nationals, whereas they were previously owned by South African citizens in the 1990s to early 2000s. Despite the perceived low entrepreneurial culture from a national perspective, cities such as Cape Town are increasingly gaining a reputation for being a city for entrepreneurs, particularly those in the technology entrepreneurship space. The city has evolved and is fast catching up to Johannesburg as the city of entrepreneurship. This shows entrepreneurship motivation and the role played by the city of Cape Town in creating a conducive environment for businesses to flourish and creating a culture of entrepreneurship. While this is the case, Johannesburg has also maintained its dominance in being a city of entrepreneurs that base trust on each other in the ecosystem, particularly in opening to new and diverse entrants to the market. A concern is that cities such as Durban and Nelson Mandela Bay have not successfully taken up the entrepreneurship space, particularly within emerging innovative sectors. Essentially, more needs to be done to understand the culture as an entrepreneurship condition in South Africa.

The WEF ranked South Africa's business culture and competition as 4.3 out of 7, thereby indicating a score higher than the average in most countries.

³⁷ Khambule, 2020

³⁸ GEM. (2022).

³⁹ Ibid

⁴⁰ Ibid





Leadership

It is actors taking a leadership role in the ecosystem and driving improvement in all the ten conditions that constitute the ecosystem. These leaders are often existing successful entrepreneurs in the private sector that use their success and influence to push for improvements and innovations that not only benefit their own business but other entrepreneurs too. This role can also be played by the public or civil sector if required for example, if existing leadership is insufficient. These leaders play a pioneering role in guiding, providing vision, foresight, and direction to, the entrepreneurial ecosystem. This could include shaping perceptions about entrepreneurship, financing other entrepreneurs, influencing policies that support entrepreneurship, or lowering entry barriers and creating opportunities for smaller businesses through their supply chains.

Leadership is one of the pioneering structures toward guiding all sectors of society to a particular goal and outcome. Within the entrepreneurship ecosystem, leadership is viewed as being principal to providing ecosystem actors with foresight and direction through creating enabling policies for the private sector to invest.⁴¹ This extends to leadership using strategic influence to guide ecosystem players toward a common entrepreneurial goal. Table 5 shows the key indicators for leadership as an entrepreneurial ecosystem condition.

Table 5: Indicators for Leadership

Indicators	Current state nationally
National/regional business leaders and investors sentiments	<u>Business confidence – 38 in Q3 2024</u>
Investment climate	<u>4th most attractive investment destination in Africa</u>
Growth outlook	<u>0.9% in 2024 (should be 3-5% ideally)</u>

While the existing framework utilises a European model for assessing the state of leadership in the entrepreneurial ecosystem, it is important for the South African focus to be grounded on local contexts. This approach is important because different contexts provide heterogeneous results as entrepreneurship conditions are not the same.

Table 5 shows that South Africa's business confidence has been on the increase, reaching a high of 38 in quarter 3 of 2024. However, this does not match the expected growth outlook of 0.9%, which is lower than the GDP growth rate of 5% suggested to be the main target for the country to grow the economy and get more people employed. Leadership is also indicated in that South Africa is Africa's 4th most attractive investment destination. However, a key issue is whether South Africa is ready to receive such investment despite the challenges faced by public and private leaders.

South Africa's economic development aspirations are strongly linked to the developmental state ambitions enshrined in the NDP. The NDP views leadership as being instrumental in creating a capable, ethical, and developmental state to address the country's triple challenges of unemployment, poverty and inequality.⁴² Leaders in developmental states are expected to have a powerful economic ideology built of a strong relationship between the state and the private sector to spur investment and entrepreneurship. However, the country's leadership, both in the private and public sectors, have invariably failed to chart a consensus on the country's entrepreneurial trajectory. The leadership has failed to create a conducive environment for businesses to emerge from public sector failures. This failure is also linked to the red-tape that faces many entrepreneurs

⁴¹ Stam, 2015

⁴² National Planning Commission. (2012).

and small businesses, including the failure of the government to pay invoices within the stipulated three months.⁴³

From the private sector failures, business leaders have failed to positively influence the leadership space as the state-business relationship has been mainly tainted with corruption and maladministration.⁴⁴ This has contributed to the unproductive government and private sector relationship. Further to this, business leaders fail to invest profits in the country, thereby denying the country much-needed domestic investment to promote economic sovereignty. Former Minister Tito Mboweni highlighted that banks were reluctant to spend the R200 billion loan guarantee on small businesses during the COVID-19 pandemic.⁴⁵ This signals the lack of coordination between private and public sector leaders within entrepreneurship. This failure extends to the failure of the current government leadership to craft a social compact to address the country's deteriorating socio-economic conditions.

43 Businesstech. (2016). Failure to pay invoices within 30 days is financial misconduct. Available at: <https://businesstech.co.za/news/government/136757/failure-to-pay-invoices-within-30-days-is-a-financial-misconduct/#:~:text=Deputy%20Minister%20in%20the%20Presidency%20responsible%20for%20Planning%2C,invoices%20within%2030%20days%20is%20a%20financial%20misconduct>.

44 Khambule, I. (2021). Capturing South Africa's Developmental State Ambitions. State-society relations and responses to state capture. Public Administration and Development, 41(4), 169-179.

45 Mboweni, T. (2021). 'They wouldn't budge': Mboweni blames banks for failure of the Loan Guarantee Scheme. Available at: <https://www.news24.com/fin24/companies/they-wouldnt-budge-mboweni-blames-banks-for-failure-of-the-loan-guarantee-scheme-20220504#:~:text=Tito%20Mboweni%20said%20SA%27s%20banks%20refused%20to%20play,the%20risk%20should%20businesses%20not%20repay%2C%20he%20said>.



Intermediaries

The accessibility of effective incubation, acceleration, and business support services. These are Entrepreneurship Support Organisations (ESOs) that work directly with entrepreneurs to start and grow their businesses (typically incubators and accelerators) as well as business services such as legal, accounting and Human Resource (HR) support. Incubation and acceleration often link entrepreneurs to many elements that are critical for a business to thrive such as finance, customers, market information, mentors, business services and education or training. They are seen to be essential support for entrepreneurs to start and sustain their businesses and reduce the failure rates in the first few years of operating. Measures such as the number, geographic and sector concentration of incubators and accelerators as well as quality of the ESOs to inform the effectiveness of intermediaries in supporting entrepreneurs.

Intermediate services providers are critical in providing enabling information to new market entrants to be distinguishable and attract attention in the marketplace. These intermediate services provide needed information and market innovations for producers due to the acquired market information and insight.⁴⁶ Table 6 shows the indicators for intermediaries as indicators in the entrepreneurial ecosystem.

Table 6: Indicators for Intermediaries

Indicators	Current state nationally
Distribution of public incubators	75% of the business incubators (105) were concentrated in KwaZulu-Natal, Eastern Cape, Gauteng and the Western Cape
Most incubated programmes by sector	Manufacturing has the most incubators (26%), followed by agriculture (20%), construction (12%). Other dominant sectors are ICT and multi-sector incubators at 11%
Existence of innovation/entrepreneurship support organisation (ESOs)	70% of innovation/ entrepreneurship support organisations were concentrated in Gauteng (35%), WC (13%), EC (12%), KZN (10%)
Quality of incubation and acceleration support	No data

The first measure of this component is employment in the knowledge-intensive sector underpinned by the provision of intermediary services in the entrepreneurship space. Core services such as legal information, accounting, consulting firms and marketing agencies are included in this category.⁴⁷ These service providers are essential from the business development phase to the implementation phase, particularly consulting firms that write proposals and test ideas before they are introduced in the world.

The second measure is through business incubators as intermediary service providers in the entrepreneurial ecosystem. South Africa has one of the highest start-up failure rates due to several factors such as the failure to do demand planning. Assistance provided by incubators improves the overall business ideas and how companies are introduced in the business space and goes as far as providing access to other entrepreneurs and markets. Key issues such as access to finance, infrastructure and leadership also act as intermediaries in the entrepreneurship space.

⁴⁶ Leendertse, Schrijvers, M & Stam (2022)

⁴⁷ Ibid.

Business incubators “are physical and/or virtual facilities that support the development of early-stage SMEs through a combination of business development services, funding and access to the physical space necessary to conduct business”.⁴⁸ Business incubators in South Africa vary in terms of sector, geographical focus, target group of small businesses, operational model, revenue-generating model and a mixture of public and private entities. Table 7 shows the number of business incubators per province.

Table 7: Business Incubators by Province⁴⁹

Province	Number	Percentage
Gauteng	35	33%
KwaZulu-Natal	16	15%
Western Cape	15	14%
Eastern Cape	12	11%
Mpumalanga	10	10%
Limpopo	5	5%
Northern Cape	5	5%
Free State	4	4%
North West	3	3%

As per table 7, it is evident that most (75%) of the business incubators were concentrated in KwaZulu-Natal, Eastern Cape, Gauteng, and the Western Cape, whereas there were fewer in the remaining provinces (Limpopo, Mpumalanga, Northern Cape, North West and the Free State). The number of incubators per province also follow the resourcing of the provinces, as the most resourced provinces have the most incubators. These incubators can also be classified per sector; manufacturing having the most incubators with 26%, followed by agriculture at 20%, construction at 12%, and other dominant sectors being ICT and multi-sector incubators at 11% respectively.⁵⁰

While incubators produce businesses with the critical skills of improved financial, legal, and networking, some challenges are also observed. These challenges include “high dropout rates, entrepreneurs who are job seekers, non-compliance, lack of procurement opportunities, financial mismanagement, lack of demand for local products, lack of government purchasing, lack of entrepreneurial discipline and lack of effort from certain incubatees.”⁵¹ This underscores the need to ensure enhanced measures for supporting and protecting SMMEs as 70-80% of businesses do not make it through the first year. Identified factors underpinning incubators include, management, infrastructure, networks and partnerships, mentoring, skills development, and funding.⁵²

A key component is to determine the number of incubators/accelerators from a national, provincial, and regional focus to determine their role and impact from a micro-level. Based on available data on the performance of incubators, Mweli⁵³ finds that the current incubation support in South Africa is not playing a significant role in improving the performance of small businesses.

⁴⁸ DTI. (2014). *SA Business Incubator Establishment Handbook*. Pretoria: DTI:

⁴⁹ Ibid.

⁵⁰ Ibid

⁵¹ Masutha, M and Rogerson, C, M. (2014). Business Incubation for Small Enterprise Development: South African Pathways. *Urban Forum* 26, 223–241

⁵² Kot, S., Meyer, N and Meyer, D. (2016). Best Practice Principles for Business Incubators: A Comparison between South Africa and the Netherlands. *Journal of Advanced Research in Law and Economics*, 7(5(19)):1110 – 1117.

⁵³ Mweli, S. (2024).



Formal Institutions

The rules of the game in society - it is the quality of government and regulations that support businesses. Formal Institutions are structured and are public-purpose institutions that establish and shape public economic policy and the regulatory environment in which businesses, society and organisations interact, and which influences the ease at which businesses can start and grow. Measures such as the level of corruption, good governance, and time to register a business all play a part in understanding how well formal institutions support entrepreneurship.

The recent literature on the effectiveness of governments is based on the institutional theory, which views institutions as being the core to shaping public policy and economic development outcomes. Accordingly, “mandated rules, procedures, and regulations are necessary for the business domain to facilitate activities of the firm”⁵⁴ while also reducing uncertainties that hamper the emergence of new ventures. While the formalisation of institutions is critical, it often produces red tape through formal regulations that govern how businesses and organisations interact, as explained by the red-tape theory. Essentially, crafting government rules and regulations to create incentives for businesses is at the core of improving business prospects.

Table 8: Indicators for Formal Institutions

Indicators	Current state nationally
Corruption Ranking, Unqualified Audits Good Governance Perception	Corruption Ranking 81/180
Level of Regulatory burdens	Ease of doing business 84/190
Regulatory quality	48.6%
Human capital in the public sector	3.6 – 42.7%
Policy vision and stability	3.6 – 42.7%
Rule of law	52.6
Political stability	0.7/2.5 - 35.9

The first measure of formal institutions in our context is the quality of government. In the South African landscape, the quality of government can be measured by the ability of the government to deliver services. In this landscape, three provinces such as Gauteng, the Western Cape and KwaZulu-Natal, provide better services. In contrast, provinces such as the Eastern Cape, North-West and Free State have poor governments as reflected in higher levels of unemployment, poverty, and inequality. This is depicted in the percentage of people moving from provinces such as Limpopo, Eastern Cape and Free State searching for improved services in receiving provinces such as Gauteng, the Western Cape and KwaZulu-Natal. For example, Johannesburg receives an estimated 15 000 people every month in search of better socio-economic opportunities.⁵⁵ Lastly, a report by the Presidency revealed that 80% of municipalities could not perform their 12 critical functions, and 50% of the municipalities failed to perform even half of their functions.⁵⁶

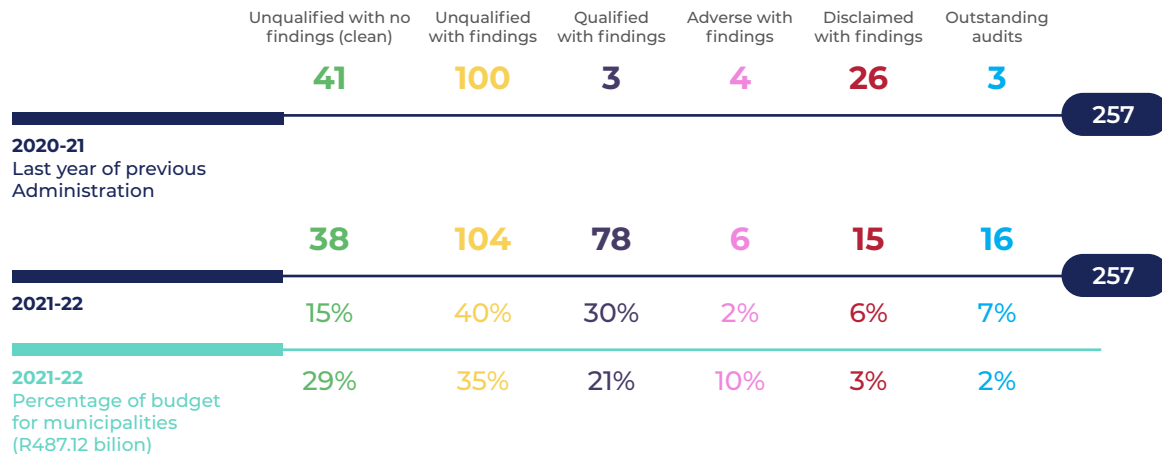
⁵⁴ Kaufmann, W., Hooghiemstra, R and Feeney, M, K. (2018). Formal institutions, informal institutions, and red tape: A comparative study. *Public Administration*. 96:386–403.

⁵⁵ City of Johannesburg. (2022). *Integrated Development Plan 2021/2022*. Johannesburg: COJ.

⁵⁶ The Presidency. (2015). *Twenty Year Review: Background Paper on Local Government*. Pretoria: The Presidency.

Table 8 shows that South Africa is ranked 81 out of 181 countries in relation to corruption⁵⁷. The latest Auditor General's report on the financial performance of municipalities revealed that only 38 out of 257 of the country's municipalities achieved clean audits, further highlighting the erosion of accountability measures due to poor accountability and weak leadership.⁵⁸ Figure 1 shows the outcomes of municipal audits.

Figure 1: Audit Outcomes – Municipalities



Source: AG (2023)

An important observation is that fewer municipalities are getting clean audits. It was also revealed that municipalities accumulated R4.74 billion in fruitless and wasteful expenditure and R25.47 billion in unauthorised expenditure. Lastly, the AG Report also found that municipalities spent R1.6 billion on consultants, which is criticised for being ineffective.⁵⁹ The utilisation of consultants suggests that most municipalities cannot fulfil some of their functions.

South Africa was ranked 84 out of 190 countries on the ease of doing business index. This means that South Africa is average in the rankings. In relation to the regulatory environment, South Africa scored 48.6 out of 100, which suggests that it is just below the neutral point of 50. The WEF report also scored South Africa 3.6 out of 7 for human capital in the public space. Such an average score is expected considering that South Africa's public sector has not been performing or meeting the service delivery needs of the citizens and businesses.

On other core factors important for the entrepreneurial ecosystem, South Africa scored 3.6 out of 7 for policy vision and stability. This vision comes at the backfoot of many years of no confidence on the country's ability to deliver sound policies at the national assembly. In terms of the rule of law, South Africa scored 52 out of 100, which speaks to the core governance and accountability challenges facing the country. On political stability, South Africa scored 0.7 out of the best of 2.5.

To curb the prevailing challenges experienced by enterprises, the government implemented fundamental strategic changes that involved institutions in the small business development space and those promoting public-private partnerships. The Global Entrepreneurship Monitor South Africa noted that the government discovered a variety of institutions and agencies that use different funding models to fund and support businesses.⁶⁰ Some of the institutions are SEDA which is supported by grant funding for the purchase of technology and marketing of businesses. Another agency is the Small Enterprise Finance Agency (SEFA), which collaborates with Khula Enterprise Limited and South African Micro-Finance Apex Fund (SAMAF).

⁵⁷ Transparency International. (2024).

⁵⁸ Auditor General, 2023

⁵⁹ Ibid

⁶⁰ Global Entrepreneurship Monitor South Africa (2020)



Demand

The number of customers, whether local or international, that exist to buy the entrepreneurs' products and services (supply) and which will sustain the business through revenue growth. Also known as access to markets. Entrepreneurs fail when they introduce products that are not in demand or where the population that it is intended for does not have the financial power to buy. Increased formality often allows for more opportunities to access customers for example through being able to access supply chains of bigger, more formalised businesses. Small business's ability to employ others can be a proxy for measuring how well they are able to access demand and grow their revenue and thus employ others. Measures such as disposable income per capita, the current turnover per sector in a region, the potential market size as measured by the total Gross Domestic Product (GDP) and in particular how much small businesses contribute to the GDP can help us measure demand. This will tell us the potential and sufficiency of the customer base to meet the supply as well as the level of market opportunity in a region for small businesses.

Successful entrepreneurs respond to a demand in the market for a particular product and/or create demand for their products. Purchasing "power and potential demand for goods and services are important for entrepreneurs since it will only be interesting to market new products if the population has the financial means to buy them".⁶¹ Entrepreneurs fail when they introduce products that are not in demand, especially where the population does not have the financial power to buy. This emphasises the need for potential markets when products are being introduced to diminish the risk of failure. Demand as an ecosystem condition is measured through disposable per capita income, the potential market population size and the potential market size as measured by the total Gross Regional Product (GRP).⁶² Table 11 shows the indicators for demand.

Table 11: Indicators for Demand

Indicators	Current state nationally
National Corruption Index Ranking	<u>Corruption Ranking 81/180</u>
Level of Regulatory burdens	Ease of doing business <u>84/190</u>
Regulatory quality	<u>48.6%</u>
Human capital in the public sector	<u>3.6 – 42.7%</u>
Policy vision and stability	<u>3.6 – 42.7%</u>
Rule of law	<u>52.6</u>
Political stability	<u>0.7/2.5 - 35.9</u>

SMMs currently contribute about 40% of South Africa's GDP, and only 37% of SMMs in South Africa are considered formal. The facts about provincial economies show the state and quality of entrepreneurship in the various provinces as determined under economic activities and contribution to GDP. By 2019, Gauteng with 34%, Western Cape with 14% and KwaZulu-Natal with 16% in total accounted for 64% of the country's GDP.⁶³ These disparities produce uneven development and contribute to the country's rising (spatial) inequalities. Other provinces contribute less than 10% to the GDP, respectively, with Northern Cape at 2% and Free State at 5% contributing the least. These contributions can also be studied from a regional perspective, with cities such as Cape Town with

⁶¹ Leendertse, Schrijvers, M & Stam (2022)

⁶² Ibid.

⁶³ Stats SA. (2022). *Facts about provincial economies*. Available at: <https://www.statssa.gov.za/?p=12056>

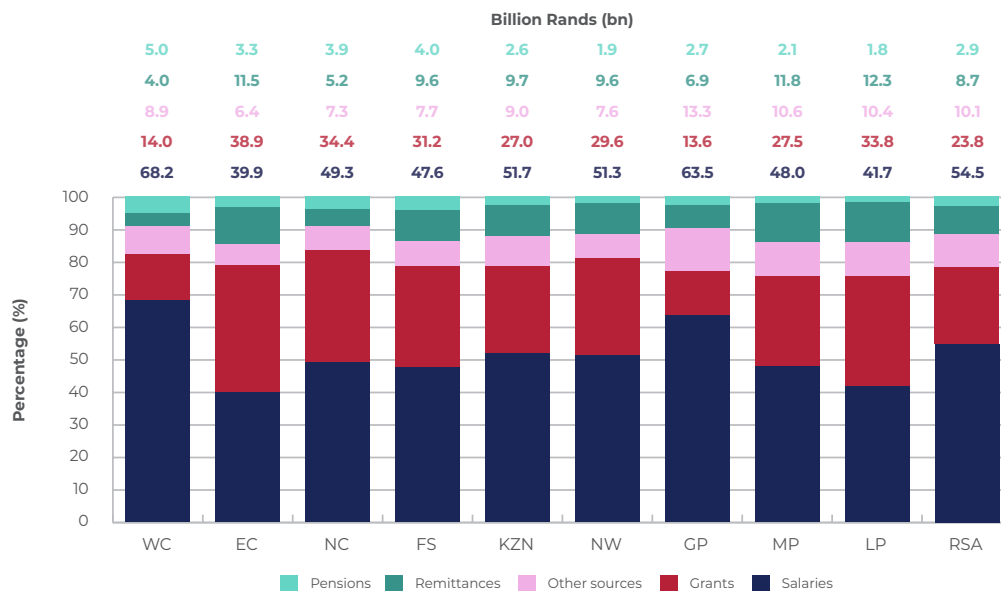
9.5%, Johannesburg with 16%, Pretoria with 9.4% and Durban with 9.4%.⁶⁴ However, from a national overview, the country's institutions have been blamed for causing sluggish economic growth.

In the South African context, the GEM report notes that market demand and ease of market entry are principal to the growth of enterprises. Without demand planning, entrepreneurs fall into the trap of entering oversaturated sectors because of the lack of demand forecast and resources to undertake research. Some of the emerging entrepreneurial opportunities are within the growing e-commerce, technology hubs with strong venture capital funding, new industries in fields such as renewable energy, digital media, and biotechnology.⁶⁵ These emerging opportunities offer a significant scope of new demands for South Africans, with renewable energy being a prime example because of the ongoing power cuts.

A key measure of demand is the buying power measured through disposable income per capita. South Africa's per capita income was at its peak of \$8 320 in 2012 and fell to its lowest of \$5 950 in 2017, and then increased to \$6 530 in 2021.⁶⁶ This trajectory aligns with the country's ailing economy. Further to this, South Africa's household saving ratio (the income saved by households during a certain period) stood at 0.50 in the third quarter of 2022.⁶⁷ This implies that South Africans have less purchasing power, which in turn affects the demand for goods and services and other products potentially offered by new entrants in the market. Essentially, the low rate of savings and the increasing cost of living will ultimately impact the kind of entrepreneurship demand. This vicious cycle also creates a virtuous cycle through the creation of new value and employment generation for industries capable of resuscitating the economy. Even data from WEF shows that only 54 out of 100 adult households have financial security.

Demand cannot be fully understood without delving into the main sources of income that affect purchasing power. Stats SA's General Household Survey for 2021 in Figure 2 shows sources of income by quintile.

Figure 2: Main sources of income by income quintile, 2023



Source: General Household Survey, 2021

⁶⁴ City of Cape Town. (2022). *Economic Indicators for Cape Town*. Cape Town: COC.

⁶⁵ Ketana, A. (2022). The State of Entrepreneurship in South Africa: A Comprehensive Overview. Available at: <https://nasonga.com/entrepreneurship-in-south-africa/>

⁶⁶ World Bank. (2022). GNI per capita, Atlas method (current US\$) - South Africa. Available at: <https://data.worldbank.org/indicator/NY.GNP.PCAP.CD?end=2021&locations=ZA&start=1962&view=chart>

⁶⁷ Trading Economics. (2022). South Africa Household Saving Ratio. Available at: <https://tradingeconomics.com/south-africa/personal-savings>

As per Figure 2, salaries and wages were more common as the core sources of income for quintile 5 at 77.3%, with grants being the main source of income for quintile 1 with 62.3%. The graph also reveals that salaries were the most common sources of income for higher quintiles, thereby painting the inequality picture. A multidimensional and intersectional approach shows that households in lower quintiles that depend on grants are trapped in a vicious cycle as they cannot escape poverty because they also get poor education because of the inability to afford higher quintile schools. This results in a system where learners have limited opportunities to break out of these quintiles because of poor educational outcomes that inhibit them from accessing good jobs.

The last measures are the potential market size in population and the potential market size as measured by the total Gross Regional Product (GRP). The former measure (market size in population) is emerging as a challenge because 57% of the South African population lives below the poverty line (R 1,183), with a 34% unemployment rate that is rising to 43% if we use the expanded rate. These figures have a direct negative impact on demand as an entrepreneurship condition because it implies lesser demand for goods and services. In relation to the potential market size as a total of GRP, reliable extrapolated data is needed. As things stand, most of the population is in majority of local municipalities. For example, in the iLembe region, over 47% of the population has no income, while over 30% earn below the minimum wage (R 1,183) and a lesser share earns more than the minimum wage.⁶⁸ Contrastingly, cities tend to do better, denoting spatial inequalities that impact the potential market population size and market size as a share of GPR. Some cities can access markets beyond their geographical boundaries and attract significant investment, particularly cities that act as brokers in the global economy, such as Dubai.

⁶⁸ iLembe District (2022). *iLembe District Integrated Development Plan 2021/2022*. KwaDukuza: iLembe District Municipality.







New Knowledge

New Knowledge denotes the level of investment into and commercialisation of Research and Development (R&D). An increase in R&D for small and bigger businesses can lead to more innovation and more opportunity to create value to others as these innovations increasingly become the catalysts of new and resilient business ventures with a competitive advantage. Amid the 4th industrial revolution, technological innovation in the production of goods and services has become increasingly important in driving modern economies. To achieve an edge in a globally competitive economy, nations can increase their investment in R&D as a strategy to create new knowledge and innovations that support new business creation. Measures such as the % of GDP that is invested in R&D, number of patents and level of commercialisation of these patents can tell us how well the research is creating value for others and supporting the start of new businesses.

Modern economies are increasingly driven by technological innovation in the production of goods and services. To achieve an edge in a globally competitive economy, most nations increase their investment in research and development as a strategy to create new knowledge and innovations. Research and development expenditure as a percentage of the gross regional product is used as a measure of investment in new knowledge in Europe.⁶⁹ Table 9 shows the indicators for new knowledge or research and development.

Indicators	Current state nationally
Innovation index ranking	59/132 economies in global innovation index
Share of GDP/budget spent on research and development	0.6 (12.3%/100) in WEF Spends less than 1% of GDP – compared to Japan's 3-5%
Government vs business investment into R&D	Government funded 56.3% of R&D. Business funded 26.9% of R&D.
Number of patents	1399 patents in 2022 (27% increase from 2021)
Scientific publications	614 (h index) – 47.2%
Knowledge intensive employment	8.4 – 56.5%
Trademark applications	0.5 per 100 pop; 3.3%

A more detailed definition of knowledge is that it focuses on “the quality, availability, and access to knowledge and technology, including knowledge spillovers from higher education institutions”.⁷⁰ These spillovers can only be attained through large investments in higher education and research structures deemed to be of national or regional importance. As per Table 9, it is evident that South Africa is ranked at number 59 out of 132 economies in the global innovation index. This is an important ranking because South Africa is the most innovative economy in sub-Saharan Africa.

Knowledge generation in South Africa through investment in research and development is primarily measured through investment received by research-intensive organisations. The expenditure on research and development is “an aggregated measure of in-house R&D expenditure performed domestically in five sectors, namely government, science councils, higher education institutions, the

⁶⁹ Leendertse, Schrijvers, M & Stam (2022).

⁷⁰ Harrington, M and Bowmaker-Falconer, A. (2022). *Entrepreneurial Ecosystems Report 2021/2022. Cape Town and eThekweni Metropolitan Regions*. Global Entrepreneurship Monitor South Africa. Stellenbosch University: Stellenbosch, South Africa.

business sector, and the not-for-profit sector”⁷¹. South Africa's gross expenditure on research and development as a share of GDP stood at a low of 0.83% in 2017/18, compared to 0.82% recorded in 2016/17.⁷² The HSRC observed that South Africa's spending on research and development dropped to 0.62 in 2020.⁷³

In addition to this increase, the country also experienced a 5.3% growth in the net headcount of research and development personnel due to the increased demand of researchers. This increased the ratio of full-time equivalent researchers per 1000 employed to 1.8 from 1.7 and shows the growing importance of research and development in the country⁷⁴. In comparison, India, a peer to South Africa in the BRICS grouping, spent 0.8% of its GDP in 2021 on research and development.⁷⁵

The government contributes the highest share of funding for research and development at 46.7% of all investments, followed by the business sector with 41.5%. Foreign funding accounts for 10.2% and local sources making up 1.6%.⁷⁶ The University of Johannesburg is currently leading in the space of technology entrepreneurship through mass investment made in research and development by the University's leadership. While universities focus on higher education training and research, the CSIR is specifically relevant because it focuses on “multi-disciplinary research and technological innovation, to foster, in the national interest and in fields which in its opinion should receive preference, industrial and scientific development...(CSIR) develops, localises and diffuses technologies to accelerate socioeconomic prosperity in South Africa. The organisation's work contributes to industrial development and supports a capable state”.⁷⁷

An important component is how this knowledge is diffused to regional levels, and how regional governments priorities their research and development. Most local governments in South Africa (outside of metropolitan municipalities), have no research and development capacity, therefore relying on consultants. In some municipalities, research and development remain an unfunded mandate, particularly related to entrepreneurship, small businesses, and local economic development. This creates difficulties in mapping out knowledge as a key pillar for entrepreneurial ecosystem conditions. There is also limited knowledge on how this research is diffused to the entrepreneurship space to improve decision-making.

The growth in research and development expenditure was primarily driven by a significant surge of R3.48 billion in business R&D expenditure, which now accounts for 35.4% of the total R&D spend, compared to 30% in 2020-21. This uptick underscores a growing recognition, particularly within the private sector, of the importance of R&D investment for long-term competitiveness and economic growth⁷⁸.

In the fiscal year 2021-22, South Africa's investment in R&D amounted to R38.2 billion, reflecting a substantial real-terms increase of 6.9% compared to the previous year⁷⁹. This recovery marks a positive trend, partially offsetting the setbacks experienced during the initial year of the Covid-19 pandemic

⁷¹ South African Government. (2019). *Science and Innovation on South Africa's expenditure on research and development*. Available at: <https://www.gov.za/speeches/science-and-innovation-south-africas-expenditure-research-and-development-25-oct-2019-0000>

⁷² Ibid.

⁷³ HSRC. (2021). SA science shines, despite sharp fall in R&D expenditure. Available at: <https://hsrc.ac.za/news/innovation/sa-science-shines-despite-sharp-fall-in-rd-expenditure/>

⁷⁴ South African Government (2019).

⁷⁵ Statista. (2021). Gross expenditure on R&D as a share of GDP India 2020-2022. Available at: <https://www.statista.com/statistics/1350227/india-gross-expenditure-on-randd-as-a-share-of-gdp/#:~:text=In%202021%2C%20India%27s%20gross%20expenditure%20on%20research%20and,0.65%20percent%20of%20the%20total%20GDP%20in%202022.>

⁷⁶ Ibid.

⁷⁷ CSIR. (2023). *The CSIR in Brief*. Available at: <https://www.csir.co.za/csir-brief>

⁷⁸ Linda Nordling, Business boost halts South Africa's R&D spending slide. Available at: <https://www.researchprofessionalnews.com/rr-news-africa-south-2024-2-business-boost-halts-south-africa-s-r-d-spending-slide/#:~:text=Overall%2C%20South%20Africa%20spent%20R38,dropped%20by%207.6%20per%20cent.>

⁷⁹ Upturn in SA Research and Development expenditure after COVID-19 pandemic – HSRC Survey. Available at: <https://hsrc.ac.za/press-releases/cestii/upturn-in-sa-research-and-development-expenditure-after-covid-19-pandemic-hsrc-survey/>

in 2020-21, when the real-terms R&D expenditure witnessed a significant decline of 7.6%⁸⁰. Notably, this reduction in 2020-21 represented the most substantial drop in R&D spending observed by the Human Sciences Research Council in the past two decades.

R&D spending by province

	EC	FS	GP	KZN	LP	MP	NC	NW	WC
R&D in Rands	5,3%	5,0%	39,0%	10%	3,1%	2,7%	3,2%	4,4%	27,3%
R&D share	R2 153 716	2 055 196	R15 963 272	R4 090 416	R1 257 112	R1 108 706	R1 325 497	R1 811 975	R11 151 975

President Cyril Ramaphosa announced in December 2023 that the government's objective is to allocate 1.5% of GDP towards research and development (R&D)⁸¹. However, the latest data indicates that South Africa's R&D expenditure falls short of this target. Additionally, it falls behind the commitment made by African governments to allocate 1% of GDP towards research aimed at advancing Africa's development⁸².

South Africa stands out as the leading producer of patents and publications within the African continent, distinguishing it from other developing countries in the region. Impressively, South Africa's output of publications represents about one-third of all publications generated across Africa⁸³. According to the World Intellectual Property Organisation, South Africa had 1399 patents in 2022 (27% increase from 2021)⁸⁴.

⁸⁰ South African National Survey Of Research And Experimental Development. Statistical Report: 2021/22.

⁸¹ President Cyril Ramaphosa: Inaugural Presidential Science, Technology and Innovation Plenary. Available at: <https://www.gov.za/news/speeches/president-cyril-ramaphosa-inaugural-presidential-science-technology-and-innovation>

⁸² United Nations. Economic Commission for Africa (2018). Towards Achieving the African Union's recommendation of expenditure of 1% of GDP on research and development.

⁸³ Xolani Makhoba, Anastassios Pouris: A patentometric assessment of selected R&D priority areas in South Africa, a comparison with other BRICS countries, World Patent Information. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0172219017300716#:~:text=South%20Africa%20is%20the%20biggest,the%20African%20continent%20%5B1%5D>.

⁸⁴ WIPO. (2024).







Networks

The connectedness of businesses in an ecosystem that enables the creation of new value chains through collaboration to maximise on existing and new opportunities. It is the strength of partnership and collaboration amongst different organisations and ventures in the entrepreneurship ecosystem. When organisations know about and trust each other, they can more easily work together and leverage off strengths, thereby creating value. Research on networks in South Africa is scarce however it is emerging, including research looking at informal structures in the informal economy. Measures such as business collaboration and existence of chambers of commerce are measures of the strength of networks in the entrepreneurship ecosystem.

Within the entrepreneurship ecosystem, networks are considered to be the connectedness of businesses in the creation of new value chains through collaboration to exploit existing and new opportunities.⁸⁵ Networks are also considered the strength of networking and collaboration amongst different organisations in the entrepreneurial ecosystem. It “evaluates the extent to which networking is developed and whether it fosters the establishment of business contacts and interactions among ecosystem actors (new entrepreneurs, established businesses, commerce chambers, incubators, universities, etc.)”.⁸⁶ Essentially, networks can be defined as the sum of relationships between entrepreneurs grouped or organised in a particular ecosystem to improve business prospects. Table 10 shows the indicators for networks.

Table 10: Indicators for Networks

Indicators	Current state nationally
Business Collaboration	Only 20.8% of innovation-active businesses reported collaboration activities as part of the development of their innovations.
Existence of Chambers of Commerce	National and provincial chambers of commerce across the country
Central networking body	NEDLAC

Networking in the global economy is made easy by technological advances and telecommunication innovation. These advances remove barriers to the networking of entrepreneurs in the entrepreneurial ecosystem. Networked structure businesses are based on “relationships established on a formal or contractual agreement or informal basis, through strategically chosen partners that contribute in their own way to business’ success in strategic alliances”.⁸⁷ These networks depend on trust among ecosystem players as they involve contracts and mutually agreed interests. Several collaborating agents exist to promote networking within an entrepreneurship ecosystem. Chambers of Commerce represent an example of networking platforms that exist within an entrepreneurial ecosystem.

A South African study found that sharing information and data, business culture, trust and commitment to value creation were critical factors when choosing networked structures. With South Africa facing high youth unemployment, several youth entrepreneurship networks have emerged to create support for young entrepreneurs. The list of support networks include, but not limited to: Harambee Youth Employment Accelerator (Youth Job Seekers), GirlCode (Female Coders), Digify Africa (Digital Marketing Mavericks), SAB Kickstart (Youth Entrepreneurship Initiative), #Back2Kasi (Kasi Entrepreneurs), Red Bull Amaphiko (Social Changers), Blackboard Africa (Youth Social Activism Organisation), eKasi Entrepreneurs (Kasi Hustlers), She Leads Africa (Women Entrepreneurship Support), Young Entrepreneurs Foundation (School-age Entrepreneurs), Junior Achievement South Africa (JASA) (Moguls in the Making), Youth Economic Alliance (YEA) (Youth Mavericks) and

⁸⁵ Leendertse, Schrijvers, M & Stam (2022)

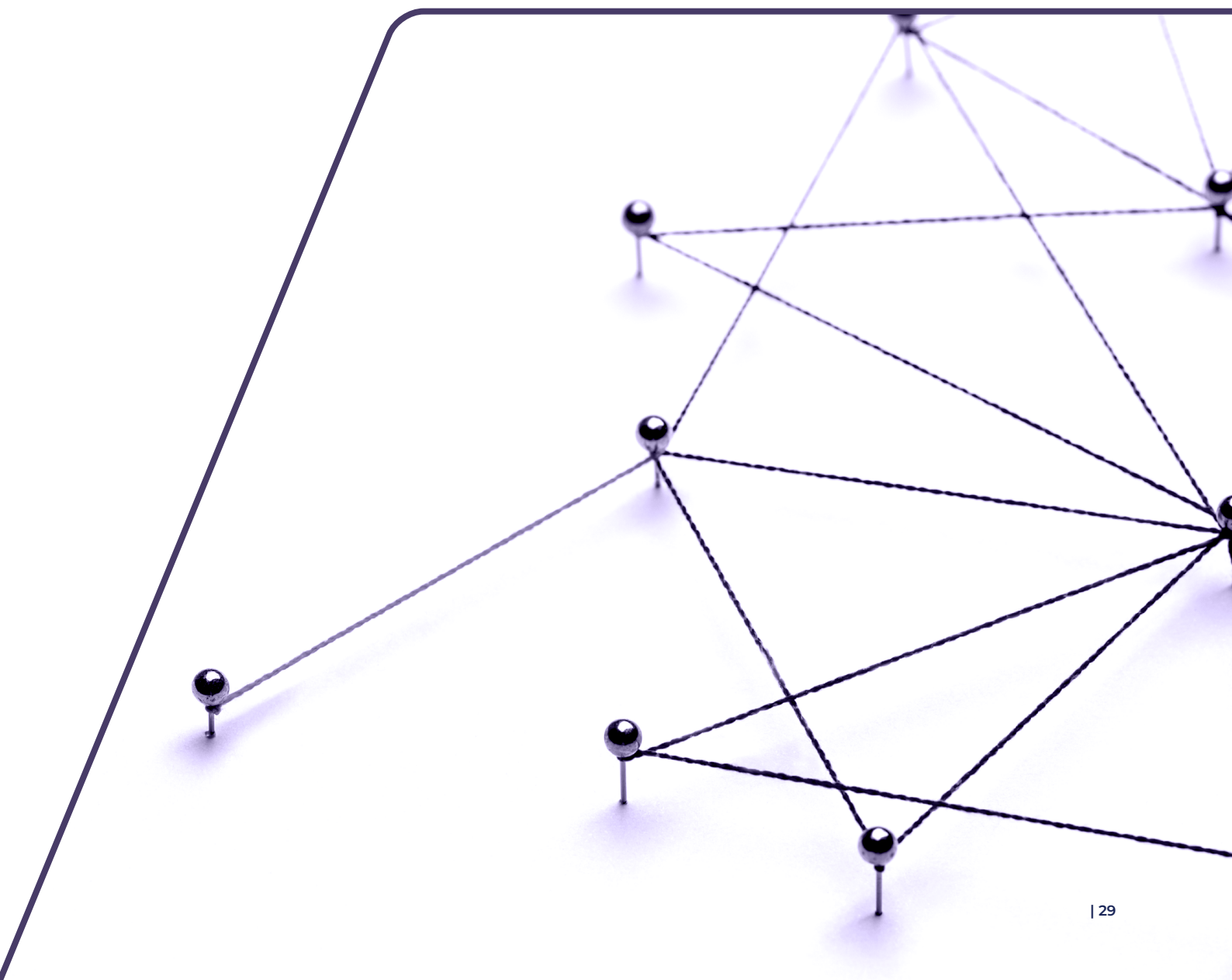
⁸⁶ Harrington and Bowmaker-Falconer (2022).

⁸⁷ Chell, E. (2001). *Entrepreneurship: Globalisation, Innovation and Development*. Padstow: TJ International.

Future Females (Woman Entrepreneurship Support).⁸⁸ These support network structures provide different and diverse networking platforms for the youth (and others) to effectively take up the entrepreneurship space. For example, “Future Females” supports women entrepreneurs as they are the least funded and supported in the entrepreneurship space.

Strong partnerships and networks within the ecosystem are needed to promote access to markets for entrepreneurs. Municipalities have responded to entrepreneurship challenges by initiating a database of all small businesses registered in a particular locality. However, a fundamental problem is that the databases are not public and therefore do not create a conducive environment for small businesses to interact. This means that markets may not be as accessible and the creation of economies of scale remains impossible without coherent network structures. While indicators for healthy networks include the overall percentage of small businesses engaged in collaborations against existing businesses, collaboration spaces are not evenly spread throughout the country because of spatial resource inequities.

⁸⁸ SMESouth Africa. (2020). *13 Youth Initiatives and Support Networks to Join This Youth Month*. Available at: <https://smesouthafrica.co.za/13-youth-initiatives-and-support-networks/>



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