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TOWNSHIP TECH SECTOR INTELLIGENCE REPORT

JULY 2022

CiTi In Partnership With The Injini Think Tank

Index

Executive Summary

Nick Dall states in an online article published by The Guardian that **"Technology is key to high growth in innovation"**. The true value in this statement is seen in a story he shares about Ntsako Mgiba and Ntandoyenkosi Shezi, founders of Jonga, a township community alarm system launched in 2020. Their business idea was birthed post an unfortunate robbery incident at his aunt's home in eMalaheni, Mpumalanga. The founders shared that larger security companies do not extend themselves to townships, after they have tried to enter the market but failed; this is where an opportunity was identified as there were no devices on the market for places where many homes do not have addresses, electricity is unavailable, and Wi-Fi is poor or often non-existent.

The story of Jonga is just one example of what technology can do to solve social problems and have a greater social impact on the communities. Through partnerships with local community organisations, they are able to implement community rollouts. Their product has been procured by global manufacturer, The Coca-Cola Company, as well as NGOs for sponsoring units in communities.

According to Mark Forrester, "Community is the social fabric of the townships, where smart low-cost, Africa centric tech can empower these communities."

Following the Township Technology Sector Intelligence Report of **2021**, The Cape Innovation and Technology Initiative **(CiTi)** and the **Khayelitsha Bandwidth Barn** launched their second Township Technology Sector Intelligence Report with research partner **Injini Think Tank**, the research and advocacy division at Injini EdTech Acceleration. The 2022 Township Tech Sector Intelligence Report is sponsored by the City of Cape Town and ABSA.

The objective of this research is to contextualise township technology businesses through non-empirical and empirical studies to gain an understanding of the "township tech" ecosystem. The term "township tech" was initially coined by the Western Cape Department of Economic Development and Tourism and the Cape Innovation and Technology Initiative as part of the DashTech initiative in 2020/21 and refers to technology-centric businesses operating from townships across South Africa. In this report, we consider "tech businesses" as start-up entrepreneurial ventures that bring technological-based products to market, and "tech-enabled start-up businesses" suggest that the use of technology is integral in what their businesses provide to other respective markets.

The report provides key insights into the supporting regulatory environment, social dynamics that benefit and hinder the success of township tech entrepreneurs, as well as the market drivers and current financing and investments present in the space.

Introduction

A township economy can be defined as an economic system that is operational within a dense urban and/or informal settlement.[1] At the core of a township economy is the people creating, manufacturing, buying and selling within and beyond the township.[2] Townships in South Africa have always been a hub of entrepreneurial activity for locals. Despite its lack of visibility to the formal business sector, the township economy contributes up to 17% of the country's GDP, which is estimated to rise to 30% by 2030.[3]

Township-based small businesses have the potential to contribute positively to the South African economy. In the Gauteng province, 150 000 jobs in a single year were created by small businesses with the assistance of government support.[4] Although the township business sector does not explicitly contribute to the economy through taxes, it is largely responsible for employment within these communities. Statistics have shown that approximately 2.5 million people are employed in townships' informal economies.[5] These businesses operate within an array of industries that provide goods and services that target numerous societal needs within their communities. These range from fast food outlets, spaza shops, shebeens, fruit and vegetable markets, backroom rentals, taxis, panel beaters, childcare facilities and hair salons, to mention a few.[6] The playing field for small businesses is becoming more level through the increasing accessibility of technological services, which has enabled small businesses to enter new markets, reduce business costs and increase efficiency.

Despite the important role township-based businesses play, entrepreneurs are faced with numerous challenges every day. The lack of ICT infrastructure as well as poor service delivery have been listed as some of the main constraints faced by entrepreneurs.[7] The lack of basic services, such as reliable water and electricity supply, impedes production activity; poor drainage systems and waste management, creates health hazards (especially for food outlets); and crime and safety issues can lead to poor customer experiences. In addition, businesses are vulnerable to police harassment. Unavailability of other services, such as telecommunications and internet connectivity, limits businesses to solely face-to-face and cash-based transactions.

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[1] Drakenstein Municipality. (2021). Draft Township Economy Strategy. Drakenstein Municipality, Paarl.

[2] Philip, K. (2018). Township economic development: A framework for the development of metro strategies. Department of National Treasury, Pretoria.

[3] Mathibe, M., Muchenje, T. & Masonta, M. (2022). *Smart Townships as a Starting Point for South Africa's 4IR Strategy*. [online]. Available from: https://www.acumenmagazine.co.za/articles/smart-townships-as-a-starting-point-for-south-africa-s-4ir-strategy-11972.html [accessed 23 May 2022].

[4] Bvuma, S and Marnewick, C. (2020). Sustainable Livelihoods of Township Small, Medium and Micro Enterprises towards Growth and Development. [online]. Available from: https://www.mdpi.com/2071-1050/12/8/3149/htm [accessed 17 June 2022].

[5] Van Wyk, C., & Van Gaalen, P. (2021). *Thriving township economy vital to SA's economic revival.* [online]. Available from: https://www.investec.com/en_za/focus/economy/thriving-township-economy-vital-to-sas-economic-revival.html#:~:text=An%20estimated%2017%25%20of%20South,families%20who%20lack%20formal%20employment [accessed 3 June 2022].

[6] Van Wyk, C., & Van Gaalen, P. (2021). *Thriving township economy vital to SA's economic revival.* [online]. Available from: https://www.investec.com/en_za/focus/economy/thriving-township-economy-vital-to-sas-economic-revival.html#:~:text=An%20estimated%2017%25%20of%20South,families%20who%20lack%20formal%20employment [accessed 3 June 2022].

[7] Philip, K. (2018). *Township economic development: A framework for the development of metro strategies.* Department of National Treasury, Pretoria.

These do not only hinder business operations, but the general development of the township economy.[8]

Furthermore, many entrepreneurs operating in the township economy lack formal business knowledge and skills. This lack of business acumen can lead to financial struggles. Most of these businesses are unregistered and are sometimes unable to apply for government subsidies, such as the COVID-19 relief fund, to assist them.[9] This is another one of the main challenges for the development of the township economy.

As the Fourth Industrial Revolution (4IR) materialises for the rest of the world, accelerated by the COVID-19 pandemic, there has been a rise in the importance of a coherent and inclusive digital economy. Society, at large, has become increasingly dependent on digital technology, more specifically internet connectivity, to conduct daily activities.[10] Connectivity has been identified as a large enabler of economic growth in most countries, and the lack of connectivity has produced another barrier for township entrepreneurs. In a survey conducted by the Township Entrepreneurs Alliance (TEA), digital exclusion fared the highest on the current list of challenges faced by township entrepreneurs, followed closely by a lack of information, resources and access to digital marketing.[11] The high cost of data also creates a barrier in access and 78% of respondent entrepreneurs rated the data costs as a notable barrier.

Technopreneurship

The interface between technology and entrepreneurship, or "technopreneurship", is commonly viewed as a way to generate high-growth enterprises. Technopreneurship involves the identification of high-potential, technology-based solutions and business opportunities, the gathering of resources (i.e., capital and talent), as well as the management of rapid growth and significant risk using principled decision-making skills.[12] The typical technopreneur can be identified as a tech-savvy, creative and innovative individual with a knack for taking calculated risks.

Traditionally, technopreneurs have relied on the nature of their technology products or services to have a competitive advantage. However, it has been shown that marketing engagement is still as important for technopreneurs as it is with other entrepreneurs. There are several important factors involved in the success of technopreneurship. These are included in the diagram below:[13]

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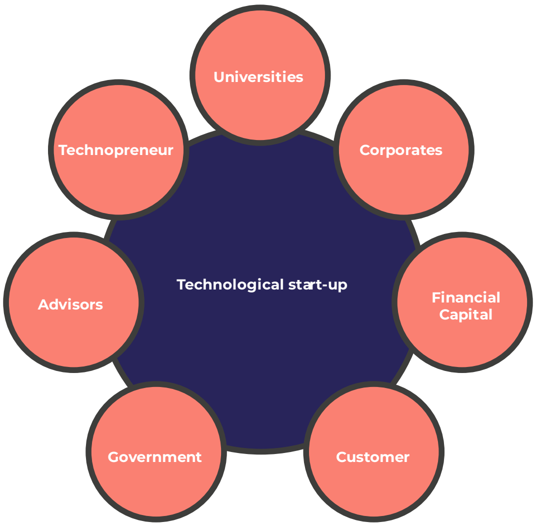
[8] Philip, K. (2018). *Township economic development: A framework for the development of metro strategies.* Department of National Treasury, Pretoria.
[9] Van Wyk, C., & Van Gaalen, P. (2021). *Thriving township economy vital to SA's economic revival.* [online]. Available from: https://www.investec.com/en_za/focus/economy/thriving-township-economy-vital-to-sas-economic-revival.html#:~:text=An%20estimated%2017%25%20of%20South,families%20who%20lack%20formal%20employment [accessed 3 June 2022].
[10] Western Cape CoLab. (2019). *Enabling Township Entrepreneurs for Opportunities in the Digital Economy.* https://www.wcapecolab.org/single-post/2019/07/29/enabling-township-entrepreneurs-for-opportunities-in-the-digital-economy. [Accessed: 03/06/2022].
[11] VMLY&R. (2021). *What's Going On with the Township Economy Since Covid Started?* [online]. Available from: https://www.vmlyr.com/en-za/south-africa/news/what%E2%80%99s-going-township-economy-covid-started. [accessed 3 June 2022].
[12] Venter, R., Urban, B. (2015). *Entrepreneurship: theory in practice*. Oxford University Press, Southern Africa.
[13] Venter, R., Urban, B. (2015). *Entrepreneurship: theory in practice*. Oxford University Press, Southern Africa.



Source: Urban & Venter (2015)

The technopreneurship journey begins with a new idea that carries the potential to change the way society has been traditionally functioning through the use of technology.[14] The township economy is a great environment for this, as there is ample need for entrepreneurs to create sustainable, scalable, and systemic technology solutions to address local problems. Done successfully, this will create enterprises that are not only profitable, but also do social good within the community.

The on-going *Gauteng Township Economy Revitalisation* campaign supports this increasing participation and success of township-based entrepreneurs operating in the township economy.[15] Another important programme is the Black Science, Technology and Engineering Professionals' *RedBench Programme,* whose main aim is to provide support to technopreneurs as a way of addressing the small quantity of successful black-founded and led technology start-ups in South Africa.[16] The programme does this by providing help-desk information on funding, prototyping, market research and intellectual property. More on this government initiative can be found here.

Methodology

This market research report has a cross-sectional research design, also referred to as a social survey design, which includes structured interviews and content analysis.

The survey data was used explicitly for the compilation of this market research report and therefore ethics approval was not obtained. In light of the Protection of Personal Information (POPI) Act 4 of 2013, all participants were required to provide their consent before participating in the survey.

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[14] GIETU. (2021). *Technopreneurship: an emerging field of Entrepreneurship*. [online]. Available from: https://www.giet.edu/post/technopreneurship-an-emerging-field-of-entrepreneurship/#:~:text=Technopreneurship%20is%20the%20latest%20buzzword,used%20in%20the%20year%201987. [accessed 21 June 2022].

[15] The Innovation Hub. (2020). *Entrepreneurs As A Driver For Growth Of Township Economies*. [online]. Available from: https://www.theinnovationhub.com/press-room-media/thought-leadership-articles/innovation-articles/entrepreneurs-as-a-driver-for-growth-of-township-economies-nws665. [accessed 20 June 2022].

[16] Newton Fund. (2020). Technopreneurship in South Africa. *Newton Fund South Africa Newsletter Edition.* (6), pp. 3-23.

As part of primary data collection, a survey was sent to various channels to gain "ground-level" data. The population sample consists of Cape Innovation & Technology Initiative and Khayelitsha Bandwidth Barn's internal channels and extended ecosystem-networks. Respondent participation was incentivised through a randomised draw for two Takealot vouchers with the prize worth 500 ZAR. The final survey data was informed by 78 respondents.

BUSINESS PROFILING

ABCD CONCEPTS

ABOUT: In the heart of Khayelitsha is ABCD *Concepts,* a lifestyle, marketing and tourism start-up co-founded by Buntu Matole and Ayanda Cuba. Buntu and Ayanda started their social entrepreneurship journey with *Sporting Code* in 2015. *Sporting Code* is a youth-focused initiative that uses sports as a device to allow a positive space for the youth of Khayelitsha, particularly young girls. This includes educating and equipping them with social skills and fostering access to opportunities. The programme gained traction amongst the members of the community through word of mouth and posters. It was through this initiative that Buntu and Ayanda managed to secure a partnership with *Score Energy Drink*. In 2016, the duo saw a gap in the township tourism space which then propelled them to establish *ABCD Concepts*.

ABCD Concepts offers an exceptional cultural township experience, aimed at boosting township tourism, through hosting events and tours around Khayelitsha with the Khayelitsha Street picnic, Khayelitsha Wine Experience and the Khayelitsha Night Experience. Other offerings include physical activities such as cycling and running as well as shuttle services. The company has two permanent members of staff alongside occasional staff as their customer base ranges from approximately 50 - 120 people on a seasonal basis.

In conversation with ABCD Concepts, it was revealed that the start-up operates through donations from the locals in their community, as well as Cape Town Tourism, who are active supporters of the company. ABCD concepts also revealed a partnership with Doctors Without Borders, where they assisted the organisation with tourism needs for the assigned doctors, amid the COVID-19 pandemic, which they describe as a "level playing field opportunity" for them within the tourism industry. They have also noted a donation from the Hollywood Foundation that assisted with the enterprise's development.

The company has established a mutually beneficial relationship with industry giant, Airbnb. Since 2019, Airbnb has been commissioning ABCD Concepts for bootcamps where they consult, facilitate and refine the curriculum for the company. As the typical customers for ABCD Concepts are international tourists, Airbnb assists them with referrals and overall advertising.

In conversation with the founders, it was highlighted that their business could benefit from an upgrade in the area's technological infrastructure as the lack of infrastructure limits business operations. Furthermore, ABCD Concepts would like to include tech elements such as online check-ins and convenient payments through the website, to be able to monitor and improve marketing data. Buntu and Ayanda note that this will assist them with tracking which experiences sell most at specific times.

The founders see ABCD Concepts expanding beyond Khayelitsha within the next five to ten years. "We want to be able to offer an overall Cape Town experience instead of just a kasi [township] experience. We also offer tailored experiences so losing our niche customers isn't much of a worry."

The company still runs *Sporting Code* and has found a way to combine both elements to their offerings.
More on *ABCD Concepts* and donations can be found here.

MLK COMPUTER CONSULTING

MLK Computer Consulting
Hardware|Software|Services

About: Established in 2012 by Zolile Nonzaba, MLK Computer Consulting is an ICT solutions company based in the Khayelitsha Bandwidth Barn with offices in East London (Eastern Cape) and Durban (KwaZulu-Natal). MLK Computer Consulting currently employs eight staff members, three based in Durban and five in East London. Initially, MLK Computer Consulting operated on a business-to-consumer (B2C) business model, servicing personal devices, however, in the 10 years since its inception, MLK Computer Consulting has grown to provide system maintenance and ICT consultation to companies and NGOs.

Although the company provides services to customers across various sectors, MLK Computer Consulting and its founder consciously made the decision to offer its services to entrepreneurs and SMME owners within the township community which not only provides a more stable income but contributes to a multi-sectoral ICT presence in the community. MLK Computer Consulting is solely funded by business revenue and has never applied for nor received any external funding. MLK Computer Consulting is also involved in the procurement and resale of tech hardware at affordable prices. Zolile is responsible for all training of staff, and he has mentioned that finding individuals with the desired skills has brought about significant challenges.

While Zolile studied accounting, he had always had a passion for IT and computers and decided to upskill himself in both IT and business management in 2012 when he established the company. There is a great demand in the township tech/ICT space which MLK Computer Consulting has aimed to satisfy in part. The company's vision is to have a presence in all nine South African provinces.

Challenges to MLK Computer Consulting

<u>Advertising</u>

Zolile has expressed a specific disdain towards advertising. As the owner of a technology solutions company, he prefers for all his admin to be automated and streamlined to lighten his workload. On the topic Zolile said "When I have to manage Facebook and other platforms, I have to hire someone, and the traffic generated is not significant".

<u>Talent Acquisition</u>

MLK Computer Consulting focuses on practical skills, therefore employees are not required to hold tertiary qualifications. Attributed to the lack of tech-upliftment and technology opportunities in the township – or the lack of knowledge thereof – recruiting within the community is an arduous task. This has been a recurring issue in all the provinces in which MLK Computer Consulting operates. Zolile noted that, "One of the struggles of being a small business owner is if the company has to be represented and I am unavailable, I need somebody capable and understanding".

<u>Less Economically Developed Provinces</u>

The Northern Cape is particularly challenging for ICT solutions companies to enter the market as travelling between urban settings is significantly time-consuming. Furthermore, economic limitations in both Northern and Eastern Cape provinces have restricted MLK Computer Consulting's work. Zolile states, "In terms of transportation alone it is troublesome since a large amount of time is spent travelling".

More on *MLK Computer Consulting* can be found through this **<u>link</u>**.

SKYWALK INNOVATIONS

About: Skywalk Innovations was co-founded by Siyabonga Tiwana and Tyrone Adams in 2013 and officially entered the market in 2014. The company offers IT servicing and consulting to businesses of all sizes across a variety of industries that incorporate a digital component in their production. The business model comprises three divisions:

- Discovery: This division allows companies of all sizes to approach Skywalk and workshop and develop their technological ideas and/or products and how best to incorporate them into their business.
- Engineering: Creation and development of the identified product takes place in this division. The scope is set out by the client and may be workshopped with Skywalk Innovations to provide the minimum viable product (MVP).
- Growth: This division is for those businesses and corporations that have an existing MVP and are looking to further develop the product based on feedback and road-mapping.

Skywalk Innovations currently has 34 employees: 30 based between Cape Town and Johannesburg, 3 in Zimbabwe and 1 in Nigeria. The company has indeed achieved significant growth in the 8 years of operation and is currently providing its services to approximately 12 clients in 9 countries across 3 continents, namely Africa (SADC), North America and Europe. Initially, Skywalk Innovations provided its services and consulting to startups but realised providing services to medium and large corporations offered greater potential for company growth. The identified target audience is any and all companies that are involved in tech or tech-enabled business, that are looking to develop and/or automate business products and processes.

Siyabonga expressed that township and rural economies are active and remain largely untapped by larger technology and automation entities. Currently, Skywalk Innovations is developing a solution to penetrate the digital finance market in these communities to transform them into cashless societies. Many businesses and individuals utilise smartphones to conduct their businesses, therefore, the more immediate task would be to provide these communities with platforms to enhance their digital presence. Skywalk Innovations provides mentorship to several startups and SMMEs in the tech space and although they do not assist in funding these businesses, they may refer them to the relevant entities in the space.

Challenges to Skywalk Innovations

As a startup, procuring contracts was made difficult by the lack of an existing business record since potential partners were not willing to take the risk of entering a business relationship with "unproven" partners. Subsequently, Skywalk Innovation did not receive any clients for the first 6 months, which placed the founders under serious financial strain. Siyabonga noted that during this period, he considered abandoning the pursuit of entrepreneurship and returning to Mpumalanga.

Another challenge faced by the company, Siyabonga in particular, was finding the right mentor during their startup phase. It is imperative that you find a mentor that is not only sympathetic

but empathic, and understands the experiences of the company founders and the direction of the business.
The most pressing challenge the business currently faces is the lack of information and experience in entering more European and North American markets.

More on Skywalk Innovations can be found through this link.

TOWNSHIP TECH ECOSYSTEM

Technology has the potential to deliver numerous benefits to the township economy. These include:

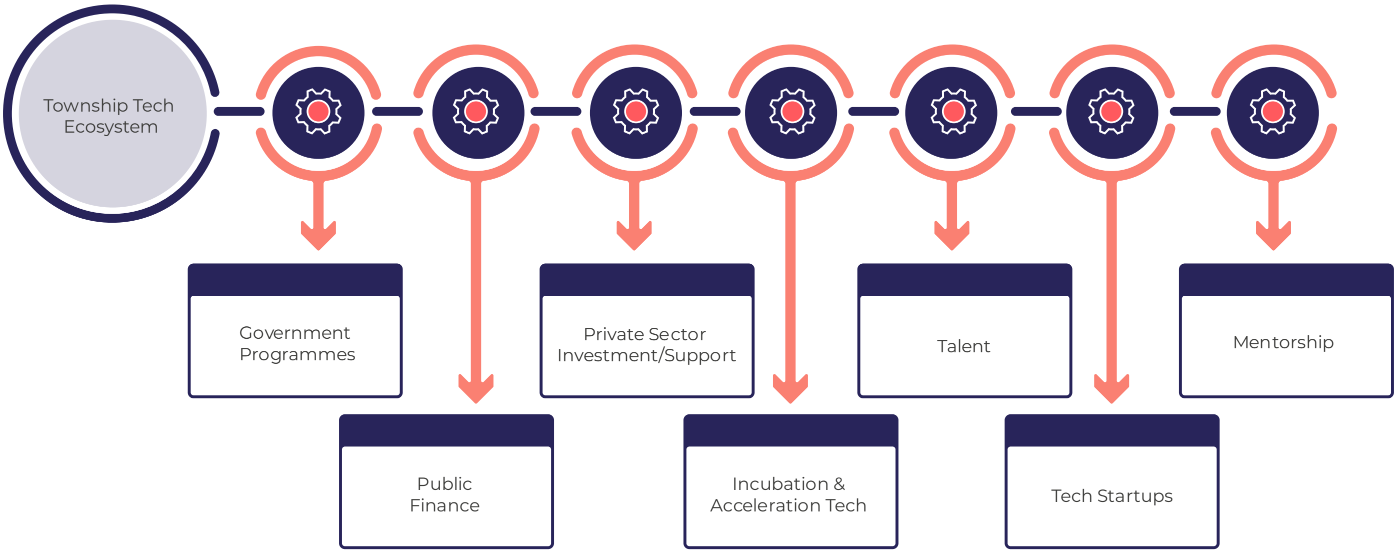
- Establishing new business avenues
- Increasing access to markets
- Improving business efficiencies
- Increasing access to capital

Understanding the township economy is critical to how we understand tech ecosystems, as an interconnected and interdependent network of diverse entities which come together to 'spur innovation' in the tech environment as it pertains to sustainable products and services. An ecosystem works best when there is an easy flow of ideas around the community, such as when support organisations train workers in the latest technologies, interest groups organise meet ups and hackathons, social media is used to promote events and successful entrepreneurs mentor new entrepreneurs and form Angel Investor clubs, that creates a pay-it-forward culture and a feeling of camaraderie.[17]

Technology should assist with the creation of market opportunities, while industry conditions influence the scope for innovation. Incubators and accelerators foster future entrepreneurs, which is why they are so important in a tech ecosystem. Such programmes provide support and market knowledge, and assist in the development of organisational structures, strategies and systems.[18] Government is also a key contributor to the ecosystem, by reducing the threshold for risk taking and putting policies in place that create a fertile environment for entrepreneurship, making this an enticing and viable option for people.[19] There are numerous contributors to the tech ecosystem that foster growth in the industry, and they all need to operate efficiently in order to create a sustainable industry.

In the case of technology in the township economy, the tech ecosystem is what supports growth and innovation, and without it, entrepreneurs will find it very difficult to succeed. Based on structured interviews with township tech entrepreneurs, this ecosystem is seen to be composed of seven components as listed in *Graphic 1* below:

[17] KG Labs. (2018). *What is business ecosystem.* [online]. Available from: https://kglabs.org/what-is-business-ecosystem/ [accessed 25 June 2022].
[18] Mason, C. and Brown, R. (2014). *Entrepreneurial ecosystems and growth oriented entrepreneurship.* Ministry of Economic Affairs: Netherlands
[19] Mason, C. and Brown, R. (2014). *Entrepreneurial ecosystems and growth oriented entrepreneurship.* Ministry of Economic Affairs: Netherlands



Graphic 1: Township Tech Ecosystem Composition

1. GOVERNMENT PROGRAMMES

Small, medium and micro enterprises (SMMEs) within the technology and ICT sector in South Africa have significant support from the public sector through various means. National, provincial and metropolitan governments dedicate programmes and agencies to promote and develop SMMEs - including ICT-related business - by offering mentorship and professional guidance and granting financial aid and incentives in accordance with the National Integrated ICT Policy White Paper.[20] Programmes by public entities have been dedicated to accelerate SMMEs in townships across South Africa through financial aid, mentorship and skills development programmes – the most prominent of which are the Small Business Development Agency and the Small Business Financial Agency founded by the Department of Trade Industry and Competition in 2004 and 2012, respectively.[21] However, the aforementioned agencies and many other government agencies and programmes are not specific to technological SMME development, which contributes to the challenges faced by township tech businesses and will be explored in later sections of the report.

The following table contains a list of the available government agencies and programmes applicable to township-based tech start-ups:

Scale of Initiative in South Africa	Overseeing Department	Agency/programme	Description
National	Department of Trade Industry and Competition	Critical infrastructure programme	Supports black-owned businesses to add to and create essential infrastructure – installation of broadband works, fibre, telephone and network lines etc.

[20] Department of Telecommunications and Postal Services. (2016). Electronic Communications Act: National Integrated ICT Policy White Paper. Government Gazette. (No. 40325). [online]. Available from: https://www.gov.za/sites/default/files/gcis_document/201610/40325gon1212.pdf [accessed 6 June 2022].
[21] SEDA, 2022. *Home*. [online]. Available from: http://www.seda.org.za/AboutUs/ [accessed 5 June 2022].

National	Department of Trade Industry and Competition	National Empowerment Fund	Supports black-owned businesses in priority growth sectors including ICT and technology.
National	Department of Small Business Development	Small Enterprise Development Agency (SEDA)	Assists SMMEs with mentorship and business development programmes to minimise SMME failure.
National	Department of Small Business Development	The Small Business Financial Agency (SEFA)	In partnership with SEDA, allocates funding to SMMEs.
National	Department of Small Business Development	Township and Rural Enterprise Development Programme	A skills development and business incubation programme offered to small and micro businesses solely operating in townships and rural areas.
National	SEDA	SEDA Technology Programme	The incubation division uses three different organisational models of Technology Business Centres to incubate both start-ups and enterprises requiring rehabilitation
National	The Department of Science and Technology	Technology Innovation Agency Seed Fund	Aids SMMEs in advancing their research outputs into prototypes and fundable ideas for commercialisation.
National	Department of Trade Industry and Competition	Industrial Development Corporation	Provides investments and funding to promote industrial development across a variety of sectors, including infrastructure, electronics, media and audio-visual.
Provincial: Western Cape	Department of Economic Development and Tourism	Wesgro	Garners investment and provides funding for priority Western Cape economic sectors and businesses, including the ICT and technology sector.
Provincial: Western Cape	City of Cape Town	CiTi and the Bandwidth Barns	CiTi and its Bandwidth Barns promote tech SMMEs by providing tech-specific spaces for these businesses to operate in and offer development opportunities.
Provincial: Gauteng	Department of Economic Development	Gauteng Growth and Development Agency (GGDA)	Ensures financial sustainability and growth for businesses. The GGDA occasionally launches upskilling programmes in the ICT sector.

Provincial: Gauteng	Department of Economic Development	The Innovation Hub	Provides an operating space for tech businesses and a variety of business incubation and skill development programmes.
Provincial: KwaZulu-Natal	Department of Economic Development, Tourism and Environment Affairs	Moses Kotane Institute	Provides digital learning centres, digital literacy training, hackathons and enterprise development.
Provincial: KwaZulu-Natal	Department of Economic Development, Tourism and Environment Affairs	Rural & Township Economic Revitalisation Programme	Upliftment programme that offers both SMMEs and the informal sector mentorship, skills development and funding.
Provincial: Eastern Cape	Office of the Premier	Economic Governance and Human Resources Development	Provides mentorship and aids in the training and education of SMMEs.
Provincial: Mpumalanga	Department of Economic Development and Tourism	Mpumalanga Economic Development Agency	Provides funding in the form of loans to SMMEs.
Provincial: Limpopo	Department of Economic Development, Environment and Tourism	Limpopo Economic Development Agency (LEDA)	Offers member SMMEs access to business incubation, skills enhancement and access to active projects, as well as financial support.
Provincial: Limpopo	Department of Economic Development, Environment and Tourism	Connexion	Supports partnership, collaboration and continuous innovation, information infrastructure and content, ICT skills and ICT entrepreneurship development.

2. PUBLIC FINANCE

Tech enterprises require sufficient and timely financial support to be successful. Various sources of funding tailored to businesses should be available alongside proper guidance and support for healthy business growth.[22] The South African government offers numerous funding opportunities in the form of grants and loans for township entrepreneurs in the tech industry, such as:

- The Department of Science and Technology through the Technology Innovation Agency (TIA) Seed Fund
- The Department of Trade Industry and Competition through the Small Enterprise Development Agency (SEDA) and Small Enterprise Funding Agency (SEFA)
- The Industrial Development Corporation (IDC)

[22] OC&C Strategy Consultants. (2018). *Tech entrepreneurship ecosystem in South Africa.* [online]. Available from: https://www.occstrategy.com/media/1295/tech-entrepreneurship-ecosystem-in-south-africa.pdf [accessed 24 May 2022].

- The Department of Small Business Development (DSBD)
- The National Women Empowerment Fund (WEF)
- The National Youth Development Agency (NYDA)

Despite the available opportunities by both public and private entities, 67.9% of the survey participants and two of the three interviewed businesses stated that their businesses are self-funded and have not received any external financing. Fundraising is identified as the greatest challenge to township tech and tech-enabled businesses. Although these businesses may be eligible for numerous funding opportunities, many businesses remain unaware of their existence thus indicating a break in communication between relevant authorities and businesses in the sector.

3. PRIVATE SECTOR INVESTMENT AND SUPPORT

The private sector has shown significant involvement in township tech and township SMME development. Private sector involvement often occurs in the form of corporate social responsibility (CSR), whereby companies use funds or resources towards projects that are of no direct financial benefit to them[23], in an effort to alleviate social, environmental and economic challenges in society.

Private companies are assisting in digitising businesses in townships, shifting township economies from focusing on 'spaza shops' and service businesses, towards utilising technology to create innovative township technology businesses.[24] The enterprise development opportunities stemming from the private sector tend to be more industry-specific, thus providing tech SMMEs with specific knowledge of the industry and its specific networks.

In recent years, there has been an interest towards the contribution of the rising township "techpreneur" space from numerous companies. Some of these companies are:

1) MTN

With the government's growing emphasis on the aid needed to formalise and provide support for township businesses, *MTN* has pledged to increase their investments in the Gauteng province to R2.2 billion to contribute towards enhancing access and reach into township communities.[25] With this budget, the company will station up to 700 5G sites within the beneficiary areas.[26] The corporation has listed this effort as one that will aid participation into the digital economy.

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[23] Kuta, S. (2018). *What Is Corporate Social Investment?* [online]. Available from: https://bizfluent.com/about-4676602-what-corporate-social-investment.html [accessed 9 June 2022].

[24] Buthelezi, L. (2021) *Tech a look at this: SA embracing fourth industrial revolution with home-grown innovations*. [online]. Available from: https://www.news24.com/fin24/companies/tech-a-look-at-this-sa-embracing-fourth-industrial-revolution-with-home-grown-innovations-20210922 [accessed 7 June 2022].

[25] BusinessTech. (2022). *Digital boost for South Africa's most densely populated province.* [online]. Available from: https://businesstech.co.za/news/mobile/585510/digital-boost-for-south-africas-most-densely-populated-province/. [accessed 2 June 2022].

[26] ITWeb. (2022). *MTN rolls out R2.2bn Gauteng township investment.* [online]. Available from: https://www.itweb.co.za/content/raYAyqorn5WMJ38N [accessed 3 June 2022].

2) Telkom

Telkom is digitising township businesses by encouraging a shift in how township businesses are usually run. In 2015, they launched Telkom *FutureMakers*, a development unit to support SMMEs in South African townships.[27] To date, *FutureMakers* has supported up to 2 500 SMMEs through incubation, investments, connectivity and business development support services. Through this initiative, the company has committed R250 million, which is managed by IDF Capital, to invest in innovative technology-based businesses at seed capital stage to growth stage.[28]

Under *FutureMakers*, *Telkom* launched a township innovation programme in 2021 to assist township entrepreneurs to make their businesses more digital. The incubator is aimed at enabling township-based entrepreneurs' access to technology development support, as well as other business support services that will assist in upscaling their ideas.[29] The programme is set to run for 18 months and is currently supporting 11 Soweto-based tech entrepreneurs, who will receive a total of R110 000 in funding each, that will contribute to traction-building activities.[30] *Telkom* has set out this programme to support the entrepreneurs as follows:

- Focusing on business ideation and validation support through a design thinking methodology
- Providing accredited tech skills capacity development training
- Improving solution designs and development
- Allowing social and market access through the company and its partners
- Providing wide access to funding opportunities

One of the entrepreneurs in the programme has successfully earned a partnership with the Department of Health during the programme.[31]

3) ABSA

In 2017, *ABSA* cemented themselves as contributors to the township economy by providing financial aid to township entrepreneurs around the country. The corporation pledged R10,5 million to South African townships with R3,5 million directed towards the modernisation of spaza shops in Mamelodi and Pretoria West.[32] The remainder of the funding was then directed to uplifting small businesses in the Limpopo and Mpumalanga regions through eSpaza Sum Holdings. With this initiative, ABSA has assisted small township businesses by providing all the

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[27] Telkom. (2022). *About FutureMakers*. [online]. Available from: https://www.telkom.co.za/about_us/futuremakers/index.shtml [accessed 3 June 2022].

[28] Telkom. (2022). *About FutureMakers*.[online]. Available from: https://www.telkom.co.za/about_us/futuremakers/index.shtml [accessed 5 June 2022].

[29] ITWeb.(2022).*Telkom powers Soweto-based tech entrepreneurs.* [online]. Available from: https://www.itweb.co.za/content/KBpdgvpzwVEMLEew. [accessed 9 June 2022].

[30] ITWeb.(2022).*Telkom powers Soweto-based tech entrepreneurs.* [online]. Available from: https://www.itweb.co.za/content/KBpdgvpzwVEMLEew. [accessed 9 June 2022].

[31] Buthelezi, L. (2021). *Tech a look at this: SA embracing fourth industrial revolution with home-grown innovations.* [online]. Available from: https://www.news24.com/fin24/companies/tech-a-look-at-this-sa-embracing-fourth-industrial-revolution-with-home-grown-innovations-20210922 [accessed 7 June 2022].

[32] South Africa The Good News. (2017). *Uplifting the Township Economy.* [online]. Available from: https://www.sagoodnews.co.za/uplifting-township-economy/ [accessed 6 June 2022].

required banking solutions, e.g., card machines, to maximise their businesses, financial literacy development, and advertising through social media.[33]

4. INCUBATION AND ACCELERATION TECH HUBS

Industry experts have stated that the social challenges found in South African townships have presented many opportunities for tech innovations.[34] There are currently numerous programmes in place to assist the growth of township businesses through the use of technology. Techpreneurs have mentioned that the perception that the township is low-tech is seldom the issue, but that the issue lies in how businesses can present their solutions in a way that is easily palatable on the users' end.[35]

One of the notable solutions available in townships in Gauteng is the Township Economic Renewal programme by the *Township Distribution Model* start-up. Incubators, accelerators and innovation hubs are important contributors to the success of start-ups. The primary function of incubators and accelerators is to assist with providing tailored and integrated business development support to entrepreneurs and young businesses in one space - whether physically or virtually. These programmes have been effective in reducing the time and resources that entrepreneurs need to grow their businesses.[36] Incubators and accelerators provide a combination of training services, mentoring and coaching, access to resources, as well as direct linkages and networking opportunities with investors and other possible partners.[37]

The Khayelitsha Bandwidth Barn, located on the cusp of Khayelitsha and Mitchellsplain– the largest township in the Western Cape province of South Africa – is one of the first township-based tech hubs and key enabler of inclusive innovation, supporting entrepreneurs and organisations to create products and services for township economies.[38] The Khayelitsha Bandwidth Barn offers tech-enabled businesses the opportunity to grow in a vibrant ecosystem, by supporting them in developing their products, entrepreneurial and business skills.

EkasiLabs is another innovation hub that can be found in 10 townships in Gauteng, including Soweto, Kagiso, Sebokeng and Mamelodi.[39] EkasiLabs has two development programmes in skills and enterprise development, where they offer entrepreneurs business development

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[33] Business Tech. (2017). *Absa sets aside R10.5 million for SA township economy.* [online]. Available from: https://businesstech.co.za/news/banking/187979/absa-sets-aside-r10-5-million-for-sa-township-economy/ [accessed 6 June 2022].

[34] Zisengwe, M. (2019). *Are township enterprises using tech to develop and grow township economies?* [online]. Available from: https://medium.com/civictech/are-township-enterprises-using-tech-to-develop-and-grow-township-economies-9a4ffe1c04e4. [accessed 7 June 2022]

[35] SME South Africa. (2018). *5 great apps created for the township market.* [online]. Available from: https://smesouthafrica.co.za/township-market-apps-tech. [accessed 7 June 2022].

[36] International Labour Organization. (2021). *Promoting sustainable entrepreneurship through business incubators, accelerators and innovation hubs.* [online]. Available from: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---ifp_seed/documents/publication/wcms_820562.pdf [accessed 25 June 2022].

[37] International Labour Organization. (2021). *Promoting sustainable entrepreneurship through business incubators, accelerators and innovation hubs.* [online]. Available from: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---ifp_seed/documents/publication/wcms_820562.pdf [accessed 25 June 2022].

[38] CiTi. *The Khayelitsha Bandwidth Barn is South Africa's only township-based tech hub and is a key enabler of inclusive innovation*. [online]. Available from: https://www.citi.org.za/spaces/bandwidth-barn-khayelitsha/ [accessed 25 June 2022].

[39] The Innovation Hub. *EkasiLabs.* [online]. Available from: https://www.theinnovationhub.com/business-incubators/ekasi-labs-4 [accessed 25 June 2022].

support, mentoring, commercialisation and market development support amongst other offerings.

According to the data collected from our survey, 69.2% of the respondent entrepreneurs went through an entrepreneurial support programme that impacted them positively. Some of these programmes were hosted by tech hubs and accelerators, namely: CiTi's Youth in Business Programme, CiTi's Top Tech Tools for Women in Business Programme, Google Hustle Academy, Siyayijika Business Programme, NYDA Grant Programme and the Entrepreneurship Development Programme.

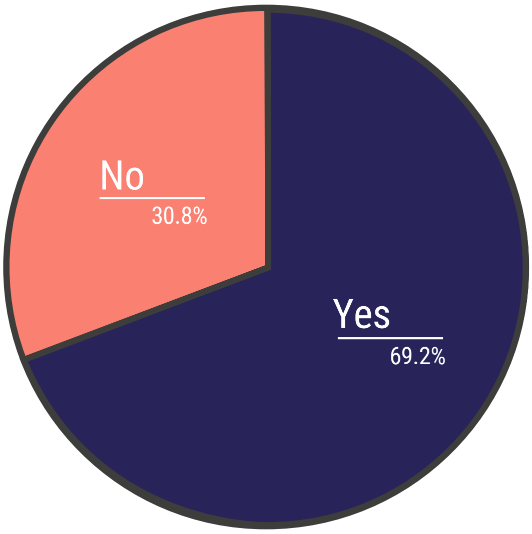

Chart A: Engaged in an Entrepreneurial Support Programme

4. TALENT

Our survey results indicated that a total of 87.1% of respondents have completed their formal grade 12 education, and most of the entrepreneurs, at 60.2%, went through some form of skill development programme that aimed at improving their entrepreneurship skills that contributed positively towards their goals, where they used the knowledge and skills they obtained towards their businesses. In an interview with Zolile, founder of MLK Computer Consulting, he shared that he struggles with low levels of competency in the talent pool within the township space. This may not refer to owners of tech start-ups but rather to the labour force within the township community. Digital talent is a scarcity in South Africa and there are multiple avenues of support to help bridge the digital divide in available skills.

5. TECH START-UPS

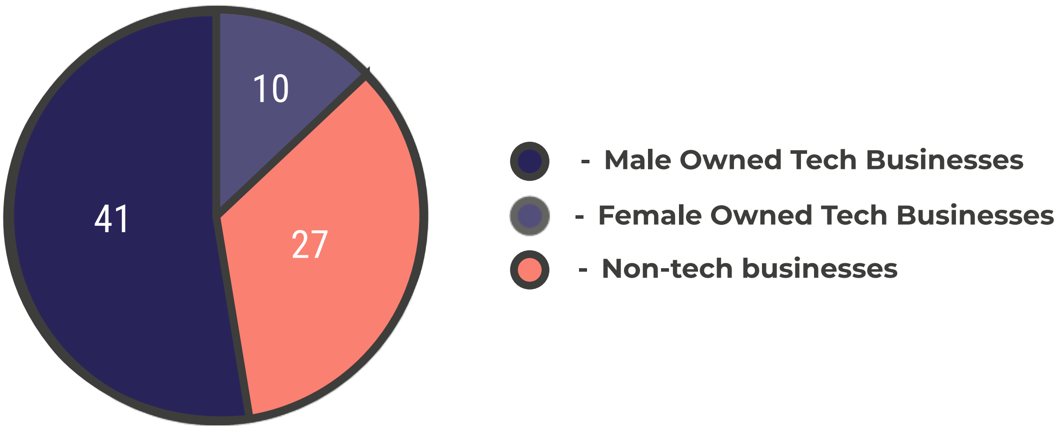

Chart B: Ratio of non-tech to tech businesses and tech business ownership demographic

Of the entrepreneurs who responded to this survey, 41 of the 78 (47.4%) are tech start-up businesses who bring technological products and/or solutions to market. Of those that have tech start-ups, 10 are owned by women and 27 by men. A little over half (52.6%) of the entrepreneurs manage a tech start-up on a full-time basis whilst 33.3% of the entrepreneurs responded that they run their business while still being employed elsewhere. The remaining 14.1% indicated that they manage multiple businesses on a part-time basis.

Just under half (49%) of these township tech startups were initiated by social entrepreneurs who stated that they started their business because they came across a problem in their community that no one else was addressing, so identifying the problem led them into entrepreneurship. Only 41% of the entrepreneurs have always wanted to own their own business, while 11% were led to entrepreneurship by an unemployment-survivalist mindset. As with most entrepreneurs, whether their businesses are tech startups, respondents resoundingly indicated that they want to contribute positively to their communities. Interviews with the founders of MLK Computer Consulting and Skywalk Innovations have shown township tech entrepreneurs having an appetite to scale their businesses nationally and internationally within 10 years.

6. MENTORSHIP

In terms of mentorship, 50% of entrepreneurs have mentors. Some entrepreneurs found their business mentors through referrals from people they know, others found a mentor in a former employer, others through their higher education institutions (e.g., professors), some mentors were found through social media such as LinkedIn and Facebook, some were found at business training programmes that they had been part of, while other entrepreneurs have family members as their business mentors.

Of the entrepreneurs that indicated that they receive support, 58% of them consult with their mentors at least once every two weeks, whilst the remainder consult on a monthly or on an on-demand basis. This form of support has been beneficial for the entrepreneurs as they managed to receive valuable knowledge and guidance from their mentors.

TECH TIP: HOW CAN I FIND A MENTOR?

- Become part of an innovation and tech ecosystem and explore the various opportunities, contacts and knowledge available to you.
- Through networking with other entrepreneurs and asking about their business mentors.
- Your current manager or employer could connect you with people in their network or point you in the right direction.
- Social media channels, such as LinkedIn and Facebook, are great spaces to connect with senior executives and entrepreneurs, including advertisements for SMME enterprise development programmes
- Friends and family can be great mentors to assist you in challenging times and building resilience!

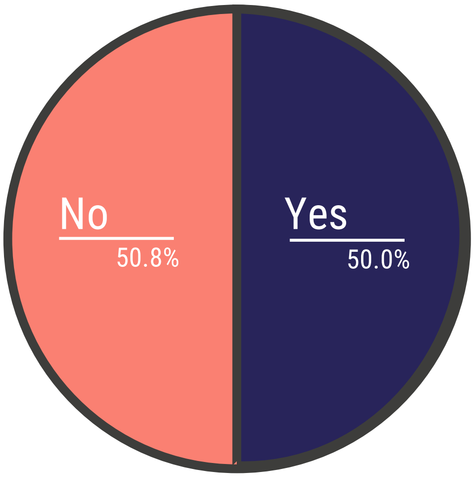

Chart D: Entrepreneurs with Mentors

REGULATORY ENVIRONMENT

The South African government has cited the need for a 'township revitalisation' in an effort to alleviate some of the challenges faced by entrepreneurs in the township. They have since introduced numerous initiatives to support township entrepreneurs and SMMEs, with the hope that these enterprises will create more employment, and aid the township economy into the mainstream.[40] The national government's recent interest in the Fourth Industrial Revolution (4IR) has opened a gap for SMMEs in the tech industry to cement themselves within the township economy and provide solutions to their challenges.

In accordance with governmental interest in digitalisation, subsequent legislation has been set out to outline and assist individuals seeking business opportunities in the digital market, most notably:

The National Integrated ICT Policy White Paper outlines the overarching policy framework for the transformation of South Africa into an inclusive and innovative digital and knowledge society. It reinforces and extends existing strategies such as South Africa Connect, the national broadband policy, the National Cybersecurity Policy Framework 2012 and the National Information Society and Development Plan.[41]

South Africa's National Research and Development Strategy ensures a growing role for science, technology and innovation (STI) with a specific focus on socio-economic issues.[42] Entrepreneurs within the township tech landscape will be able to follow this strategy to outline their businesses.

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[40] SME South Africa. (2017). *The state of SA's township entrepreneurship* [online]. Available from: .https://smesouthafrica.co.za/15427/The-state-of-SAs-township-entrepreneurship/ [accessed 23 June 2022].
[41] Department of Telecommunications and Postal Services. (2016). Electronic Communications Act: National Integrated ICT Policy White Paper. *Government Gazette.* (No. 40325). https://www.gov.za/sites/default/files/gcis_document/201610/40325gon1212.pdf. [Accessed: 06/06/2022]
[42] Department of Science and Innovation. (2019). *White Paper on Science, Technology and Innovation*. Government, Pretoria. https://www.dst.gov.za/. [Accessed: 08/06/2022]

The Intellectual Property Laws Amendment Act 28 of 2013 aims to acknowledge and protect indigenous knowledge as a genus for intellectual property.[43] As a tech startup founder, it is imperative to protect and manage your intellectual property, to differentiate your product and reap success. This includes trademarks, patents, designs, and copyrights.[44]

Enterprise and Supplier Development (ESD) operates on a B-BBEE basis which advocates for the participation of the black majority in the South African economy. The main aim of ESD is to encourage a conducive environment for the formation of sustainable partnerships between corporate South Africa and black entrepreneurs to foster access and transformation of value chains. A successful ESD programme is tailored to expedite access to opportunities, and the improvement of small businesses through mentorship, specialist support and networking opportunities that seek to mould the capacity of the business to deliver, improve access to financing that will enable further investments into the business, and lastly, to encourage the procurement of goods or services from small businesses by the corporate, leading to sustainable streams of revenue.[45]
Entrepreneurs can find additional policies impacting startups in South Africa here.

WOMEN IN TECHNOPRENEURSHIP

Women entrepreneurs are driven by their entrepreneurial ambitions of accomplishing and creating a difference within their environments, as with their male counterparts. The number of women-owned businesses in South Africa has been on a steady rise since 2008.[46] Despite this fact, most women still struggle with access to networks and information they require to establish and expand their businesses. This can be attributed to women being viewed as "other" in both the entrepreneurship and technology domains.[47] The gender biases women are faced with in their social and economic environments bring about an array of socio-cultural, educational and technological challenges from their male counterparts within the start-up and business growth and development domain.

Moreover, attributed to these gender biases, women, generally, encounter more difficulties in securing capital. Research shows that women-owned businesses (i.e., start-ups with at least one female founder) are notably less likely to be funded than male-owned businesses.[48] Such a reality exists, despite women entrepreneurs being less risky to finance than their male

[43] The Presidency South Africa. (2013). Intellectual Property Laws Amendment Act 28, 2013. Notice 655. *Government Gazette.* (Vol 582, No.37148). https://www.gov.za/sites/default/files/gcis_document/201409/37148gon996act28-2013.pdf. [Accessed: 06/06/2022]

[44] Pietersen, K. (2021). *An IP Primer for Start-Ups in South Africa.* [online]. Available from: *https://spoor.com/an-ip-primer-for-start-ups-in-south-africa/.* [accessed 6 June 2022].

[45] SME South Africa. (2021). *Everything you need to know about enterprise and supplier development in South Africa.* [online]. Available from: https://smesouthafrica.co.za/programs/everything-you-need-to-know-about-enterprise-supplier-development-in-south-africa/. [accessed 6 June 2022].

[46] Irene, B. (2019). Technopreneurship: a discursive analysis of the impact of technology on the success of women entrepreneurs in South Africa. In Digital Entrepreneurship in Sub-Saharan Africa (pp. 147-173). Palgrave Macmillan, Cham.

[47] Shafi, I., & Gulzar, F. (2021). Women Technopreneurship: Perceived Barriers and Challenges. *IUP Journal of Entrepreneurship Development*, *18*(4), pp.31-44.

[48] Irene, B. (2019). Technopreneurship: a discursive analysis of the impact of technology on the success of women entrepreneurs in South Africa. In Digital Entrepreneurship in Sub-Saharan Africa (pp. 147-173). Palgrave Macmillan, Cham.

counterparts, statistically having a lower business failure rate and demonstrating the ability to create more jobs.[49]

Through interviews and studies, it has been identified that women entrepreneurs in the informal market often find access to finance through financial institutions challenging due to the lack of collateral security and credit record – this is because most of their assets are typically registered in their husbands' names.[50] In addition to this, the market often treats family and business as separate entities, while this is not the reality for most women in the informal business sector. Family plays a vital role in a woman's entrepreneurial journey, both as a source of limitation through their household responsibilities and duties, as well as, as a source of resources and support.[51]

Despite these inhibiting factors, there is a percentage of women who are breaking shackles and the initiative to venture into technology-based businesses.[52] It has also been identified that there are women who pursue technopreneurship with the intent to challenge gender biases, as well as challenge themselves professionally and personally and, thereby, seek pleasure and satisfaction in their work.[53] More women technopreneurs are encouraged to expand as South Africa has regulations that include gender-related provisions when developing digital economy policies, and has set time-bound targets for women's participation in STEM, in entrepreneurship activities, and in the workforce of the ICT sector.[54] More on women in technopreneurship can be found in the next section of the report.

[49] Irene, B. (2019). Technopreneurship: a discursive analysis of the impact of technology on the success of women entrepreneurs in South Africa. In Digital Entrepreneurship in Sub-Saharan Africa (pp. 147-173). Palgrave Macmillan, Cham.
[50] Ngek, N. B. (2018). Challenges and performance of women-owned informal businesses in South Africa: A family embeddedness perspective. In *Proceedings, 19th International Academy of African Business and Development Conference* (pp. 170-180).
[51] Ngek, N. B. (2018). Challenges and performance of women-owned informal businesses in South Africa: A family embeddedness perspective. In *Proceedings, 19th International Academy of African Business and Development Conference* (pp. 170-180).
[52] Bhat, I., & Gulzar, F. (2020). An Insight into the Factors Affecting Women Technopreneurs. *International Journal of Knowledge Management and Practices*, *8*(1), pp. 33.
[53] Bhat, I., & Gulzar, F. (2020). An Insight into the Factors Affecting Women Technopreneurs. *International Journal of Knowledge Management and Practices*, *8*(1), pp. 33.
[54] Irene, B. (2019). Technopreneurship: a discursive analysis of the impact of technology on the success of women entrepreneurs in South Africa. In Digital Entrepreneurship in Sub-Saharan Africa (pp. 147-173). Palgrave Macmillan, Cham.

WOMEN IN INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT)

TAMARA TOTI - THE PUBLICITY CORNER

About: *The Publicity Corner* is a niche digital marketing agency with a specific focus on the township market. After a long-standing journey in corporate, Gugulethu-based industry professional Tamara Toti, started *The Publicity Corner* as a passion project in 2018. She identified a need for an affordable and accessible marketing agency for emerging personalities and small businesses in her township community. Tamara views her company as an educational tool for the people on the ground to always have at their disposal. She prides herself in immersing herself in her clients' businesses, with whom she has formed longstanding partnerships.

The Publicity Corner works on a combination of business-to-business (B2B) and business-to-consumer (B2C) models, as their typical customers are individuals and small businesses seeking brand consulting. The business obtains their clientele by approaching potential customers directly and describing their services, which is done primarily through social media.

In conversation, Tamara mentioned that pursuing business as a woman in technopreneurship came with its growing pains, especially within the beginning phases, as the discrepancy with tech usage and skills, compared to her peers, were highlighted for her. Another challenge was in defining the business as a tech business because it is not a "typical tech company". Tamara learnt how to deal with these challenges once she joined the CiTi Women in Business Programme in 2022. One of the major challenges she still faces has been convincing people of her capabilities within the field.

The Publicity Corner is a self-funded business, with no employees apart from occasional support from family. Tamara shared that it is more difficult for women to secure funding, despite the various funding channels available.

When asked what the business could benefit from, Tamara mentioned that she values mentorship. "I believe that mentorship is a very important part for emerging businesses, especially women-led businesses. My business could definitely benefit from mentorship. It helps having someone to guide, support and hold you accountable through your journey. Furthermore, *The Publicity Corner* could benefit a lot from legal and financial services. Assistance and due diligence with the contracts and accounting would do the business good".

The vision for *The Publicity Corner* in the next 5-10 years is growth. Tamara would like to see the company in an office space, with employees and dealing with larger projects along the lines of women empowerment and social development within the township market.

As her final words in our interview, Tamara offered advice to women in technopreneurship: be vigilant about the foundations of a business and see to their legal contracts, which helps in the long run. She also adds "BUSINESS IS FUN WHEN YOU DO IT THE RIGHT WAY!" You can find out more about *The Publicity Corner* here.

LONDIWE BANJWA - BERYL DYNASTY PRODUCTIONS

About: Founded by professional video editor and graphic animator, Londiwe Banjwa in 2019, *Beryl Dynasty Productions* is a skills transference and production company that aims to equip locals with digital training, ranging from video editing to voice-over artistry. This company started out solely as a production company that translates digital app content into South African content with the key focus of translating digital training content for government departments and other sectors. In addition to this, *Beryl Dynasty Productions* does voice-overs to accommodate the rich and diverse South African linguistic cultures infused with modern technology. These content translations and training have mainly been done in isiXhosa, with hopes of expanding into isiZulu and Afrikaans in the near future.

Londiwe started a skill transference programme after realising a lack of access to career guidance for young children, especially in underprivileged communities. She has worked in Delft, Nyanga and Gugulethu, where she realised that exposure to and engagement with different content enables children to aspire to take on digital careers and learn digital skills. Londiwe believes that there is a lot of room for women in tech.

Beryl Dynasty Productions operates on a B2B model, where they obtain clients on a project basis through word of mouth and cold calling. Londiwe works alongside one other employee who is a translator for the company, as well as freelancers on a project-to-project basis. On occasion, the company partners with the UWC Linguistics Department to assist with due diligence on translations, and Robben Island, who procure their services on an annual basis. The company also has a strong working relationship with *Usiba Loluntu*, for whom they do skills training. *Beryl Dynasty Productions* is fully self-funded and could benefit from human capital (employees) to smooth out operations, as well as resources such as camera equipment and editing software.

When asked where she sees *Beryl Dynasty Productions* in the next 5-10 years, Londiwe said she would like to expand to a level where her impact is shown through the people she has trained. She would like to see them paying forward to others, whether employed by the company or not. This would enable more access to, and learning of, digital skills, especially amongst underprivileged communities. In addition to this, Londiwe would like to open a centre where women are able to learn more complex tech skills – a conglomerate where women will be able to produce a South African tech brand as big as Apple.

She describes her experience as a woman technopreneur as fun and would like to encourage more people to get involved.

You can contact *Beryl Dynasty Productions* by emailing them on beryldynasty@gmail.com.

ZANDILE TLHAPI - KHALTSHA CALL CENTRE

About: Zandile Tlhapi is the CEO and co-founder of *Khaltsha Call Centre*, a communication hub that provides inbound and outbound sales, market research and outsourcing services to businesses. *Khaltsha Call Centre* was founded in Khayelitsha, Cape Town in 2018 and started full operations in 2020. This business was started with the aim of bringing services that are not normally within reach for people in the township. Zandile and her business partner started the business with hopes to bridge the gap in how local businesses engage with their customers. An additional driving force to this was boosting the township economy by providing accessible employment opportunities for the people of Khayelitsha. In a conversation with us, Zandile drew attention to the fact that most experienced call centre agents are based within their community but are required to travel outside of Khayelitsha, highlighting the importance of providing accessible employment within the community.

Khaltsha Call Centre is self-funded and currently operates from a home office in Khayelitsha. They operate on a B2B model and have one permanent employee as well as three part-time employees. The company has worked with a few local tourism organisations, with the aim of creating an easy and navigable tourist experience by handling things such as bookings. They are currently working with two clients in the admin and sales industries. The business usually gains clients through networking on social media platforms such as LinkedIn and Facebook.

Zandile has described her experience as a woman technopreneur as challenging at times due to the difficulties with entry into the market, as well as access to opportunities. Although there are some supportive people and networks she has encountered, she has also encountered numerous entities that have promised their support to no avail. She has also come across well experienced people in the field who have been dishonest in their dealings with her. Another pressing challenge has been securing funding. The business is self-funded and was started using a business loan after exploring avenues such as the NYDA and SEFA. She and her team have participated in hackathons to network and garner operational funds, the most recent being the *TownshipTech Hackathon, powered by CiTi, Injini, Absa, the City of Cape Town, and Telkom FutureMakers* where they won R50 000, which contributed to new equipment.

Although the business has not gained the traction they hoped for, they continue to build credibility through entering hackathons and joining various programmes. Zandile has joined programmes such as CiTi's Youth in Business Programme, a fully-funded couching and mentorship CiTi programme, as well as the *Future Females programme* to extend her networks and business knowledge.

When asked what the business could benefit from, Zandile states that proper market entry is a top priority. She notes that firm entry into the market will enable more clients and ripple into overcoming financial constraints and meeting their initial aim of employing more people into the company. Furthermore, the business could benefit from improved infrastructure, especially relating to connectivity in the area.

In the future, Zandile hopes that *Khaltsha Call Centre* will be a sustainable business with an immense social impact. She would like to see the company acquiring employees and big clients as well as office spaces in Somerset West and Cape Town. Zandile would also like to establish a training and development programme in Khayelitsha, that would also create opportunities for students and unemployed graduates.

Khaltsha Call Centre believes in continuously striving to be the best amongst industry players and growing strongly with its current and future clients. Find out more about *Khaltsha Call Centre* here.

ELIZABETH KEKANA - PHELADI SMART INNOVATIVE SOLUTIONS

About: *Pheladi Smart Innovative Solutions* is a small ICT solutions business based in Diepsloot, Gauteng. This company was founded by young entrepreneur, Elizabeth Kekana in 2019. Elizabeth began her entrepreneurial journey by selling school stationery in her community. She then saw a gap in the ICT market as a lot of young people were not knowledgeable on the usage and management of devices such as computers and laptops. *Pheladi Smart Innovative Solutions* deals with the buying, refurbishment and selling of these electronic devices. In addition to this, the business designs business cards, websites, and logos for other local businesses.

Elizabeth, impressively, has no formal educational background in IT and attributes her interest in the field to her budding curiosity and years of educating herself on YouTube. As the ICT solutions space is typically male-dominated, Elizabeth has found entry into the market, as well as establishing herself and her business, quite challenging. She describes her experience as a technopreneur as always being subjected to scepticism: "The first thing people always ask me is whether I really know how to fix their electronics", she says. This has not deterred her but has encouraged her to continue to challenge these assumptions. The business operates on a B2C model, with an inhouse IT specialist and part-time graphic designer working alongside her.

Their clients are walk-ins, and she describes her target market as young people, more often university students, who learn of her business through social media and word of mouth. *Pheladi Smart Innovative Solutions* primarily operates from Diepsloot but rents out virtual office spaces near Bryanston as needed for their clientele outside of the township.

Pheladi Smart Innovative Solutions is self-funded with no success in securing funding and investor opportunities. Elizabeth notes that this sometimes impedes access to products needed for business operations to continue. As she acquires these devices on client request, it is difficult to determine a definite turnover for the company. She says that the business could benefit from funds to acquire equipment in bulk in order to keep operations running on a more consistent basis.

In the next 5-10 years, Elizabeth would like to see *Pheladi Smart Innovative Solutions* in a store that will not only be selling and refurbishing tech products but also providing young women and children with extensive workshops on how to fix, operate and even update their electronics and software. Furthermore, she would like to partner with big companies such as Makro and Incredible Connections.

Elizabeth says she would like to advise women who want to break into the market to start with what they have and everything else will make sense later. You can get in contact with *Pheladi Smart Innovative Solutions* on 071 589 1536 or email lizelkekana@gmail.com.

YONELA SIGUBA - INSPIRAXION DEVELOPMENTS

About: *InspiraXion Developments* is an educational technology company founded by social entrepreneur, Yonela Siguba in 2019. The company provides digital and technological solutions to improve the quality of education in the rural areas. Growing up in iDutywa, a rural area in the Eastern Cape, Yonela saw a need to contribute to the improvement of education within her community by offering educational services, such as tutoring, to learners. This initiative was well received by the community, which then propelled her to expand her business. In 2019, *InspiraXion Developments* rebranded into a digital company that provides educational programmes, such as tutoring and sports and recreation, by using technological tools. These tools include online tutoring classes provided at R100 per month, debating, talent showcasing, camping and gender-based violence awareness programmes.

When asked about her experience as a woman entrepreneur, Yonela notes that entry into the market was quite challenging, but she persevered due to her passion for youth development, as well as her belief that nothing comes easy. For Yonela, the journey began right after high school, where she joined motivational and peer education programmes that gave her more perspective on youth development issues. She then entered business programmes, such as the *Eskom Contractors Academy* and the *African Woman Innovation and Entrepreneurship Forum,* to broaden her business knowledge and skills. Yonela is currently doing her BA in Development Studies and is a part of the CiTi Top Tech Tools for Women in Business programme, which she notes has assisted in moving *InspiraXion Developments* in a successful direction.

The company currently operates from a municipal office in Dutywa with an all-female team of five. In addition to this office, *InspiraXion Developments* has secured land for their upcoming youth centre in a small village near Dutywa. The company also rents out yard space from a local community member to carry out extramural activities. The business identifies its target market as the "most vulnerable" and they are currently working with various schools across the rural areas in the Eastern Cape. They reach these schools through their partnership with the Eastern Cape Department of Education, who handle communications to interested schools. Yonela has found that there are a lot of funding opportunities available for businesses like hers, however notes that she has found that the challenges lie within the red tape in the application process. Although the business currently has no external funding, they have obtained grant funding in the past.

Yonela has noted that *InspiraXion Developments* could benefit from staff capacitation as well as funding to assist in broadening their reach. In the next 5-10 years, she would like to have an educational campsite in a rural area where workshops, conferencing and accommodation can be provided.

You can contact *InspiraXion Developments* on their WhatsApp number on 065 094 3077.

OPPORTUNITIES AND CHALLENGES

CHALLENGES

The socio-economic landscape within South African townships exacerbates the obstacles faced by all enterprises within the community, including lack of infrastructure, financial constraints, and maladministration, among others. Tech and tech-enabled businesses face further challenges, such as the lack of network infrastructure, lack of access to devices, and theft and vandalism of both devices and other necessary infrastructure. The challenges listed were identified and informed through academic findings and primary research in the form of interviews and a national survey.

1) **Fundraising and Access to Finance**

   The overwhelming majority of survey participants expressed funding/capital procurement as the greatest challenge to their business. Township tech is almost exclusively an SMME sector therefore company assets and necessary equipment are less frequently acquired through business revenue. Subsequently, the need for financial intervention by public and private entities is critical to the success of these businesses. Even in cases where funding is approved, township-based SMMEs (typically black-owned) face obstacles in financing applications and are offered less favourable interest rates. A study sampling 321 SMMEs in the Eastern Cape revealed that black-owned businesses were 2.33 times more likely to experience credit rationing than white-owned businesses, and 1.52 times more likely than mixed-race-owned businesses.[55] From the data it may be concluded that the demand for government subsidies and funding cannot be met with current programmes.

2) **Government Administration**

Another significant challenge coming from those within the township tech ecosystem is the poor administrative support from provincial and national government departments. Half of the survey respondents indicated that they have experienced challenges when engaging and attempting to engage with the public sector - many of whom experienced difficulties in the application stage. At least 9 respondents were deterred from engaging at all due to the perceived lengthy and complicated processes, whilst a further 6 stated that they received no communication after submitting applications. The latest data shows that there are currently 2.55 million registered SMMEs in South Africa, growing by 1.7% from 2020 to 2021 (average national population growth sits at 1.3% per annum), thus public administration systems need to evolve to withstand the increased volume of applications and filing.[56]

3) **Lack of Skills and Skills Development**

Some of the entrepreneurs interviewed listed a lack of skills as one of their challenges. Most of these entrepreneurs have experienced challenges around employing people from their communities as there is a general lack of technical knowhow and there are insufficient resources to equip them with the necessary skills. Survey data also indicated that 21.8% of the respondents viewed “lack of employees” as one of the greatest challenges.

Zolile of MLK Computer Consulting was particularly hindered by the lack of practical technological skills available in his township community. The size of this particular employee market is relatively small and would need to increase in order for current business to expand and for new businesses to enter the market.

4) **Unemployment & Crime**

A 2021 study shows that, of 498 respondents across various townships in South Africa, 76% named unemployment as a challenge to their business - the most pressing issue in township-based SMMEs.[57] Unemployment restricts the customer market size because technology products and services are not priority goods and services in times of poverty. In areas of high unemployment, crime levels are exponentially higher, therefore desperation often leads community members to damage and/or steal SMME assets or supporting infrastructure.

Over a quarter of the survey respondents (26.9%) were concerned about the security and

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[55] Mbedzi, E. and Simatele, M. (2020). Small, micro and medium enterprises financing: Costs and benefits of lending technologies in the Eastern Cape province of South Africa: *Journal of Economic and Financial Sciences*, 13(1). Available at: https://jefjournal.org.za/index.php/jef/article/view/477/999 [Accessed 30 June 2020].

[56] SEDA. (2022). *SMME Quarterly Update Q3 2022*. Department of Small Business Development.

[57] Wiid, J. and Cant, M., 2021. The future growth potential of township SMMEs: An African perspective. *Journal of Contemporary Management*. 18(1), pp.508-530. Available from: https://jefjournal.org.za/index.php/jef/article/view/477/999 [accessed 6 June 2022].

safety of their business and its assets. The first quarter of 2022 has seen a 12.7% increase in commercial crime over a one-year period, with more than 8 000 incidents of commercial crime per month.[58]

5) **Lack of Infrastructure and Resources**

Following a study conducted by the University of Johannesburg, only businesses categorised as *medium* enterprises in the Soweto township reported using *"a server, internet, Wi-Fi, and mobile telecom network"* to conduct their business.[59] This supports a 2014 study conducted in Soweto which demonstrated that the smaller the size of the SMME, the less technology was used in running their business. Of those that earned between R5 000 and R10 000 per month in revenue, less than 50% of the owners used a laptop or computer daily.[60] Many of the entrepreneurs that were approached cited the poor and/or lack of infrastructure as one of their biggest challenges limiting technopreneurship activity in their communities.

6) **Business Registration**

Having a registered business comes with advantages, especially increased credibility and greater access to funding. The majority of the businesses we surveyed, at 76.9%, are registered, while 23.1% are still yet to register their business. This indicates that 23.1% of these start-ups do not contribute to the formal economy. The majority of the start-up respondents that had gone through a skills/business development programme, at 83%, are registered. This large number of registered businesses could be due to the skills/business development programmes showcasing the importance of registering a business. Organisations such as SEDA and hubs based within the townships or servicing the informal economy could play a role in guiding businesses through the necessary processes and documentation needed to register in order to open more doors for the businesses.

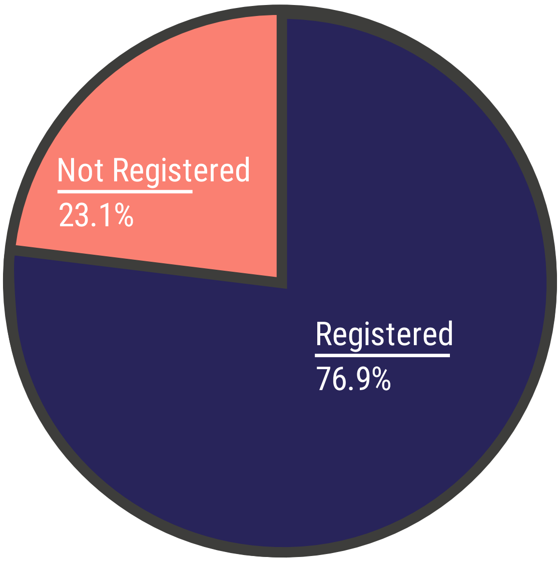

Chart F: Registered VS Non-Registered?

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58 South African Police Service. (2022). *Police Recorded Crime Statistics Republic of South Africa*. [online]. Available from: https://www.saps.gov.za/services/downloads/fourth_quarter_presentation_2021_2022.pdf [accessed 30 June 2022].

59 Bvuma, S. and Marnewick, C. (2020). Sustainable Livelihoods of Township Small, Medium and Micro Enterprises towards Growth and Development. 12(8), p.3149. Available from: https://www.mdpi.com/2071-1050/12/8/3149 [accessed 7 June 2022].

60 Marnewick, C. (2014). Information and communications technology adoption amongst township micro and small businesses: The case of Soweto. *SA Journal of Information Management*, [online] 16(1). Available from: https://sajim.co.za/index.php/sajim/article/view/618/750 [accessed 7 June 2022].

OPPORTUNITIES

The functional use of technology can be a great opportunity for South African township businesses to excel. Adding a tech element to the township economy can deliver many benefits such as: opening access to new markets, improving business operations, and easier access to funding.[61] This is also a great way of fostering the township economy to enter into the mainstream market. Although tech market opportunities are specific to each township, there are various opportunities that cater to every township economy. These opportunities include:[62]

1. ***Joining a township incubation hub/accelerator***

   Accelerators and incubation hubs contribute positively towards businesses. Incubators and accelerators assist start-ups to achieve a level of growth as well as assist with long-term business development.[63]

   Two of the most prominent incubation hubs that can be found in South African townships are:

   - **The Khayelitsha Bandwidth Barn** - Khayelitsha (Cape Town, Western Cape)
   - **eKasiLabs**: - Mohlakeng (Johannesburg, Gauteng)
     - Sebokeng (Vereeniging, Gauteng)
     - Garankuwa (Pretoria, Gauteng)
     - Soweto (Johannesburg, Gauteng)
     - Tembisa (Johannesburg, Gauteng)
     - Alexandra (Johannesburg, Gauteng)
     - Mamelodi (Tshwane, Gauteng)
     - Kagiso (Krugersdorp, Gauteng)
     - Kathorus (Johannesburg, Gauteng)
     - Mabopane (Tshwane, Gauteng)

2. ***Participating in skills/business development programmes***

   Based on survey respondents, the majority of the entrepreneurs attended a business development programme that was offered by the public or private sector. In these spaces, they learned valuable skills and some found their business mentors in these programmes. Here is a list of start-up programmes currently running in 2022.

3. ***Collaborating with reputable companies in the industry***

   Partnerships with well-known companies in the industry enhance business operations and access to opportunities for many township entrepreneurs. The partnerships are not always directly financially beneficial but can bring brand awareness and credibility, as well as enable access to new markets for the startup companies. Some of the entrepreneurs we have spoken to have noted that this can be done by approaching these companies and starting conversations with them. Here's more information on how to do so.

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61 Western Cape CoLab. (2019). *Enabling Township Entrepreneurs for Opportunities in the Digital Economy.* [online]. Available from: https://www.wcapecolab.org/single-post/2019/07/29/enabling-township-entrepreneurs-for-opportunities-in-the-digital-economy. [accessed 3 June 2022].

62 SME South Africa. (2021). *Township Business Ideas and Opportunities.* [online]. Available from: https://smesouthafrica.co.za/township-business-trends-opportunities/ [accessed 5 June 2022].

63 International Labour Organization. (2021). *Promoting sustainable entrepreneurship through business incubators, accelerators, and innovation hubs.* [online]. Available from: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---ifp_seed/documents/publication/wcms_820562.pdf [accessed 28 June 2022].

FINDINGS

The following survey data was informed by 78 respondents that have identified themselves as having a tech startup or tech-enabled startup. The majority of the entrepreneur respondents are between 25 and 35 years old, with 60.3% of these being men. The higher rate of male entrepreneurs could be related to the challenges experienced by female entrepreneurs around higher barriers to entry and experiencing a harder time accessing funding.[64]

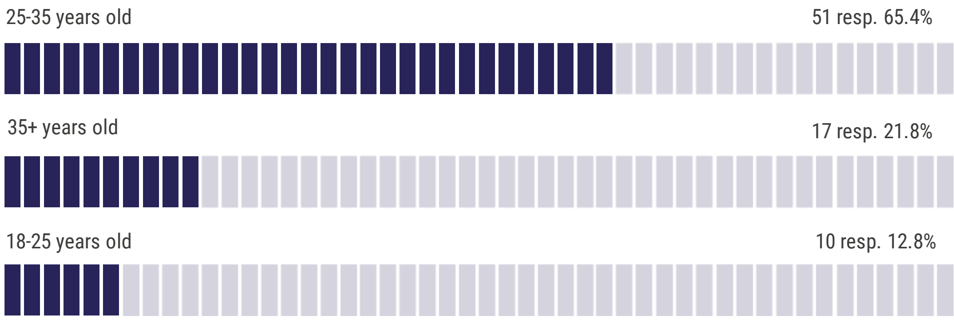

Table1: Entrepreneurs age range

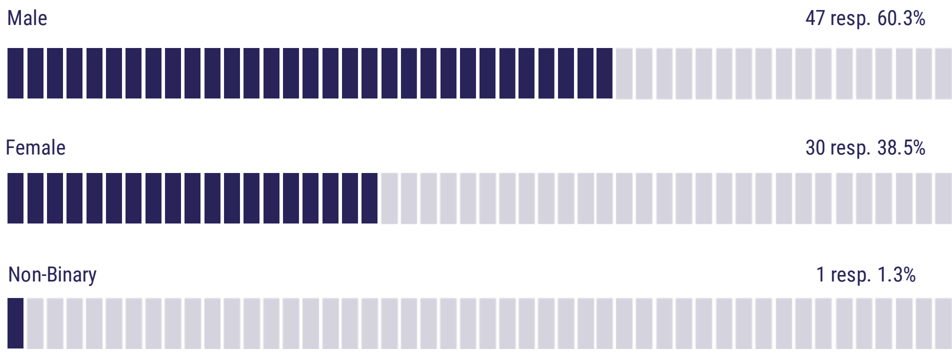

Table 2: Gender of Entrepreneurs

As seen in Table 3 below, 87.1% of the respondent entrepreneurs have indicated they have completed their secondary education. 43.9% of the total respondent entrepreneurs have completed or are in the process of completing an undergraduate whilst 11% have completed or are currently completing a postgraduate certification. Only 12.8% of the entrepreneurs have not completed their secondary education whilst 17.9% have grade 12 as their highest qualification. 12.8% have indicated they have participated in vocational training outside of a university.

[64] Kanze, D. *Gender Inequality in Entrepreneurship*. [online]. Available from: https://researchoutreach.org/wp-content/uploads/2021/03/Dana-Kanze.pdf [accessed 28 June 2022].

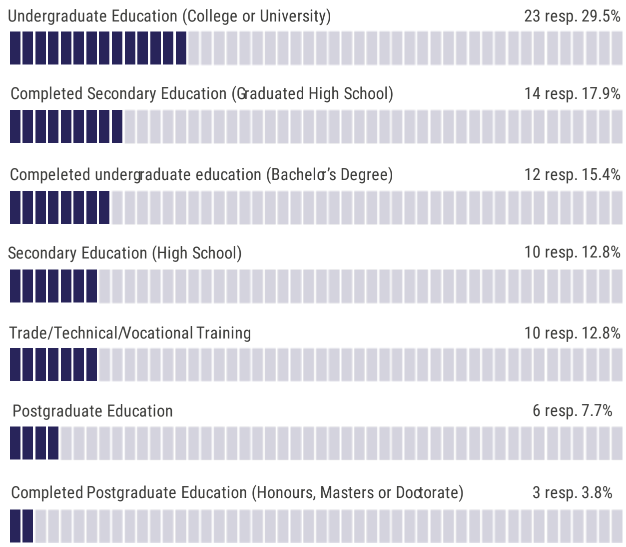

Table 3: Highest level of Education amongst Entrepreneurs

The majority of the entrepreneurs who responded to our survey are from the Western Cape, at 65.4%; three provinces namely Limpopo, Mpumalanga and the Northern Cape, have the least respondents at 1.3%. The entrepreneurs come from 40 different townships around South Africa, with the majority (68%) from Khayelitsha, followed by Soweto (at 13%). Having a large number of technology start-ups from the Western Cape is in alignment with findings of The Start-up Genome Ecosystem Report 2020 which ranks Cape Town as the second highest ranked African city in their Top 100 Emerging Ecosystem Rankings.[65]

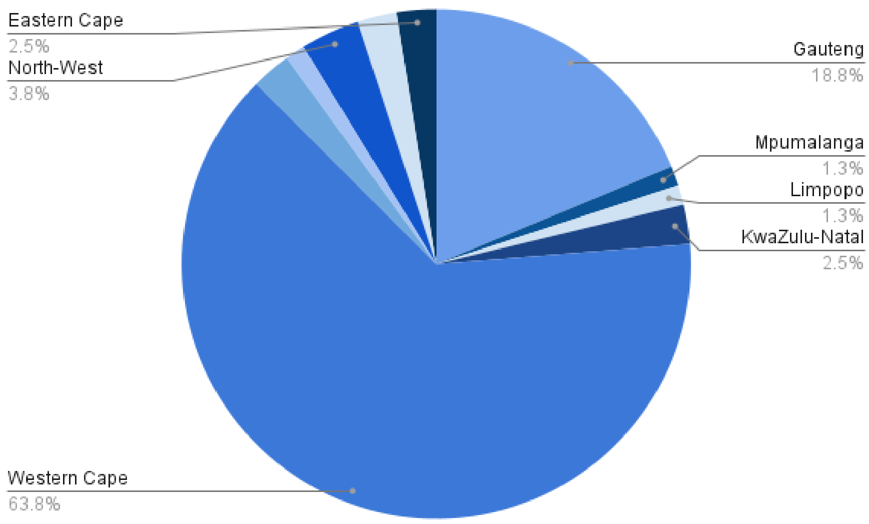

Chart B: Entrepreneurs provincial location

According to our survey, 47.4% of the entrepreneurs have a technology business, while 52.6% of the entrepreneurs have technology-enabled businesses. 'Technology-enabled' can be defined as entrepreneurs using some form of technology within their businesses such as utilising the internet through their mobile phones, laptops or computers.

[65] Startup Genome. (2020). *The Global Startup Ecosystem Report GSER 2020*. [online]. Available from: https://startupgenome.com/reports/gser2020 [accessed 27 June 2022].

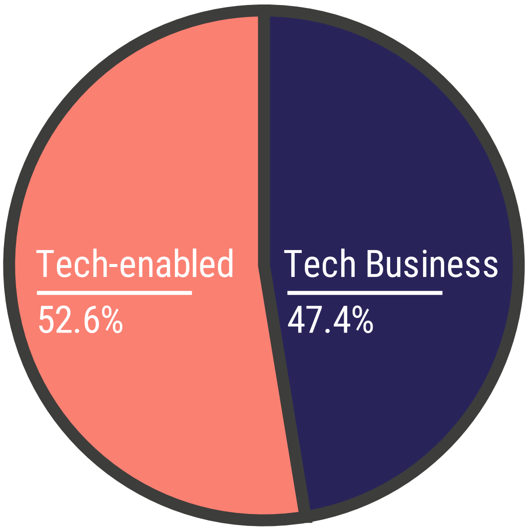

Chart C: Tech vs Tech Enabled

As noted previously, 52.6% of respondents stated that they run their businesses full time, while 33.3% of the respondents run their businesses part time while also being employed, and 14.1% of the respondents have more than one business, so they run these businesses part time.
Half of the women who participated in the survey run their business full time, 33% of women run their businesses part time while they are employed and 17% of women run multiple businesses all part time.

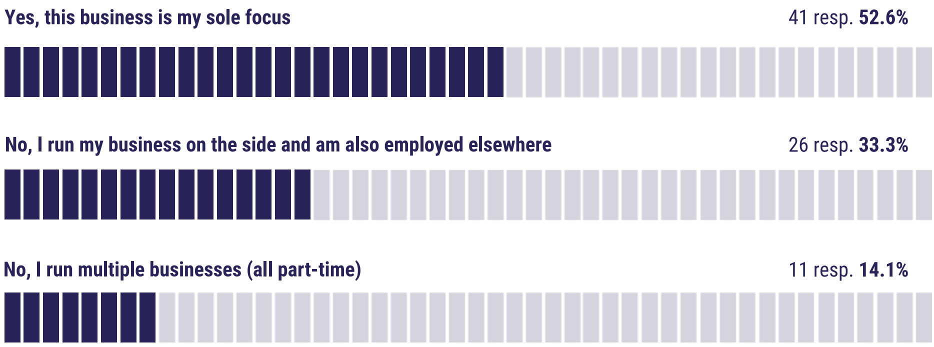

Table 5: Full Time VS Side Business

A majority of the businesses (55.1%) run by the entrepreneurs have been in operation between 1-5 years, while 35.9% of the businesses have been in operation for less than a year and only 9% of the businesses have been in operation for over 5 years. The high number of start-ups that are between 1 and 5 years indicates that there is an emergence of new entrepreneurs in the market. This could have been caused by the restrictions on movement at the beginning of the pandemic, which resulted in technological solutions being developed to address the new township needs. The small percentage of businesses that made it past the five year mark goes back to the narrative of there being a high failure rate of start-ups in the early days of their business.[66] These failure rates are usually caused by lack of cash flow or expertise in their market, meaning they don't have the necessary knowledge or skills to run the business, as well as being in the wrong market, by not understanding the customer needs.[67]

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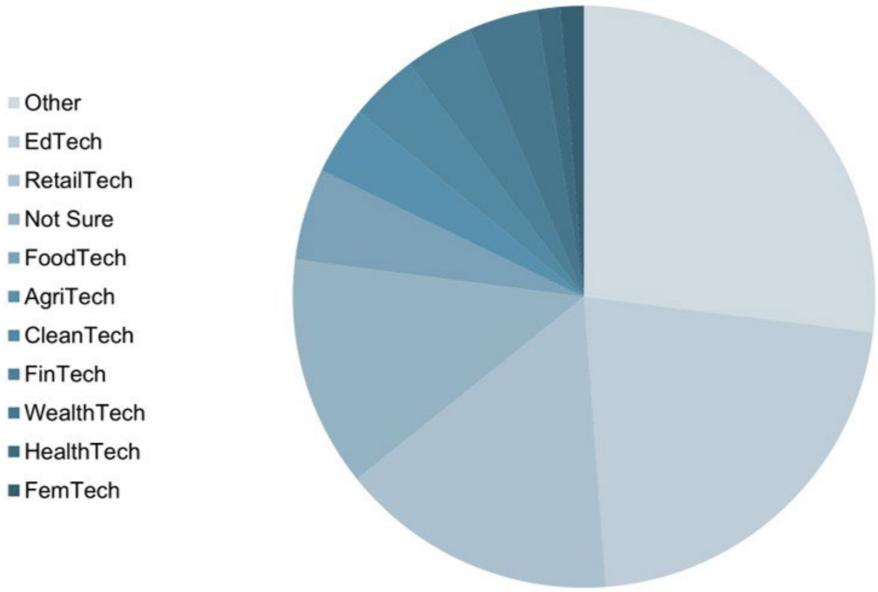
[66] Bryant, S. (2022). *How many start-ups fail and why?* [online]. Available from: https://www.investopedia.com/articles/personal-finance/040915/how-many-startups-fail-and-why.asp [accessed 1 July 2022].
[67] Bryant, S. (2022). *How many start-ups fail and why?* [online]. Available from: https://www.investopedia.com/articles/personal-finance/040915/how-many-startups-fail-and-why.asp [accessed 1 July 2022].

A large percentage (60.3%) of the respondents indicated they run technological solution-based businesses, whilst 12.8% of the entrepreneurs are not sure which technology business they belonged to, and the remaining 26.9% stated that their sphere was not included in the list. EdTech has a large percentage of responses on this survey at 21.8%, whilst HealthTech and FemTech shared the least proportion of responses at 1.3%.



Pie Chart G: Technology Businesses Categorisation Study

Entrepreneurship is a form of job creation. The 78 businesses that answered this survey contributed a total of 750 jobs. According to the survey, Mejiki, a FoodTech start-up contributed to the bulk of the jobs by employing 500 people, however, we were unable to validate this claim through online sources and a request sent to the respondent to confirm the figure. RLGS, an AgriTech start-up and GugsFM contributed by each employing 16 people in their start-ups.

When the entrepreneurs were where they see their businesses in 10 years, they all indicated positive outcomes. They would like to see their businesses grow and contribute to the economy through job creation. The entrepreneurs want to see themselves as industry leaders, with an international footprint and with all this growth, contribute towards skills development in the community, utilising their knowledge and resources.

The majority of the respondents at 55.1% partly utilise online and offline offerings, 28.2% fully operate online, while 11.5% do not use or have a website or social media for their business. The usage of both online and offline operations indicates an understanding of their operating context. Townships often have challenges relating to infrastructure, so having offline services for clients does not isolate customers with no online capabilities.

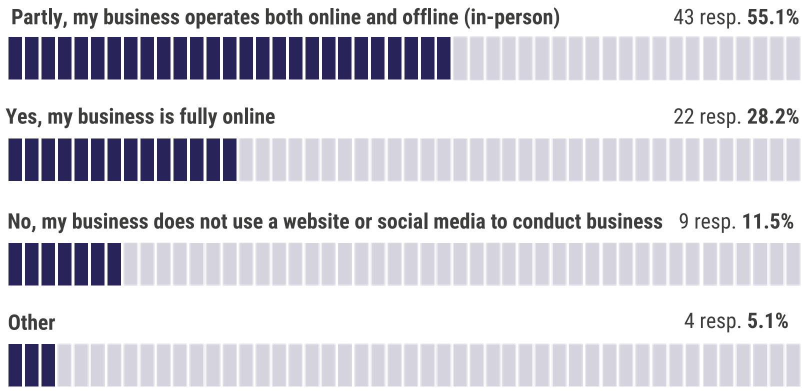


Table 7: Tech/ICT Reliability

A large majority of the entrepreneurs, at 89.7%, utilise laptops to run their businesses, followed by mobile phones at 74.4%. The majority of South Africans utilise mobile phones to access the internet, with a 90% smartphone penetration in the country.[68] The large number of respondents utilising technology to run their businesses showcases the need for technological migrations into the business, as it opens up wider opportunities and creates greater efficiency.

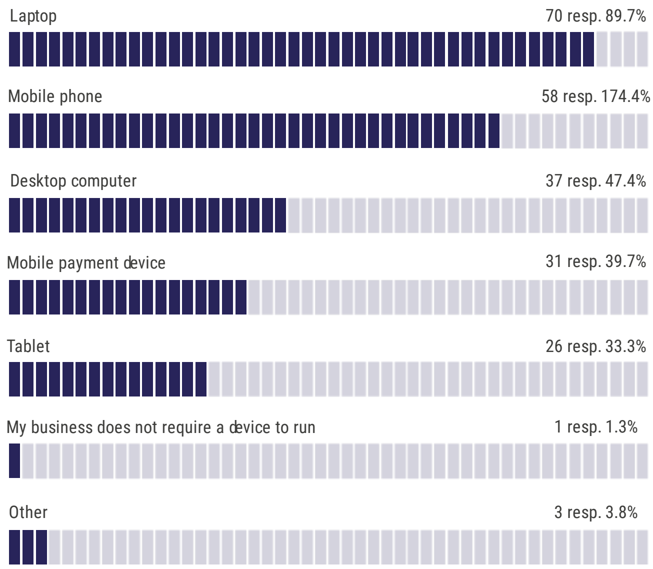
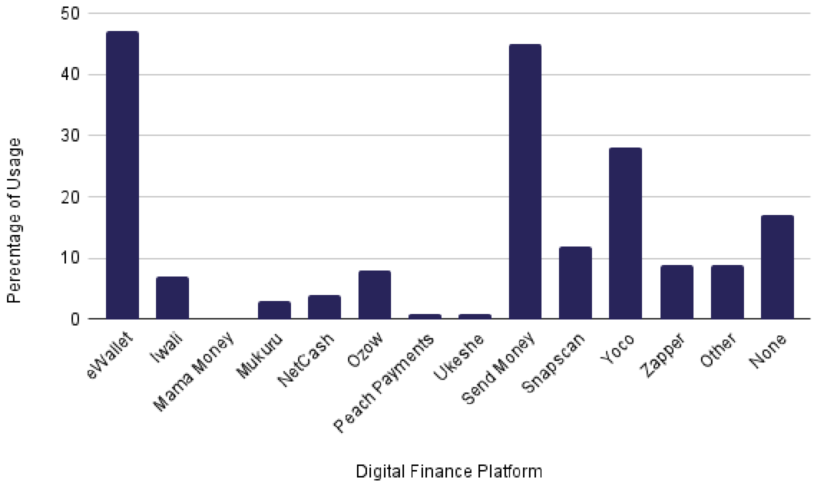


Table 8: ICT Business Tools

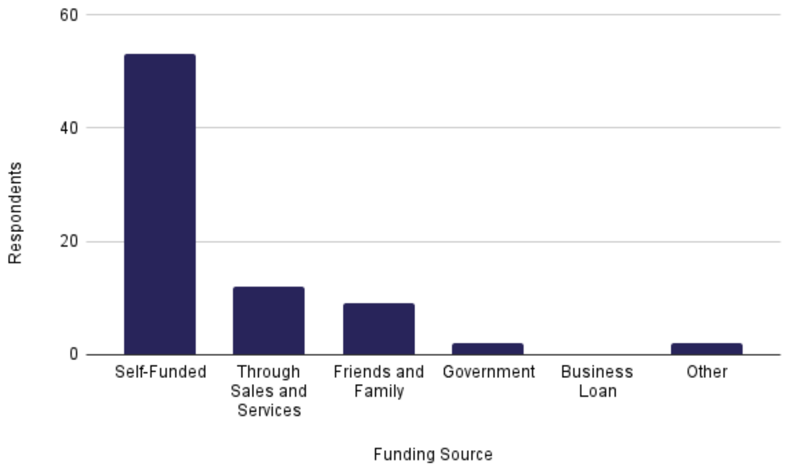
FNB-backed transaction platforms, eWallet and Send Money, were used by 48 of the 78 respondents (61.5%). This particular question has highlighted the importance of large financial institutions in townships, specifically FNB and to a lesser extent Nedbank (Imali), to facilitate economic growth by assisting B2B and B2C transactions. Over a quarter (28.2%) of the respondents however, indicated they do not make use of digital financial tools.

[68] Connecting Africa. (2020). *SA smartphone numbers jump, but fixed broadband subs drop* [online]. Available from: https://www.connectingafrica.com/author.asp?section_id=761&doc_id=761473 [accessed 28 June 2022].



Bar graph 9: Digital finance platforms utilised by Township Tech business.

A majority (67.9%) of the respondents indicated that they injected personal funds into their business to maintain operations, whilst a further 15% indicated that business revenue was their main source of finance. Trust seems to play an integral role in township tech SMME funding as 94.8% of the participating businesses indicated they rely on either self-funding, business revenue or friends and family for capital generation. The most interesting insight from this question was that none of the respondents indicated that they acquired a business loan. This could be attributed to the lack of knowledge surrounding business loan acquisition, the reluctance of banks to provide loans to township SMMEs, a combination of both factors, or possibly other factors.



Bar Graph 10: Business Funding Types

Most of the respondents (76.9%) earn less than R10 000 per month, displaying that the majority of businesses included are still in the micro-stage in their business development. A further 16.7% indicated they brought in between R10 000 and R25 000 of revenue per month. Monthly and annual revenue on its own cannot be used as an accurate measure of business development since some businesses are in higher income brackets though employ more staff. Although two respondents indicated they generate more than R100 000 per month in revenue, these respondents indicated that they are not based in a township.

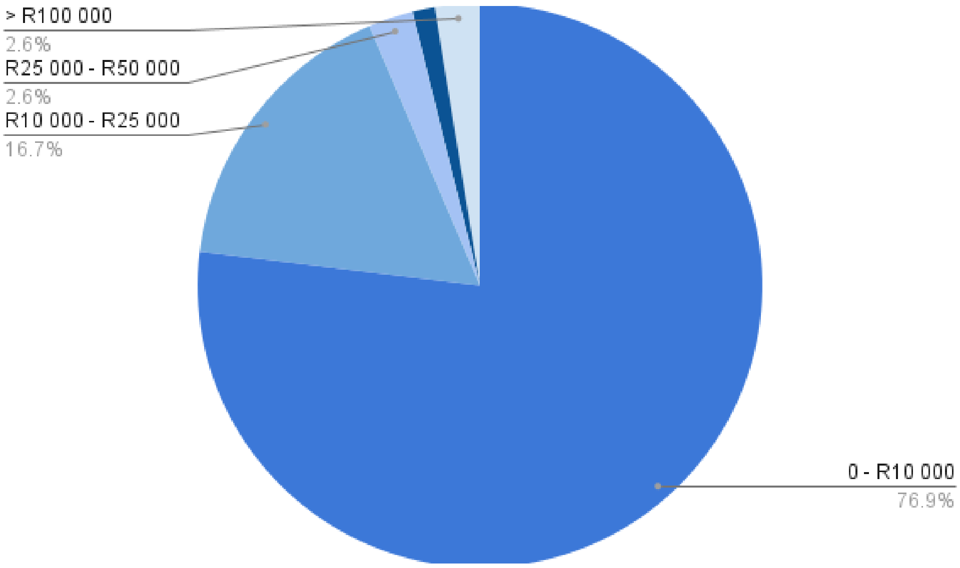
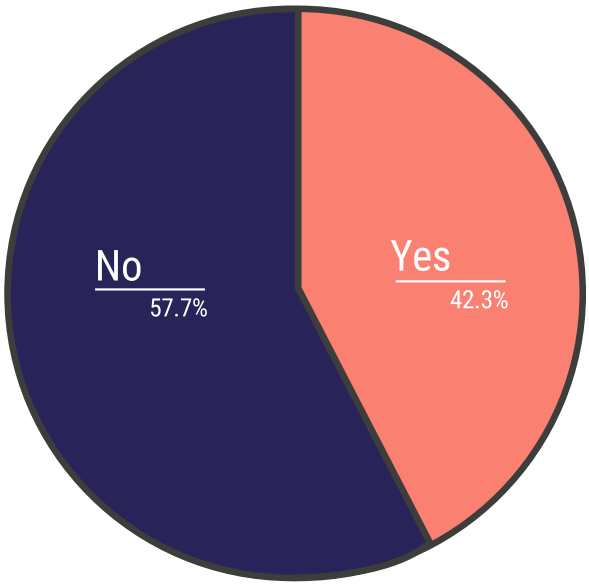


Chart H: Income Brackets

The survey included several public sector involvement and engagement questions. One of the key figures derived from the study was an overwhelming 93.6% majority stated they can identify existing and/or potential future ways in which the South African government can support their businesses. The results indicate that SMME owners are in need of both business guidance/mentorship and finance opportunities. This figure highlights the disconnect between SMME entrepreneurs and governmental agencies and programmes, both within the township economy or otherwise.

Only 42.3% of respondents indicated they had engagements with government agencies/departments, of those who answered yes, 26.9% had engaged with SEDA, 24.4% with SEFA and 7.7% with other agencies. Four of the six respondents who selected "other" indicated they had engagements with the National Youth Development Agency, however no one within the "18 - 24" bracket had specified they worked with the NYDA.

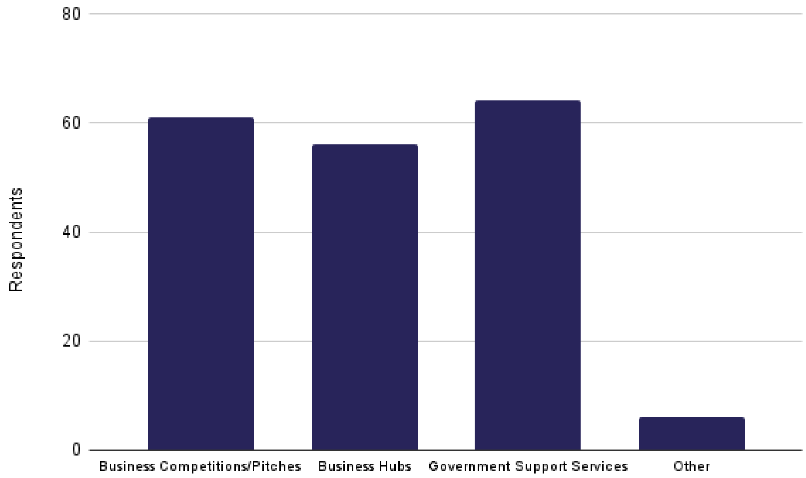


Pie Chart I: Engaging with Government

One of the qualitative questions included in the survey asked those who engaged with government if they had encountered challenges whilst doing so. Those that had previously engaged with the provincial and/or national government expressed strong dissatisfaction with public administration systems. Lack of communication, long tedious processes and unresponsiveness are the most common complaints amongst the respondents.

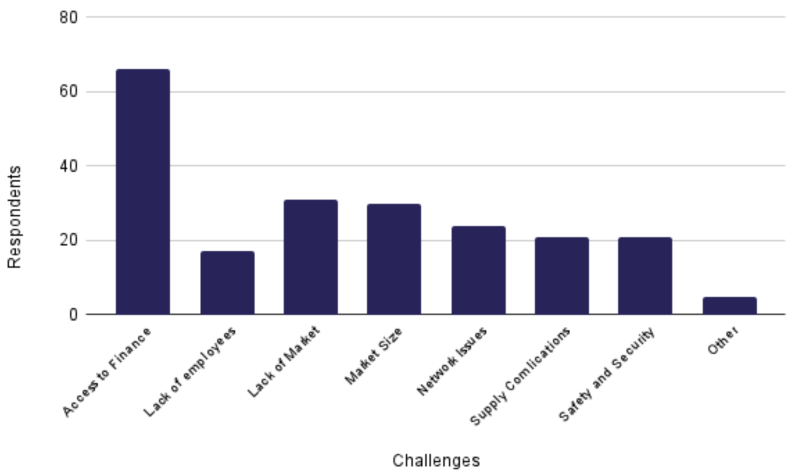
All but two respondents had indicated they would like to receive information to help grow their business. One participant did not wish to receive market/business-related information whilst the other abstained from the question.

The most desired information, receiving 64 of 78 responses (80%), was gaining knowledge surrounding public support structures and market developments and competitors, whilst increased business hubs followed with 56 votes (73.7%). One suggestion from respondents was that public and private incubators could produce regular briefs, opportunity brochures and newsletters to keep the township tech and/or the township SMME ecosystem in the loop.



Bar graph 11: Most popular types of information businesses would like to receive.

Information is critical to spotting opportunities within the market, and 84.6% of respondents stated that access to financing posed one of the greatest challenges to their business. The low engagement with government agencies/departments and/or programmes may be a contributing factor to the financial struggles in township tech SMMEs. The lack of information and limited market size were identified as significant challenges, polling at 39.7% and 38.5% respectively. Safety and security remains a concern for 26.9%, whilst a limited pool of employees was experienced by 21.8% of the participants. Other challenges included a lack of office space and mentorship.



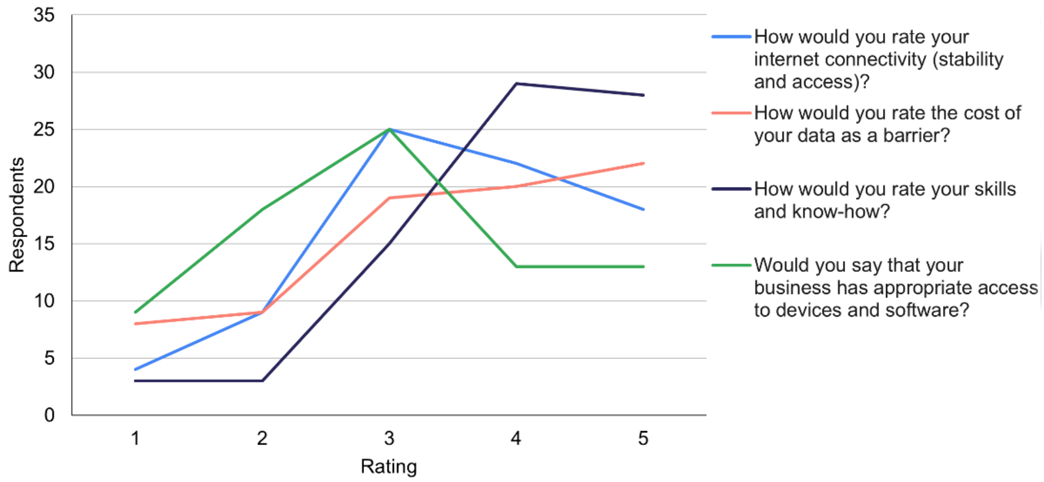
Bar Graph 12: Challenges to Township Tech Businesses

As discussed throughout the report, we have identified many challenges in the township tech ecosystem. ICT infrastructure is vital for the operation of township tech businesses. Of the respondents, 83.4% are neither dissatisfied nor satisfied with their internet connectivity - providing a rating of 3 out of 5. The remaining 11.5% and 5.1% were dissatisfied and rated the connectivity 2 and 1 out of 5, respectively.

The majority (78.2%) of respondents identified data costs as having an average to significant negative impact on their business: 28.2% of the respondents rated the hindrance of the cost of data as a five, a further 25.6% as a four, 24.4% as a three, 11.5% as a two and 10.3% as a one.

In terms of skills, 35.9% of the respondents rated their skills as a five, a further 37.2% as a four, 19.2% as a three, 3.8% as a two and 3.8% as a one. Confidence in one's skills is an imperative aspect of entrepreneurship and is displayed through the results as only 7.6% rated themselves less than a three rating.

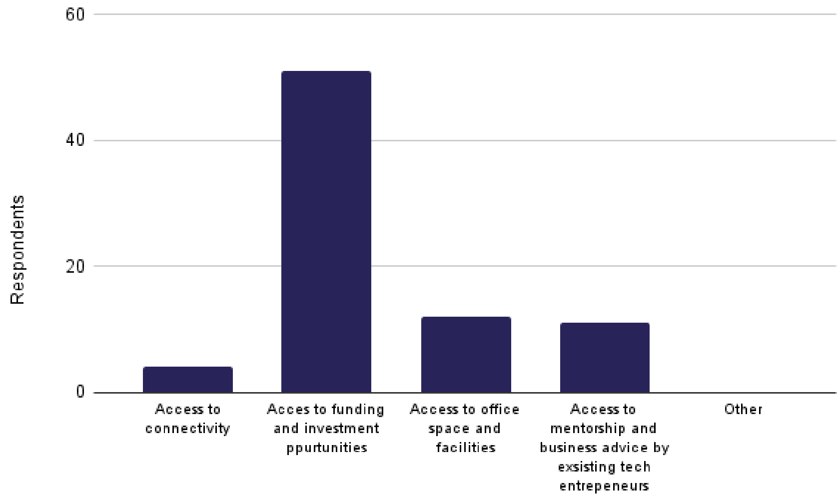
The question on access to necessary tech devices and software resulted in the following figures: 16.7% of the respondents rated their access to devices and software as a five, a further 16.7% as a four, 32.1% as a three, 23.1% as a two and 11.5% as a one. The trend leans in favour of overall satisfaction with business access to ICT products.



Linear scale depicting several rating-based questions

Of the 62 respondents that provide technological products to customers, 35.5% rated their user-friendliness as a five, 21% as a four, 37.1% as a three, 4.8% as a two and 1.6% as a one. As previously mentioned, successful entrepreneurship and entrepreneur confidence are symbiotic, therefore business owners would naturally be confident in their product. Although a plethora of factors could contribute to the 6.4% that rated their user-friendliness below 3, from the survey, it can be inferred that a lack of mentorship and feedback could be contributing factors.

A recurring theme throughout the responses has been the desire for more access to and knowledge regarding funding opportunities from both public and private entities. A large portion (65.4%) of respondents indicated that greater access to financial aid opportunities would stimulate growth in the township tech ecosystem. Access to office space and facilities was then identified as the second most popular response with 15.4%, followed by access to mentorship and business advice by existing tech entrepreneurs and access to connectivity with 14.1% and 5.1%, respectively.



Bar Graph 13: Stimulus for Township Tech

CONCLUSION

South African townships have always been a hive for different entrepreneurial activities, and this could be related to existing investment opportunities within the township economy, skills or based on the survivalist mindset. This report placed a specific focus on tech businesses and tech-enabled businesses in townships across South Africa, with the aim to provide insights into the supporting regulatory environment, social dynamics that benefit and hinder the success of the township tech economy, market drivers, and investments, as well as finance opportunities. The township tech economy encompasses a variety of products and solutions within the technology sector and consists of a mix of B2B and B2C business models. From the primary research conducted for the purpose of this report, it is evident that, as these businesses continue to operate, there is a preference toward servicing and supplying other businesses as it provides stable income. In this regard, township-based tech startups are hampered by poor economic activity as individuals do not have disposable income to pay for the products and services provided by these businesses. Thus, it is imperative that, in conjunction with reforms that will aid the township tech landscape specifically, overall economic growth is prioritised by public officials.

Additionally, we explored the differences between male and female entrepreneurs and found that the number of female entrepreneurs is relatively lower than with that of their male counterparts. Primary research has revealed that fewer women technopreneurs feel encouraged to apply for funding opportunities more than once. This is an issue that needs to be addressed to improve the township economy and bridge the gender gap in the country.

The findings noted in this report highlight the fact that innovation and resilience are the most sought-after qualities amongst township-based entrepreneurs. This was, especially, shown in conversation with our profiled entrepreneurs. It is imperative that these individuals and many alike receive all the necessary support through investments, mentorship and recognition by the formal economy, in order to grow and empower the township tech economy.

REFERENCE LIST

Bhat, I., & Gulzar, F. (2020). An Insight into the Factors Affecting Women Technopreneurs. *International Journal of Knowledge Management and Practices*, *8*(1), pp. 33.

Bryant, S. (2022). *How many start-ups fail and why?* [online]. Available from: https://www.investopedia.com/articles/personal-finance/040915/how-many-startups-fail-and-why.asp [accessed 1 July 2022].

Business Tech. (2017). *Absa sets aside R10.5 million for SA township economy.* [online]. Available from: https://businesstech.co.za/news/banking/187979/absa-sets-aside-r10-5-million-for-sa-township-economy/ [accessed 6 June 2022].

BusinessTech. (2022). *Digital boost for South Africa's most densely populated province.* [online]. Available from: https://businesstech.co.za/news/mobile/585510/digital-boost-for-south-africas-most-densely-populated-province/. [accessed 2 June 2022].

Buthelezi, L. (2021) *Tech a look at this: SA embracing fourth industrial revolution with home-grown innovations*. [online]. Available from: https://www.news24.com/fin24/companies/tech-a-look-at-this-sa-embracing-fourth-industrial-revolution-with-home-grown-innovations-20210922 [accessed 7 June 2022].

Bvuma, S and Marnewick, C. (2020). Sustainable Livelihoods of Township Small, Medium and Micro Enterprises towards Growth and Development. [online]. Available from: https://www.mdpi.com/2071-1050/12/8/3149/htm [accessed 17 June 2022].

CiTi. *The Khayelitsha Bandwidth Barn is South Africa's only township-based tech hub and is a key enabler of inclusive innovation*. [online]. Available from: https://www.citi.org.za/spaces/bandwidth-barn-khayelitsha/ [accessed 25 June 2022].

Connecting Africa. (2020). *SA smartphone numbers jump, but fixed broadband subs drop* [online]. Available from: https://www.connectingafrica.com/author.asp?section_id=761&doc_id=761473 [accessed 28 June 2022].

Department of Science and Innovation. (2019). *White Paper on Science, Technology and Innovation*. Government, Pretoria. https://www.dst.gov.za/. [Accessed: 08/06/2022]
Department of Telecommunications and Postal Services. (2016). Electronic Communications Act: National Integrated ICT Policy White Paper. Government Gazette. (No. 40325). [online]. Available from: https://www.gov.za/sites/default/files/gcis_document/201610/40325gon1212.pdf [accessed 6 June 2022].

Drakenstein Municipality. (2021). Draft Township Economy Strategy. Drakenstein Municipality, Paarl.

GIETU. (2021). *Technopreneurship: an emerging field of Entrepreneurship*. [online]. Available from: https://www.giet.edu/post/technopreneurship-an-emerging-field-of-entrepreneurship/#:~:text=Technopreneurship%20is%20the%20latest%20buzzword,used%20in%20the%20year%201987. [accessed 21 June 2022].

International Labour Organization. (2021). *Promoting sustainable entrepreneurship through business incubators, accelerators and innovation hubs*. [online]. Available from: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---ifp_seed/documents/publication/wcms_820562.pdf [accessed 25 June 2022].

Irene, B. (2019). Technopreneurship: a discursive analysis of the impact of technology on the success of women entrepreneurs in South Africa. In Digital Entrepreneurship in Sub-Saharan Africa (pp. 147-173). Palgrave Macmillan, Cham.

ITWeb. (2022). *MTN rolls out R2.2bn Gauteng township investment*. [online]. Available from: https://www.itweb.co.za/content/raYAyqorn5WMJ38N [accessed 3 June 2022].

ITWeb.(2022).*Telkom powers Soweto-based tech entrepreneurs*. [online]. Available from: https://www.itweb.co.za/content/KBpdgvpzwVEMLEew. [accessed 9 June 2022].

Kanze, D. *Gender Inequality in Entrepreneurship*. [online]. Available from: https://researchoutreach.org/wp-content/uploads/2021/03/Dana-Kanze.pdf [accessed 28 June 2022].

KG Labs. (2018). *What is business ecosystem*. [online]. Available from: https://kglabs.org/what-is-business-ecosystem/ [accessed 25 June 2022].

Kuta, S. (2018). *What Is Corporate Social Investment?* [online]. Available from: https://bizfluent.com/about-4676602-what-corporate-social-investment.html [accessed 9 June 2022].

Marnewick, C. (2014). Information and communications technology adoption amongst township micro and small businesses: The case of Soweto. *SA Journal of Information Management*, [online] 16(1). Available from: https://sajim.co.za/index.php/sajim/article/view/618/750 [accessed 7 June 2022].

Mason, C. and Brown, R. (2014). *Entrepreneurial ecosystems and growth oriented entrepreneurship*. Ministry of Economic Affairs: Netherlands

Mathibe, M., Muchenje, T. & Masonta, M. (2022). *Smart Townships as a Starting Point for South Africa's 4IR Strategy*. [online]. Available from: https://www.acumenmagazine.co.za/articles/smart-townships-as-a-starting-point-for-south-africa-s-4ir-strategy-11972.html [accessed 23 May 2022].

Mbedzi, E. and Simatele, M. (2020). Small, micro and medium enterprises financing: Costs and benefits of lending technologies in the Eastern Cape province of South Africa: *Journal of Economic and Financial Sciences*, 13(1). Available at: https://jefjournal.org.za/index.php/jef/article/view/477/999 [accessed 30 June 2020].

Newton Fund. (2020). Technopreneurship in South Africa. *Newton Fund South Africa Newsletter Edition.* (6), pp. 3-23.

Ngek, N. B. (2018). Challenges and performance of women-owned informal businesses in South Africa: A family embeddedness perspective. In *Proceedings, 19th International Academy of African Business and Development Conference* (pp. 170-180).

OC&C Strategy Consultants. (2018). *Tech entrepreneurship ecosystem in South Africa.* [online]. Available from: https://www.occstrategy.com/media/1295/tech-entrepreneurship-ecosystem-in-south-africa.pdf [accessed 24 May 2022].

Philip, K. (2018). *Township economic development: A framework for the development of metro strategies*. Department of National Treasury, Pretoria.

Pietersen, K. (2021). *An IP Primer for Start-Ups in South Africa.* [online]. Available from: *https://spoor.com/an-ip-primer-for-start-ups-in-south-africa/.* [accessed 6 June 2022].

SEDA, 2022. *Home*. [online]. Available from: http://www.seda.org.za/AboutUs/ [accessed 5 June 2022].

SEDA. (2022). *SMME Quarterly Update Q3 2022*. Department of Small Business Development.

Shafi, I., & Gulzar, F. (2021). Women Technopreneurship: Perceived Barriers and Challenges. *IUP Journal of Entrepreneurship Development*, *18*(4), pp.31-44.

SME South Africa. (2017). *The state of SA's township entrepreneurship* [online]. Available from: .https://smesouthafrica.co.za/15427/The-state-of-SAs-township-entrepreneurship/ [accessed 23 June 2022].

SME South Africa. (2018). *5 great apps created for the township market.* [online]. Available from: https://smesouthafrica.co.za/township-market-apps-tech. [accessed 7 June 2022].

SME South Africa. (2021). *Everything you need to know about enterprise and supplier development in South Africa.* [online]. Available from: https://smesouthafrica.co.za/programs/everything-you-need-to-know-about-enterprise-supplier-development-in-south-africa/. [accessed 6 June 2022].

SME South Africa. (2021). *Township Business Ideas and Opportunities.* [online]. Available from: https://smesouthafrica.co.za/township-business-trends-opportunities/ [accessed 5 June 2022].

South Africa The Good News. (2017). *Uplifting the Township Economy.* [online]. Available from: https://www.sagoodnews.co.za/uplifting-township-economy/ [accessed 6 June 2022].

South African Police Service. (2022). *Police Recorded Crime Statistics Republic of South Africa*. [online]. Available from: https://www.saps.gov.za/services/downloads/fourth_quarter_presentation_2021_2022.pdf [accessed 30 June 2022].

Startup Genome. (2020). *The Global Startup Ecosystem Report GSER 2020*. [online]. Available from: https://startupgenome.com/reports/gser2020 [accessed 27 June 2022].

Telkom. (2022). *About FutureMakers*. [online]. Available from: https://www.telkom.co.za/about_us/futuremakers/index.shtml [accessed 3 June 2022].

The Innovation Hub. *EkasiLabs.* [online]. Available from: https://www.theinnovationhub.com/business-incubators/ekasi-labs-4 [accessed 25 June 2022].

The Innovation Hub. (2020). *Entrepreneurs As A Driver For Growth Of Township Economies*. [online]. Available from: https://www.theinnovationhub.com/press-room-media/thought-leadership-articles/innovation-articles/entrepreneurs-as-a-driver-for-growth-of-township-economies-nws665. [accessed 20 June 2022].

The Presidency South Africa. (2013). Intellectual Property Laws Amendment Act 28, 2013. Notice 655. *Government Gazette.* (Vol 582, No.37148). https://www.gov.za/sites/default/files/gcis_document/201409/37148gon996act28-2013.pdf. [Accessed: 06/06/2022]

Van Wyk, C., & Van Gaalen, P. (2021). *Thriving township economy vital to SA's economic revival.* [online]. Available from: https://www.investec.com/en_za/focus/economy/thriving-township-economy-vital-to-sas-economic-revival.html#:~:text=An%20estimated%2017%25%20of%20South,families%20who%20lack%20formal%20employment [accessed 3 June 2022].

Venter, R., Urban, B. (2015). *Entrepreneurship: theory in practice*. Oxford University Press, Southern Africa.

VMLY&R. (2021). *What's Going On with the Township Economy Since Covid Started?* [online]. Available from: https://www.vmlyr.com/en-za/south-africa/news/what%E2%80%99s-going-township-economy-covid-started. [accessed 3 June 2022].

Western Cape CoLab. (2019). *Enabling Township Entrepreneurs for Opportunities in the Digital Economy*. https://www.wcapecolab.org/single-post/2019/07/29/enabling-township-entrepreneurs-for-opportunities-in-the-digital-economy. [accessed 3 June 2022].

Wiid, J. and Cant, M., 2021. The future growth potential of township SMMEs: An African perspective. *Journal of Contemporary Management*. 18(1), pp.508-530. Available from: https://jefjournal.org.za/index.php/jef/article/view/477/999 [accessed 6 June 2022].

Zisengwe, M. (2019). *Are township enterprises using tech to develop and grow township economies?* [online]. Available from: https://medium.com/civictech/are-township-enterprises-using-tech-to-develop-and-grow-township-economies-9a4ffe1c04e4. [accessed 7 June 2022]

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