SOUTH AFRICAN CULTURAL OBSERVATORY

Gaming in South Africa: Producers & Consumers

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South African Cultural Observatory

Report

Gaming in South Africa: Producers & Consumers

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1. Summary of Main Findings

The Producers/Studios

- The local gaming sector is in its infancy with most companies under ten years old.
- There are about 49 studios in number, but only a fraction of them are bona fide businesses that are active and generating an income in producing games.
- There are currently no studios in South Africa producing their own AAA games. This means no large-budget 'blockbuster' type games are being created.
- The focus is on smaller premium indie games for a niche audience beyond SA's borders.
- 7 'big' studios have been identified that are growing and have successfully penetrated the global gaming market.
- The largest companies in terms of staff are those involved in third-party service work – co-producing games for other studios, publishers or corporate entities.
- A skills deficit at the mid-career level was cited by third-party service gaming companies and those pursuing their own IP as one of the restraining factors to their companies' growth and that of the industry at large.
- The industry's growth and job creation is more closely tied to service work than IP creation.
- Most third-party service studios indicated that they wanted to or are pursuing generating their own IP. They wish to establish an income and reputation in the global market and better understand it through doing service work before embarking on a high-risk high-capital investment by producing their own IP games.
- Successful studios driving their own IP are mostly aligned to a publisher based in the US or Europe.
- Only one service-based company contracts for local businesses. All service-based studios are dependent on revenue and clients in the US or Europe.

Are Conditions in South Africa Fertile for growth of the Gaming Industry?

- Given that the growth of local gaming companies relies on premium PC games, there is an insufficient local audience to drive any expansion.
- This has forced gaming companies to cater for audiences at a geographic remove from them.
- A lower cost of living in South Africa, which is believed to translate into cheaper (compared to first world countries) salaries for gaming professionals, has allowed local studios to remain competitive in the global market. However, South African labour is not as cheap in India or other countries in the Global South.
- A lack of government support and other unfriendly business trading practices were cited by a number of stakeholders as a barrier to SA establishing itself as a gaming development hub.
- An unstable electricity supply that loadshedding by Eskom has created has been challenging for gaming companies.

An absence of 'African Games'

- Demand for African content in the west has become more pronounced, particularly since the release of *Black Panther*. This has manifested in one of South Africa's biggest gaming deals with one of the largest publishers based in the US.
- The need for 'African' content can also be detected in various programmes run by console makers who are running workshops on the continent to identify new games and talented creators.
- However, local studios are not creating content targeting South African consumers as consumers can only afford (and have access to) mobile devices and Free-to-Play (F2P) games. The niche audience for 'indie' PC games in this country is too small to be viable.
- Several stakeholders raised the point that an African "themed" game, or the fact that it was "made in Africa" are not unique selling points that have value – players simply do not care. If one wants to find commercial success (internationally and in the local market) you have to first ensure you are making a world-class game (Tshimologong, 2021: 28).

Global Consumers

- The Asia-Pacific region claims the biggest market share of the global gaming market in terms of audience and turnover numbers.
- The Africa and Middle East Region boast a larger number of users than North America or Europe, however, the two latter continents boast a larger income. The larger income generated from games in the US and Europe is also most likely due to players spending more money online than those in Africa and the Middle East.
- One of the most significant game consumption determinants (in Western countries) appears to be age or generation. As the secondary data demonstrates, while Baby Boomers and Gen Xs are gamers, it is Millennials and Gen Zs that account for the most gamers.
- There appears to be little correlation between income and education as factors encouraging gaming in the US and UK. This needs to be taken into consideration for potential and current South African audiences, though with an awareness that there are considerable income and education gaps between the US/UK and South Africa.
- Primary data collected on Steam shows that in the online PC gaming sphere, America claims the majority market share in terms of audience. This fact also bears out when considering that South Africa's top-selling game on this platform, *Broforce*, is primarily played by an audience in North America.
- American domination in terms of studios and publishers also aligns with the fact that South African studios, whether advancing their own IP or servicing other studios and publishers, mostly rely on companies in the US.
- Despite the large number of African American gamers, there is a lack of diversity and diverse stories within the games themselves and within gaming developers in the industry (Nielsen Company, 2018). South African studios are well-placed to cater for this demand.

South African Consumers

- Given that South African audiences do not carry much influence on Steam at a global level, it follows that local studios that are interested in developing IP are not designing games that target them.
- South African gamers have a preference for playing games on mobile devices. This is not only shaped by the fact that the penetration of smartphones has been high, but because there is more and better connectivity to the internet through smartphones and cellphones.
- Only 10% of the population have access to a fixed internet connection, which is generally a prerequisite for PC and console online games.
- Given the statistics around South Africa's shrinking middle class and the income brackets that define this group, the market for online gaming is small.
- Those that are playing games on mobile devices are playing games that are primarily being produced by developers in the US and Europe.
- As such, the predicted growth and revenue expected on mobile devices with regard to gaming is not feeding into the local gaming ecosystem in any way.

Gaming Economies

- Game publishers account for the bulk of revenues in the value chain.
- US publishers are benefitting from South African IP. If they invest in the development of a game, the studio will not be able to claim full royalties on sales of the game until the publisher has recouped this investment and other costs. The standard royalty split between a publisher and a studio is 30/70 in favour of the studio.
- Steam has democratised the dissemination of online games in that anyone can load a game for US$100 (R1 700). There were 11.7k games released on Steam in 2021 (Video Games Insights, 2022), which translates into 30 games being released on the platform a day. As such, those South African studios that have managed to earn a living selling their games on this platform have done so against great odds.
- All the studios in South Africa barring those involved in third-party service work sell their games on Steam, which is how they generate an income. Only 20% of games are F2P on the platform and that figure is said to be declining.
- There is also a cost to the studios to sell their games on Steam, with the platform taking 30% of sales revenue from the developer.
- PlayStation and Xbox have come to operate very much like Steam in that they operate as digital storefronts. Revenue is also split along the 30/70 percentage in favour of developers.
- Most of the stakeholders suggested that the F2P model for mobile games automatically shapes the design of a game in such a way that it exploits the psychology of the player. This results in a game structured around extracting money from players and has been compared by many as being not too dissimilar to gambling.
- F2P games can also monetise via advertising that is played throughout the game. The owner of the game generates income for each advert that is screened. However, your game needs to be incredibly popular to attract advertising. South African gaming

companies would not be able to compete at this level, nor do they have the budgets to do so. As such, the mobile gaming landscape is not one that local studios are primarily interested in pursuing.

- At different junctures in game production, US-based companies are profiting from South African studios – in terms of the tech tools (Unity and others) and platforms for dissemination (Steam). Those studios using a third-party publisher are losing up to 60% of their game royalties – 30% to the publisher and an additional 30% to Steam (or other platforms).

2. Introduction/Scope and Goals

As this report will show, the gaming industry in South Africa is in its infancy. Of the main studios operating in the landscape successfully, most have not been operating for more than a decade.

Yet despite and perhaps due to this being a relatively new digital art form there has been interest in coming to grips with this sector. SACO undertook a study in 2018 titled *Unlocking the Growth Potential of the Online Gaming Industry in South Africa: Challenges and Opportunities*. Tshimologong, a digital hub associated with Wits University published a report in 2021, *For the win: developing a strategy to grow and transform the South African game development ecosystem*. As this title suggests, there was an interest in not only mapping the sector and identifying some of its central challenges, but advancing a strategy to grow beyond them.

The intention of this report is to build on the information contained in both previous reports with a focus on understanding gaming economies, business models and the consumers of games. This should shed light on what kind of interventions could be made to strengthen this industry in South Africa at such an early stage in its development.

How much of the local market is captured by local gaming companies? What insights do we have into patterns of consumption vis-à-vis gaming? Are international companies the primary beneficiaries of games being consumed in South Africa? Is our gaming fraternity robust and growing? These are some of the questions this report aims to uncover.

The UNESCO Framework for Cultural Statistics, published in 2009, which was intended to offer an international guideline, would classify gaming as part of the Audio-Visual and Interactive Media Domain. In SACO's most recent mapping study measuring the *Macroeconomic Impact of Cultural and Creative Industries in South Africa*, it was found that this domain was the second largest contributor to the GDP – accounting for R48.4 billion in 2020 (30% of the CCI contribution to GDP) (2022: 16).

There are many promising statistics to be found on the rise of gaming in Africa and South Africa. For example, it has been cited that the African gaming market is expected to double its revenue in the next five years; it was valued at US$ 1178.40 million in 2020 and is expected to reach US$ 2861.04 million by 2026, registering a CAGR of 15.2% during 2021-2026 (Mordor Intelligence, 2021).

A number of stakeholders interviewed for this report expressed scepticism of these kinds of statistics which can be found in a number of reports relating to gaming in Africa. Indeed, there is an abundance of such reports analysing gaming revenue since there is a hunger for information on digital art sectors, especially those that appear to be outpacing other entertainment forms in terms of growth and particularly among the younger generations. Few of these reports outline their methodology or sources, making it difficult to be sure of their validity. Nevertheless, they all seem to paint the same picture. Gaming is a growing industry across the world.

However, when you drill down into the local gaming sector, a different picture emerges that does not align with all these promising statistics. On the face of it, the number of studios is decreasing, if you take the figures of previous reports (to be around 60) to be accurate – in the 2018 SACO report animation studios were bundled into the study and the 2021 Tshimologong report claims to be based on a 2018 survey that has never been publicly released.

Not that the growth of this sector can necessarily be measured in the number of studios – our research bears out the assertion that it does not as only a small group of them are bona fide businesses generating a living income from creating or producing games. As such a closer study of the growth of their companies and revenue models offer a more accurate view of the status quo.

In gauging their business models and the factors that might be restraining growth in this sector, the heads (barring one) of each of South Africa's big gaming studios (employing more than 10 people), were interviewed and shared information about their approach and income generating strategies. This allows for a nuanced reading of this sector that has yet to be done.

Commonalities and differences emerge from this study on the titular producers, which point to the fact that few of them are generating games for local audiences. As such, the statistics on the growth of gaming in South Africa - and Africa for that matter - are not translating into any local gains.

The gaming industry is a thoroughly globalised one, though as will become clear, those that are reaping the largest financial rewards with respect to South African consumers are companies based in the US and Europe. This is illustrated in a detailed study on consumer patterns in South Africa in which a combination of primary and secondary data juxtaposing gaming and lifestyle trends is presented.

As South African studios are catering for niche audiences with a hankering for 'indie' games primarily located in the US and Europe, it was necessary to plot a similar study of global audiences. This also allowed for the consumer characteristics relating to gaming to be refined before tackling the local gaming consumer and gauging the potential of the South African gaming audience.

The focus on consumers has not been covered by previous reports in any depth and while the results will not surprise those working in the gaming sector, it does substantiate their models and isolates in figures the disconnect between local producers and consumers.

In contrast to the 2018 report, the gaming studios under analysis have been uncoupled from the animation ones. Our research found that animators are more likely to be absorbed into a gaming studio than for an animation studio to service a gaming one.

"Gaming and Animation are different industries and have unique challenges, opportunities and pipelines" (Tshimologong, 2022: 50).

The gaming value chain, which is visualised in this report, demonstrates some of those clear differences, such as engaging consumers at an early testing phase of creating games. Unlike animation studios, gaming ones face no challenges (other than financial) in publishing their creations on a globalised platform and reaching consumers directly.

The objective of visualising the gaming process and the steps in disseminating and selling games draws attention to the constituents deriving benefits at different phases. A closer look at the gaming economy also brings into focus the main barriers to reaching local audiences and the monopoly that the US has at all points of monetising content and on different kinds of devices.

The main goals of the research are to provide:

I. A visualisation of the gaming industry value chain.
II. Insight into the primary producers - the gaming studios in South Africa.
III. An analysis of the different audience segments that consume games (at a global level) and the patterns and trends relating to them.
IV. An analysis of the consumers of games in South Africa.
V. Insight into the design of game economies.

3. Methodology

In service of a balanced, well-researched, and accurate report on the gaming producers and consumers in South Africa and elsewhere, multiple approaches and sources were adopted and are listed below.

1. As the intention was to build on the two previous reports on the gaming sector in South Africa, SACO's 2018 report, *Unlocking the Growth Potential of the Online Gaming Industry in South Africa: Challenges and Opportunities* and Tshimologong's *For the win: developing a strategy to grow and transform the South African game development ecosystem* (2021) formed a starting point for the research. In the case of the latter report, however, several discrepancies between our findings and those it contained surfaced.
2. A review of existing literature and research on the gaming industry was undertaken.
3. In coming to grips with the status quo in the local gaming sector, we adopted a focused qualitative approach, producing case studies on each of the 'Big 7' Studios. This was largely motivated by the fact that they were identified as the leaders in the sector. This also compensated for the fact that it was difficult to gather solid data on all the studios that we were able to identify due to either not being able to establish if they were still active or operating as bona fide studios. The consensus suggested that the majority of studios are assumed to be hobbyists even if they have websites or have published games. The industry gaming body, Interactive Entertainment South Africa (IESA), was not able to assist as their data is derived from anonymous surveys, which are no longer published, possibly due to lack of engagement.
4. Other stakeholders in the gaming sector were interviewed including a small independent studio and a new start-up enjoying the support of Tshimologong. Stakeholders running incubators for the industry and those running an event dedicated to gaming were also engaged.
5. In pursuit of tracking the characteristics of gaming consumers and patterns linked to them, we embraced a quantitative approach, identifying existing data on global audiences before relying on consumer statistics pertinent to the existing or potential South African audience for games.
6. In identifying consumer tastes and which countries the dominant developers and publishers originate from, we undertook different approaches to capture the 'most popular games' including listing the number of followers, positive reviews and 'top trending' games on mobile and online platforms. These platforms do not share data on games that generate the most income or downloads. We can only speculate what games these might be based on different filters that indicate popularity.
7. Lastly, the gaming economy and value chain pertaining to the production, dissemination and marketing of online games is visually depicted. As has been indicated, the focus of this model on the online gaming premium sector due to this being the dominant one for the South African gaming community.

To ensure the anonymity of the stakeholders interviewed for this report we have assigned the following identities to them. The table below, however, divulges their status in the industry. We have named the studios in the producers chapter as it is important to do so

given the paucity of information on the sector. They all agreed to share information on their businesses for this report.

Reference	Position	Time in industry	Gender
Stakeholder A	Senior development manager	>12 years	Male
Stakeholder B	Chief Operational Officer of largest third-party service company	>10 years	Male
Stakeholder C	Director of oldest gaming studio	>15 years	Male
Stakeholder D	Young director of growing gaming studio	>6 years	Male
Stakeholder E	Co-owner of small two-man studio	>10 years	Male
Stakeholder F	Founder & Director of large third-party service gaming studio working in mobile gaming	>15 years	Male
Stakeholder G	Founder of Industry body, working for third-party service company	>12 years	Male
Stakeholder H	Works at Industry body and is involved in incubator programmes for young gamers	>5 Years	Male
Stakeholder F	Director of gaming event	>8 Years	Male
Stakeholder I	Director of large third-party service gaming company	>10 Years	Male
Case Study 1	Small two man gaming studio that has existed for 9 Years		
Case Study 2	Details are outlined in the case study.		

4. An Overview of the Gaming Industry in South Africa

The gaming industry in South Africa is in its infancy. The most significant studios involved in producing IP or service work with a staff complement above 10 people were all founded around 2014. As such the gaming industry in this country has only existed in any significant manner for around a decade. It seems likely that its belated growth – compared to gaming industries elsewhere - is linked to local companies only gaining access to international online platforms such as Steam (which is the biggest online market for PC-based games) in 2013. It was in this year that the first SA-produced games, *The Harvest* and *Desktop Dungeons*, were launched on Steam. Prior to that Valve had been an option, but as they would vet games it was difficult to gain access to the global gaming consumer base. This put studios in the Global South that were unable to get to gaming events or secure publisher representation at a distinct disadvantage (Stakeholder C). Steam has democratised the global gaming market, as any developer, no matter their location or their size, can load their game onto this platform for a fee of US$100 (approximately R1 700).

Given how young this industry is, it is impressive what the prominent companies have achieved. Nyamakop, which was founded in 2015 has only produced one game to date, but has recently landed the biggest publishing deal for a South African game. Quarter Centre Forward, South Africa's oldest gaming studio established in 2008, garnered an award for *Desktop Dungeons* at the 2011 Independent Games Festival – and by 2016 had reportedly made in excess of R9 million (Vermeulen, 2016). The game was initially developed with funds raised through crowdfunding. In terms of developing a successful library of IP, Free Lives undoubtedly stands out as the country's leading studio with five published games, among them *Broforce* which has clocked sales amounting to US$1 million (R17 million) per annum.

The majority of these games and the focus of studios producing IP is on generating premium games (a model where the consumer pays an upfront once-off fee) for PC or console. South African studios are largely creating or servicing the 'indie' games niche – a term used to apply to those games created by smaller teams with modest budgets, as opposed to AAA (or Triple-A) games, a rating attached to those games which, like Hollywood blockbusters, are produced by large studios with sizeable budgets (Bernevega; Gekker, 2021).

In this way, the South African gaming landscape is one defined by studios making indie games that cater to niche audiences (Stakeholder C). However, on a global scale, 'niche' markets can be lucrative ones (Stakeholder B). As such, despite being small there are opportunities for local gaming studios to be successful and attract international publishing deals.

There are currently no studios in South Africa producing their own AAA games, only those companies servicing those that are, such as Balisti Studios. The production of AAA games is not only contained within a single large studio, but can span across multiple studios. This was the case with the making of *The Last of Us Part 2*, created by Naughty Dogs studio, one of the largest studios based in the US with the assistance of 14 other studios. Around 2 000 specialists were involved in producing that game (Maher, 2020).

In line with this it has been suggested that "the biggest indicator of a successful ecosystem and the most effective means of growing an ecosystem is to have large studios operating in the ecosystem" (Tshimologong, 2022: 14). As the Naughty Dogs production evinces, one high-budget production provides work for many smaller studios other than the one driving the IP. You could surmise that creating and producing a AAA game in South Africa would not only require a large studio able to handle it, but a string of smaller ones. This would require a cluster of medium-sized studios with the necessary skill set and likely, some local investment. Presently, the gaming landscape in South Africa is not able to meet these criteria. The majority of studios, 41 of the 49 tracked in this study (84%), are defined as microenterprises.

Crucially, there is a skills deficit in South Africa's gaming industry, particularly at a mid-career level. Every stakeholder interviewed for this report cited this as the primary condition restraining the growth of their business and the industry at large. In this industry, the skill levels of the staff are the main asset of a studio. Since the local industry is an 'indie scene', this has determined the current level of skills. As such certain specialist game designs are not possible to achieve with the current pool of developers (Stakeholder E). This may account for the recurring observation made by a number of studio heads that the gaming industry in South Africa "has plateaued" (Stakeholder D).

Testing this perception with existing data is challenging given that the number of studios deemed to exist might not be able to reflect 'growth' since the majority are considered to be micro-studios. So while previous reports (SACO, 2019; IESA, 2015, 2016; Tshimologong, 2022) have listed up to 60 studios existing, in reality a fraction of those are operating full time, employ staff, or outsource work and generate their income from game development for their own IP or in service of others.

This study identified only 7 studios that could meet the criteria listed above which makes for an extremely small industry. This is the result of several factors, which will come clearly into focus in this report, but also relate to the following characteristics of this industry;

1) It is a highly competitive globalised industry – a surplus of new games has led to the notion of an 'indie apocalypse' (Stakeholder C).
2) Producing games is expensive and time-consuming.
3) Returns on investment follow a long tail pattern – it can take up to ten years to achieve a game's full monetary rewards.
4) Creating IP is high risk due to the cost. A return on investment is not instant, but rather depends on a sustained stream of consumers over a long period of time.
5) This is a field driven by and reliant upon different groups of specialists.
6) This is a data-driven industry – interest is measured in the numbers of downloads and sales rather than in the quality of the artistry, narrative or technical nous of the developers.
7) Gaming is therefore completely audience-centric. Their engagement is not only measured in sales and downloads but also in their interaction with the product, which feeds into its creation and updates. As such this is a highly participatory medium.

Tellingly, the largest studio – in terms of turnover and employees - is focused on service work for mostly international publishers and companies.

As the impact of the opening up of the Steam platform to the Global South demonstrates, the growth of this industry is due to relationships with publishers, companies, and sales on platforms that are based in the US and Europe. This is also due to the small size of the South African consumer market for PC or console indie games (this will be addressed in more depth further in the report) and an absence of local or African-based publishers investing in game development. From this perspective, only the companies that are able to deliver a high quality of work that appeals to a market – a niche one in this case – remain active and operational. As such, only those studios detailed in the chapter on producers are currently producing work of a world-class standard.

South Africa is proving to be a viable outsourcing hub for international gaming and publishing companies. In part, this is due to the competitive rates that they are able to offer as salaries in South Africa are lower than those of studios in the US or Europe. Additionally, exchange rates favour international companies in the US and Europe as it is comparatively cheaper to outsource work to South Africa rather than doing it all in-house. Local rates are also competitive for the quality of the work in relation to other outsourcing tech hubs such as those in India or elsewhere (Stakeholder I). As such the local gaming industry is dominated by those focused on service work for studios and publishers beyond its national borders. This has established the South African gaming industry as one that is very connected to the global gaming market.

The global games industry is a growing one, at the rate of 5% year–on–year (Digital Vector, 2021). However, it is mobile and hand-held games that have been found to be the fastest growing segment, followed by console games. The PC games segment, however, is stagnating with almost no growth (Digital Vector, 2021).

At a local level, these statistics are similar though slightly different with regards to PC. In terms of turnover in 2020, of the total South African gaming market value of US$289.5 million (R5 billion), mobile games command US$258.9 million (R4.4 billion), PC games attract US$17.6 million (R300 million) while console games account for only US$13 million (R226 million) according to a Newzoo report (Bassey, 2022). This preference for mobile games echoes across the continent with 95% of gamers opting to play games on smartphones or tablets as opposed to consoles and computers (Bassey, 2021). South Africa is believed to have the highest saturation of gamers, with 24 million people playing within a population of 59 million (40%) (Bassey, 2021).

The dominance of mobile games not only globally but locally and the high turnover for games in mobile and PC (in the billions and millions respectively) is clearly at odds with the picture of a gaming industry that is so small – only 7 studios known to be generating profits – and is focused on indie games for PC and console. Similarly, the figure of 24 million people said to be playing games in South Africa suggests that the industry is out of sync with the audience.

As mentioned earlier, several stakeholders indicated that the overly inflated figures touted on gaming websites and various studies did not ring true. However, at the heart of the

discrepancy between a large community of gamers said to be generating such huge incomes, is the fact that South African consumers are not playing local games on their phones as the current business model for mobile gaming is not viable economically and creatively for local companies. As will be substantiated in further sections of this report in the analysis of top-selling mobile and PC/console games, companies in the US are predominantly the beneficiaries of the growth of gaming in South Africa. This partially explains why, despite all these encouraging figures for gaming in South Africa, there is little local investment in the development of games and gaming companies. Those focused on generating their own IP either self-fund its development, raise funds through crowdfunding, or rely on foreign publishers to do so.

Investors are not encouraged by the fact that many of the studios are "pursuing projects purely to satisfy their artistic vision and not projects that are necessarily commercially viable," (Tshimologong, 2021: 33). This is linked to a disinterest in building games for mobiles, preferring premium games which for PC or console are not hampered by creative limits that a revenue generating motive can place on a narrative (in the form of in-App purchases) or a game's structure, which many studio heads suggested were more in line with gambling strategies that exploit a player's vulnerabilities. Some larger studios are said to have little interest in scaling up or taking on larger, more ambitious games or projects (Tshimologong, 2021: 33). This could relate to the cost of outsourcing beyond South Africa and the shortage of specialists in the country. Nevertheless, as it stands the local development community is disillusioned by investment prospects while the local investment community is very disengaged with the sector as a whole (Tshimologong, 2021: 33).

Demand for African content in the west has become more pronounced, particularly since the release of *Black Panther* (Stakeholder B), but also due to other socio-political shifts. This has manifested not only in the deal Nyamakop has struck with a large US publisher based on the game's 'African' content, but can also be detected in various programmes run by console makers who are running workshops on the continent to identify new games and talented creators (Stakeholder F, 2022).

> "Africa is probably the last undeveloped market for games. In the long term, a lot of these large companies are looking at Africa in terms of how to develop it. And in the last 10 years that I've been here, we've had more and more and more people from these large companies visiting the continent for the first time" (Stakeholder D).

As such the future outlook for the gaming sector in South Africa is positive. There is great potential waiting to be unlocked. As this report will demonstrate, however, this relies on connecting gaming studios to publishers in the US and Europe as African audiences cannot currently sustain local studios or content, nor is there sufficient demand for content that is self-consciously African at either a local or global level.

The disconnect between the interest in gaming in South Africa and the modest size of its industry is palpable when you consider the number of gaming related events that take place annually from Fak'ugesi, to the now defunct Amaze, Africa Games Week (previously called Playtopia), Games for Change Africa, African Comicon and Rage Expo. That so many events exist given the size of the industry implies that either they are servicing microenterprises or

addressing the consumer culture around gaming that does not seem to feed into the industry's growth. Other initiatives (hackathons and game jams) undertaken by foreign cultural organisations often focus on attracting aspiring game designers to the industry, which is no doubt bolstered by the promising statistics about the growth of games and their revenue. However, it has been found that there are not enough jobs in the industry (Tshimologong, 2021: 6). The skills deficit experienced in this industry is at a mid-career level, as such the industry is currently faced with the problem of "upskilling" a relatively large talent pool of juniors (Tshimologong, 2021: 6).

The Tshimologong Precinct located in Braamfontein, Johannesburg which is associated with Wits University is a digital innovation ecosystem that includes a coworking and maker space. They also run structured programmes for creatives working in the digital sphere. The future vision they have sketched out for the industry in their 2021 report, is one in which in a decade there would be 25 studios employing at least 50 people, 50% would be black owned and a significant number would be developing their own IP (Tshimologong, 2021: 17). Indeed, as the industry is dominated by white men, transformation of it should be a future goal.

5. The Producers

In this study, we were able to identify 49 gaming studios. This number is less than in two previous studies (SACO, 2019; Tshimologong, 2021) – where 60 were cited. This was partly due to animation companies being included who do not develop games and a reliance on surveys to collect information on gaming companies, undertaken by IESA (Interactive Entertainment South Africa, an industry body driven by one person) which relied on call-outs on gaming community websites, which may have been oversubscribed by hobbyists.

It is likely that other profitable and active studios exist, given that there is no industry convention, fair, or industry body with information on them and since they do not need to engage with local structures to generate an income, they can be tricky to track. Steam, the largest and most accessible platform for PC games does not aggregate games based on the geographic origin of the studio – the emphasis is on tracking consumers not producers - which makes it difficult to track how many South African based studios are creating their own games for this platform.

It is also very likely that many of the studios in this dataset are not active, in the sense that they are currently involved in developing games, servicing other studios, or generating a substantial income from games. Some companies, which say created a game 5 or 6 years ago, may retain their company website for as long as their games are still available on Steam. As indicated earlier, the sales of games can stretch out for up to a decade, however, in the case of an unsuccessful game, this long tail may be too lean to justify creating new games or to retain a formalised studio on a full-time basis.

The recurring view of the gaming landscape in South Africa is that it consists of largely microenterprises and/or hobbyists (Tshimologong, 2021: 37):

> “There are a bunch of micro studios, a few people trying to get something going and do it professionally, but haven't been able to do it. They try for a year or two, it doesn't work out, and then they disappear back into another industry. I wouldn't even call them indie developers, I would just call them hobbyists. They have the appearance of a company with a website and everything but I don’t actually think they're making a living out of it yet” (Stakeholder D).

A census conducted among 168 people aligned to the South African gaming industry found that of that number, 75% of gaming hobbyists indicated that they worked in software development, with the next most common industry being animation (12.8%) (Tshimologong, 2021: 63). It was also found that 69% of the hobbyists were interested in working in the games industry on a full-time basis. Three primary reasons were identified as barriers to this;

1) They could earn more in other industries.
2) There were insufficient job opportunities in the industry.
3) They lacked the skills they believed were necessary to participate in the industry.

It is interesting to observe that the difficulties involved in creating games that could be successful and the high risk in doing so was not listed as a barrier.

A skills deficit, particularly at the mid-career level was cited by third-party service gaming companies (those that produce games for other companies) and those pursuing their own IP as one of the restraining factors to their companies' growth and that of the industry at large. However, a spurt of growth experienced by one of the larger third-party service gaming companies, has allowed them to offer competitive salaries to attract developers working in the banking industry (Stakeholder B).

> “The gaming industry is so fresh and new in South Africa that we haven't had nearly enough time to mature it to the point where we even have those specialists. It will take a big company like Ubisoft or EA or something opening up a branch here and training people. That's the only real way I see it happening” (Stakeholder E).

The skills deficit is not only the result of specialists being attracted to other industries, some stakeholders suggested that many skilled South Africans are either working remotely for gaming companies based elsewhere in the world or had immigrated in pursuit of opportunities elsewhere:

> “We've exported an incredible amount of talent and skills over the last 10 years. And of course, now with remote working, we've lost an enormous amount of creative capacity to the world. They might still work here but tragically, many of them have actually moved and are working for studios globally. So, now they’re pretty much lost to the industry forever. The harsh truth is we are being left further and further behind,” (Stakeholder F).

The sign of a healthy gaming ecosystem is one that boasts a large anchor studio, according to Tshimologong (2021: 5):

> “We need more large companies to be present in the system, and we need an environment that facilitates and encourages this behaviour. It was suggested that a

> key initiative that could help accelerate this process is to locate South African citizens who are working at larger studios internationally and see if they could not be convinced to come back to South Africa to establish studios here, bringing with them a wealth of experience and an internationally linked network" (Tshimologong, 2021: 32).

Establishing or growing smaller studios into medium-sized ones could address the skills deficit as it would be able to support a bigger pool of freelancers:

"Right now, the freelancers are better off working for international studios, because we can't offer them the career-building opportunities within companies" (Stakeholder F).

A census of the games workforce (Tshimologong, 2021: 48) found that while the majority (57%) are employed in development/programming work, those working in small studios would often be involved in multiple roles. As such it was concluded that to find employment in the gaming industry, one would need to have multiple competencies. Most stakeholders indicated that the skillset of their staff was their greatest asset and accounted for the majority of their overheads (Stakeholder B). While animators were easy to attract and could adapt to the gaming industry, game designers were harder to find due to them requiring a high level of games literacy, as were programmers, according to Stakeholder D.

It has been observed that the gaming industry "is starting to show signs of maturity in its workforce, with over 21% of the workforce having more than 10 years experience" (Tshimologong, 2021: 48). Most of the stakeholders interviewed for this report affirmed that there are not enough people in South Africa who have this level of experience.

Some of the statistics gleaned from the 2021 census reveal that the overall demographics of the industry's workforce are also echoed in the 'Big 7' Studios identified in this study, which are all owned by white men. They are as follows:

> Two-thirds of the workforce are 35 years old or younger.
> 82% of the workforce is "white."
> 83% of the workforce identifies as "male."
> 94% of the workforce is South African.
> 24% of the workforce identify as being LGBTQ+, significantly higher than the national average.
> 45% of the workforce suffer from at least one mental health condition.
>
> (Tshimologong, 2022: 48)

.

As the case studies of the Big 7 Studios will show, at least two are actively shifting the status quo in terms of racial and gender bias levels in this industry. Undoubtedly, when you analyse the companies and when they were established, the local gaming sector is in its infancy.

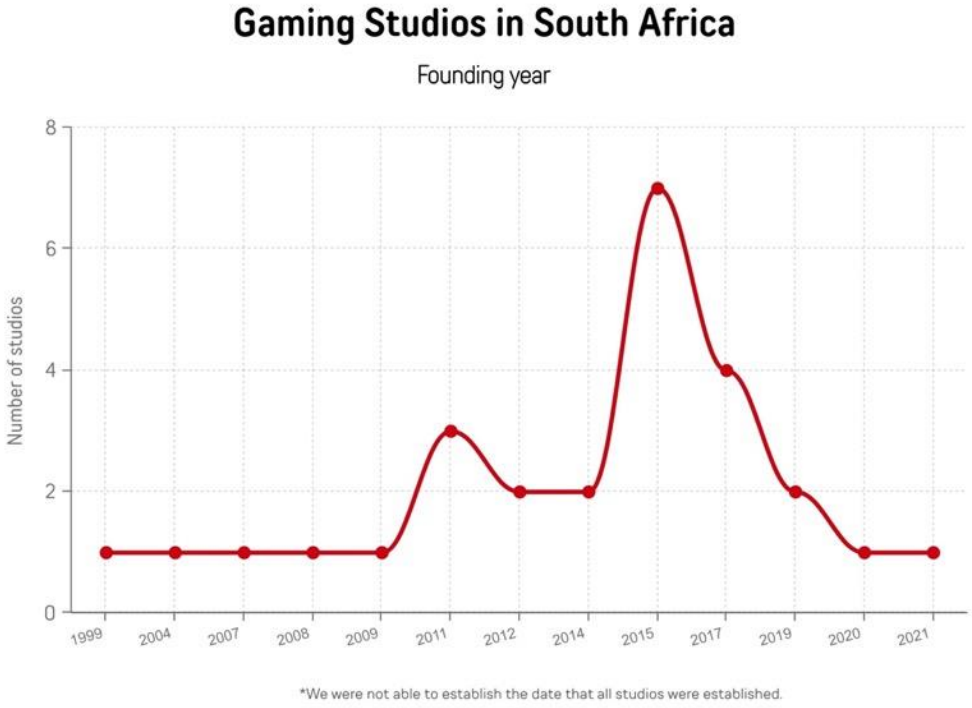


Figure 1 Year in which South African gaming studios were founded

As the above figure 1 indicates, the growth of gaming studios has been steady, reaching a peak in 2015.

The apparent abundance of microenterprises in the sector can hamper understanding where the growth is taking place and gauging shifts, given it skews the overall picture. As indicated earlier in the report an analysis of the producers therefore demands studying those companies that are active, formal businesses that employ staff (of at least 10 people) or outsource.

In the context of this study, the term producers delineates those that are producing their own IP and/or are involved in service work for other companies or publishers. In arriving at a dataset that is limited to this group, we excluded those companies producing casino games, and e-sports due to the fact that the business models and economic chains are tied to a gambling one and in the latter case remains a 'micro-cluster' of economic activity (Tshimologong, 2021: 36).

Tshimologong (2021) refer to the 'Big 6' Studios which they define as those that employ more than ten people - yet they are not named in that study. These studios were credited as accounting for "approximately half of all the permanent jobs in the ecosystem and more than half of the revenue generated" (Tshimologong, 2021: 31). In identifying those studios that may have attracted this appellation, we initially relied on existing data (SACO, 2019), and through interviews with studio heads and desktop research, we refined the dataset to isolate this group dubbed the 'Big 6' and discovered what recurring patterns could be detected.

Our research found there to be seven rather than six big studios – based on the fact that they all had over 10 employees. The larger firms employed over forty while the smallest of the group employed 10 people. On average, the 'Big 7' boasted a staff complement of 28.2 people. In total, these companies employ 198 people. The discrepancy in the number of big studios between this study and the one completed in 2021 is likely due to one of the studios having mushroomed from under 10 staff members to over 25 due to a large and lucrative publishing deal with a large US-based publisher. This demonstrates how quickly the landscape of this industry can shift in the wake of deals with international publishers – which rely on convincing and viable gaming prototypes and vertical slices (a visual and operational rendering of a partial 'slice') of a game. This will be delved into deeper further in the report.

As figure 2 below indicates, however, while successful IP can quickly grow a company, it is the third-party service sector of the gaming industry that currently accounts for the most jobs – 71% as opposed to 29%.

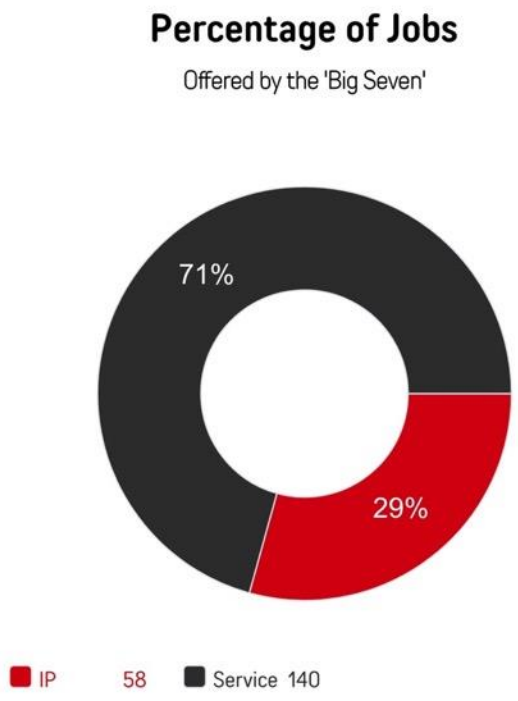


Figure 2 Percentage of jobs offered by the Big 7 Studios

From this perspective, you could surmise that at the present moment the industry's growth and job creation is more closely tied to service work than IP creation. This is not unexpected given such companies can and should be developing multiple games simultaneously.

As the profiles of the top seven companies highlight, those undertaking service work are looking at establishing their own IP in the future. Their position seems to be that it is far better to create a stable company with a good reputation in the global gaming market first through service work before embarking on the riskier pursuit of creating a game. It also makes business sense with regards to royalties, as a gaming company with its own capital to

invest in a game does not require an advance from a publisher, which sees them lose out on royalties at the launch of the game until all the costs have been recouped through sales.

From the perspective of companies that were set up to pursue their own IP, it appears that it is only in the early stages that they would rely on publishers to fund the game's creation and once they have created a winning game that delivers on a long-term stream of income, they are able to generate their own resources to fund the next game. However, they would still rely on a publisher to market and 'manage' that IP. A section on publishers will follow, which will look at the nature of that relationship.

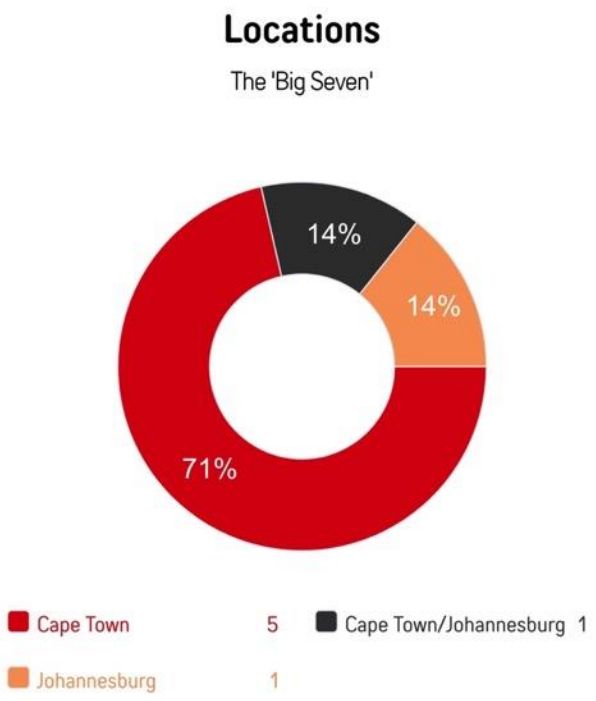


Figure 3 Location of the Big 7 Studios

As the figure above details, the majority of the Big 7 are based in Cape Town. Given that most of the studios on this list, barring one, derive their income and deal with clients and publishers outside South Africa's borders, there is perhaps little need for them to be established in South Africa's economic capital, Johannesburg. Remote work appears to have been a characteristic of this sector prior to Covid-19. In many instances, key staff members work remotely and some are South Africans based in other countries (Stakeholder C, Stakeholder B).

The Big 7 Studios – case studies

The Big 7 Studios are;

1) Ballisti
2) 24 Bit
3) Free Lives
4) Sea Monster
5) Quarter Centre Forward (QCF)
6) Renderheads/Yellow Lab
7) Nyamakop

As the profiles of each studio will show, only 3 of the 7 are involved in producing their own IP, though two, which are currently involved in service work, have ambitions to do so.

Those that are involved in producing their own IP, are working with internationally based publishers. The next chapter will explore that relationship in more detail. Having published 5 games and with one game (*Broforce*) continuing to bring in considerable revenue, Free Lives can fund the prototype and development of their own games, whereas as the younger newcomer, Nyamakop is relying on a large international publisher to fund the development of their ambitious new project, said to be the biggest deal in the industry.

It is significant that each of the 'Big 7' Studios relies on a different business model, even if they are service oriented. Renderheads, for example, have relied on creating experiential exhibitions as their bread and butter, while 24 Bit initially built their business on porting, before becoming involved in lucrative co-productions.

Please note that only games created under a company's own IP are listed. For this reason, the games co-produced or made for other companies as per a service model are not listed.

1) Ballisti Studios

Established: 2014
Location: Cape Town
Employees: 12

About:

This company is an offshoot of Triggerfish Animation Studios, one of South Africa's most successful animation companies. They are a subsidiary of Triggerfish, that pursues work in the gaming sector. What distinguishes them from Triggerfish is that they are not involved in pursuing their own IP, rather they are solely focused on service work for internationally-based companies from mobile through to AAA.

Business Model:

Service orientated. As they have strict non-disclosure agreements with their international clients, they were not able to be interviewed. However, they have publicised some of their high-profile clients which include Disney, Unity, Pixeltoys, Nordeus (a Serbian mobile games company) and Bioware corp.

2) 24 Bit

Established: 2012
Location: Joburg/Cape Town
Employees: 43

About:

Canadian-born Luke Lamothe studied video game design in Canada before starting up a few studios in South Africa. When he started 24 Bit, it was a one-man shop that relied on freelancers and the focus was on porting games – adapting them for mobile or PC/console. Indeed porting became the bread and butter of this company before it began to co-produce games for other small studios at the behest of publishers.

24 Bit has built up a reputation for third-party service work and has secured favourable retainer agreements with established indie games publishers in the US and UK, and is expected to secure a relationship with a French publisher shortly.

They have done third-party work for some local gaming developers such as Free Lives and Nyamakop, but primarily those studios' games are generated for international publishers. As such, 95% of 24 Bit's revenue is derived from international clients.

In the last three years, they have tripled in size in terms of their staff and turnover. This spurt in growth is partially due to Covid-19 and the increase in demand for games during this period but also due to "stable relationships with clients who wanted to give us more work," according to Pieter Koornhof, its chief operating officer.

Business Model:

Currently, 24 Bit assists with the co-production and co-development of games created by other studios. They derive a percentage of revenue from the games they co-create and they share in the credit of the games and have thus been able to build up an international reputation.

"If you're a small studio with your first successful title and all of a sudden, investors and publishers want to give you more money to build a more expensive title, but you don't necessarily want to expand your studio, you don't want to pay for a single project and you don't want to assume that risk, you would partner with someone like us to help you build that game," explains Koornhof.

The publishers that work with those small studios pay 24 Bit to produce and develop games for these smaller studios. Two of the US publishers that they work with are Devolver Digital and Anapurna.

Having relied on porting as their bread and butter at the beginning of their evolution, they have expertise in mobile but have found that most of their current work is adapting mobile games for console as Nintendo Switch is allowing for console games to become more 'mobile.'

They do outsource from time to time when needed, but in such instances, they prefer to work with local companies or freelancers as it is better for the bottom line.

24 Bit is interested in creating its own IP in the future, particularly now that the company is stable, has the resources to do so under its own steam, and can weather the risk this would entail.

3) Free Lives Games

Established: 2012
Location: Cape Town
Employees: 21

Games:
Broforce – 2014
Genital Jousting – 2018
GORN (VR game) - 2019
Cricket Through the Ages (mobile) - 2019
Terra Nil – TBA, 2022
Anger Foot – Full release due in 2023

Publisher:
Devolver Digital (US)

About:

Free Lives is South Africa's leading games studio, having successfully developed six of its own IP games. To date, *Broforce* (2014) remains the studio's most successful game and more than likely the most successful South African created PC game. It has enjoyed critical success through various awards but also through sales, which continue to sustain the studio, allowing them to fund some of its new games. *GORN* is their first VR game. They usually concentrate on premium games for PC or console, but some games have been adapted for mobile. *Cricket Through the Ages* is the only example of a mobile-only game and it is exclusive to Apple Arcade.

The studio is led by creative director Evan Greenwood. Free Lives do not focus on one game genre, rather their work is concept driven, often with a viral 'joke' at its core. In this way, their success has relied on a strong creative team. Their games are not aimed at a South African audience. They produce 'indie' games targeting a niche audience that is largely located in the US. According to Steam statistics on sales of *Broforce*, 0.3% of their revenue is derived from Africa while 46% of their revenue over all time has been generated from North America.

Business Model:

They focus on one strong concept and build the game around it. They test the concepts via prototypes generated in a short time frame, from eight hours to a month. Those games are typically tested on Itch.io and offered for free. If the game attracts significant consumer attention as a free product (measured in the number of downloads where 100 000 is considered to be significant) in the first couple of months, they will consider investing the three-year timespan into creating a paid version of it. This full version of the game would be released on a variety of platforms via their US publisher Devolver Digital, whom they have worked with since creating *Broforce*. They have found that approximately 1 in 10 games attracts that kind of audience response. Depending on what the studio is busy with, they might try to produce and test up to 10 prototypes a year. "You have to be able to test a lot of ideas to find the one that's really good," says Ruan Rothmann, senior development manager.

They prefer to work on premium games as designing a game that depends on micro-transactions to generate an income would place a limit on the narrative and enjoyment of their games. Nevertheless, some of their games have been adapted to mobile such as *Terra Nil*. They use 24 Bit to do their game porting so that they can concentrate on the creative work. *Cricket Through the Ages* is a mobile game. Apple Arcade paid a lumpsum to acquire it and they use a subscription service to generate income rather than via microtransactions - they would not have entertained a free-to-play model.

Broforce and *GORN* have had long tail commercial benefits for Free Lives. Devolver Digital continue to market their games on Steam with special promotions resulting in bursts of income. *Broforce* has generated US$1 million in sales to date. This revenue has meant that they no longer need an advance from their publisher to develop games, which allows them to generate royalties on new games straight away.

"We have multiple projects in the running at the same time. So we're keeping a small team with creative energy, but doing it with the support structure of a larger company (like Devolver Digital and 24 Bit). It also means that when one game finishes, there are other projects that are running that those people can join if they wish, or they can dive into the prototyping and experimentation phase again for the next game," explains Rothmann.

4) <u>Sea Monster</u>

Established: 2011
Location: Cape Town

Employees: 30-35 (with 20 additional engineers)

Games:

Sea Monster has created about 80 **serious games -** games that serve a function beyond entertainment ie. education, branded engagement, and social goals:

- *Live2Love* (Cipla): a game that motivates audiences to adopt — and retain — important habits around the use of HIV-related medication and testing.
- *Business Boost SA* (African Entrepreneurship Initiative (AEI)): a gamified platform for young South African entrepreneurs to train and upskill.
- *#POINTTAKEN* - Sea Monster was 1 of 3 winners of the U.S. - Africa Tech CStakeholder Genge where African tech companies leveraged their platforms to combat vaccine hesitancy and misinformation.
- *LIVIN' IT UP* (CAPITEC) - a mobile game to teach South Africans about balancing daily money decisions against their long-term financial goals.
- WIP - *FishFORCE* - Sea Monster was tasked to develop a virtual law enforcement game designed for law enforcement officers in the fisheries crime environment. The prototype will be available before the end of the year.
- VR Examples:
    - *The last Maestro* - created a VR healing experience for those struggling with mental health.
    - *Working at Heights* - a virtual reality experience for ArcelorMittal. The experience is designed to test for a fear of heights as well as an employee's functionality at heights by having trainees complete a series of 3 tests.
- Lighthouse Platform:
    - Lighthouse was built to allow Sea Monster's existing clients to engage with their users in the digital world by gathering a client company's content and turning it into a gamified user experience with real-life rewards
    - Accessible on the web and across devices
    - Clients: USAT, Ackermans, Makro, Disney, Savanna, and many more

About:

Founded by Glenn Gillis and Wynand "Munki" Groenewald who previously worked together at Clockwork Zoo - Africa's largest animation studio from 2005-2010 which produced the 2D long-form series *URBO: The Adventures of Pax Afrika* (2006-2009) for SABC 3, the fifth season of *Caillou* (2010) for the Canadian Treehouse TV and *Florrie's Dragons* (2010) with Wish Films (UK) for the Disney Channel UK. After the closure of Clockwork Zoo in 2010, Sea Monster was established in Cape Town as an animation studio offering full, cross-platform animation and game development services, in addition to augmented reality and virtual reality solutions that drive business and social outcomes. Sea Monster was born out of the desire to use games, VR, and AR technology as an instrument for change to develop new and advanced methods of communication and education solutions for corporations. The company was named among the top 20 in Fast Company South Africa's Most Innovative Companies in 2021.

Business Model:

For games - clients approach Sea Monster with a problem to which they offer solutions through gaming technologies. Some projects have been funded by other external sources, such as a US company. Whilst animation work forms a considerable part of the Sea Monster portfolio, their current focus and future intention is aimed at the serious gaming space and building their brand engagement platform.

5) Quarter Circle Forward (QCF)

Established: 2007
Location: Cape Town
Employees: 10

Games:
Desktop Dungeons - Self-published 2011 and Steam released 2013
Drawkanoid - 2020
Desktop Dungeons: Rewind (remastered) - TBA

Publisher:
Prismatika (Germany)

About:

Of all the current active gaming companies, QCF is the oldest. It was established by Danny Day. Rodain Joubert, who conceived of *Desktop Dungeons* joined the company and received profit shares for the game. QCF has had a rollercoaster existence. The studio initially garnered critical and commercial success with *Desktop Dungeons*. However, the gaming landscape was different at that time as Steam was not accessible to game developers in the Global South. This forced QCF to sell their games on their website using Paypal. Big publishers were interested in *Desktop Dungeons* and offers were made that would fund its development further, however, these were not realised. Once Steam became more accessible in 2013, *Desktop Dungeons* was published on the platform.

Before developing their own IP, they undertook service work for corporates and educational institutions. However, they found making games for corporates to be difficult given the small budgets and short-turnaround times on games that often were not played by a large audience. During that period they built 14 different prototypes, two of which became released games later, *Volantia* (not a QCF product) and *Drawkanoid*. The stresses of having to come up with a new IP to develop rather than returning to service work along with differences at a management level would see the company more or less cease operating around 2016 to 2017. The pressure to "build a good game right now wasn't conducive to creativity," according to Day.

Day undertook consulting work under the QCF banner before building up the company again. The focus is currently on generating new IP. A remastered version of *Desktop Dungeons* is in production and is due to be released with the support of the German-based publisher Prismatika.

Day has repositioned QCF as a creative hub that promotes new talent, and diversity with the foundation and grounding of an experienced core team. He is committed to growing skills and developing the local gaming ecosystem through support from international publishers:

"I want to funnel international publisher cash into the local gaming industry economy," says Day.

Business Model:

QCF is almost conceiving of itself as an incubator for new games created by either internal or external creators, who receive training as they build their prototypes. With Day's experience, the support of a core group of specialists, a network they have cultivated, and a German publisher in the wings, these would be produced by QCF.

QCF use their own funds to build prototypes, but when it comes to production they do not put their own money at risk; they only build games that the publisher has funded.

6) Renderheads

Established: 2015
Location: Cape Town
Employees: 35 (including contractors)

Games:
Metavoidal (in the testing phase)

About:

Shane Marks studied fine art before finding his way into the animation industry. He had been freelancing in South Africa for Renderheads, a British-based company, for two years before he proposed setting up a branch in his native country. He is a majority shareholder of the South African office, which now runs independently of the UK studio. In terms of staff numbers, Renderheads are one of the biggest studios in South Africa.

Renderheads cannot strictly be considered a gaming studio per se given that their main focus is on specialising in experiential media for exhibitions and installations. However, they undertake games for entertainment and education and offer game porting. Largely, in these various capacities, they do not service the gaming industry but rather an array of corporate clients. Nevertheless, at least half of their work pivots on gaming for entertainment and education, and they are also involved in game porting. As such they have a substantial foot in the industry, which they are expanding via Yellow Lab, an entity with a staff of five who are dedicated to pursuing IP.

Renderheads will be expanding their operations to Mauritius with a view to establishing a more Pan-African studio. This development is also motivated by difficulties with monetary exchange controls in South Africa which have hampered the business, according to Marks.

Business Model:

Renderheads derive the following percentages of their income from;

- Games for Entertainment - 5%
- Game Porting - 5%
- Impact / Educational Games - 10%
- Experiential Media (e.g. museum exhibits / mini-games) - 50%
- Metaverse - 30%

Renderheads have worked with a few select South African studios like Sea Monster and Formula-D. However, the majority of their clients and income are derived from companies outside South Africa.

A team is working on producing IP under the Yellow Lab label. The intention is to self-fund games. They are currently testing *Metavoidal* and are using it as a pilot project of sorts to feel out this side of the business, as they have less experience with IP. As such they are not working with any publishers at this stage. They have invested R6 million in the game of which R1 million is dedicated to its promotion via a staff member tasked with building a community around the game, according to Nick Hall.

7) Nyamakop

Established: 2015
Location: Johannesburg
Employees: 20-25

Games and Publisher:
Semblance - 2018 Published by Good Shepherd Entertainment (Netherlands)
To be Announced: Published by one of the largest US publishers (cannot be named due to non-disclosure agreements)

About:

Co-founders Ben Myres, Judd Simantov and Cukia Kimani launched Nyamakop while studying at the University of the Witwatersrand. They garnered a lot of attention with their debut title, *Semblance*, which was started as a university project. This led to Nyamakop being selected to join the Stugan accelerator – a non-profit accelerator co-founded and sponsored by the creators of games including *Angry Birds, Candy Crush Saga* and *Minecraft.*

Semblance was the first game developed in Africa to be released on any Nintendo console. The success of *Semblance* has since led to the studio landing what is rumoured to be the biggest game development deal for an African gaming studio with a concept that is currently in the making. It was through the representation of an acclaimed Hollywood talent agency that the deal with a large US publisher came into being. Due to non-disclosure agreements surrounding this deal, the type of game and concept are not publicised. Unlike the majority

of studios in South Africa, Nyamakop is generating a game or series of games that are Afrocentric in terms of content.

Business Model:

Despite the African consumer base being such a small audience for PC and console games, Myres was keen to figure out how to make games for Africans and to do so in a way that would be viable. He came up with a concept and upon learning that 73% of African Americans play video games, he realised Nyamakop could create a game with an African identity and aesthetic that could be financially viable if it was aimed at this segment of the US audience as well as a broader African audience in the diaspora settled in Europe. "The idea with this game and future games is to make authentic African projects that allow the diaspora to reconnect to their heritage," says Myres.

African-based studios are best able to address this interest:

"It's very difficult for anyone outside of the continent to do that because you haven't lived an African reality. If you haven't been surrounded by African culture, stories, and people, you can do good research to be authentic, but it's hard to beat having grown up around it your entire life" says Myres.

Their first game was partially funded in the beginning through loans from supporters in the gaming industry and other entities as the concept was taken further. However, going forward their model is one where their US-based publisher has funded the production of their game. As is common with such an agreement, once the publisher has recouped their investment costs, the royalties from the sale of the game will be split between Nyamakop and their publisher.

The Afrocentric outlook of this studio's content aligns with its commitment to retaining and supporting a diverse staff complement. 80% of the studio's employees are people of colour and their narrative and operations directors are black women.

A Microenterprise

Given that the gaming landscape is dominated by microenterprises, there was some value in taking a closer look at one of these businesses to discover how they came to be established, how they sustain themselves and how they are able to undertake the production of their games.

The company selected here, Case Study 1, are by no means 'hobbyists' – the two co-owners work full-time and undertake service work in the gaming industry and are able to support their families by doing so. Indeed as has been observed they, like many other companies, have little interest in scaling up their business (Tshimologong, 2021: 6). However, it is not due to the South African environment not being fertile ground to do so but due to previous experience in running a larger company, which proved to be creatively unsatisfying. Case

Study 1 is also at a point in their development where the partners are still learning the business itself and as such are not in a position to upscale at this point.

Case Study 1

Established: 2013
Location: Cape Town
Employees: 2

Games:
Stasis - 2015 (self-published)
Cayne - 2016
Beautiful Desolation - 2020
Stasis: Bone Totem - Q1 2023

About:

The founders ran a large graphics and 3D marketing company mostly servicing the architectural industry, in Joburg and employed up to 12 people. However, they were not enjoying the work and the pressures that came with running the company that they established in 2002. One of the founders had a strong artistic bent that he wanted to pursue in the games sphere and started working on their first IP game, *Stasis,* in his spare time while they were running their company. They raised funds through crowdfunding to develop *Stasis* which was released in 2015. One of the founders worked on the game while the other ran their company. This paid dividends and when *Stasis* was launched and started making an income the duo became full-time game developers. *Stasis* is their most successful game and it continues to sell well. To exploit the audience that it has attracted, they set their second game *Cayne* in the Stasis universe while their new game, *Stasis: Bone Totem,* is a full sequel that is far more ambitious. They expect the sequel to do well when it is released early next year.

Business Model:

The founders describe themselves as “control freaks” and this self-confessed characteristic has shaped their business model in that they have opted to self-publish rather than pursue a relationship with a publisher. This has meant that they have had to raise the funds for the production of each of their games. They have relied on crowdfunding to do so, not only for *Stasis* but also for *Beautiful Desolation*. In this way, the only royalties they need to split are with either Steam or GOG - the platforms where they sell their games.

Going it alone has also meant that they are responsible for the marketing of the games. They have built up an extensive database of players with whom they remain in contact via email and use Twitter primarily to engage with players and the industry at large.

They concentrate on developing their own IP, but also provide concepts, illustrations and art direction for larger international gaming companies. Their main motivation for doing so is to

learn best business practices from these interactions, while also building up a reputation in the gaming industry.

They do outsource by contracting writers, musicians, actors, and translating companies, but not for the programming and art production development of their games, which is impressive given that they are a two-man team.

Beautiful Desolation, a futuristic dystopian tale was set in South Africa and one of the central characters was a veteran of the Border War. However, they found that their American audience struggled with the accent – there were many South African and African voice actors involved in the production of that game.

Their target audience enjoys indie adventure games. They have found this resonates with Americans, Britons, Australians, Germans and Russians. As such they have had their games translated into foreign languages where their games find an audience. This does come at quite a high price (R2 per word). "The more languages you translate the game into the bigger appeal your game will have," says one of the founders.

They are particularly driven to produce more story and spectator-centric games, since this has had a huge impact on game design, via the Twitch portal, which is specifically designed to facilitate gamers watching other gamers play games.

<u>A Start-up/Incubator studio</u>

What sort of models and focus are guiding the development of new studios? Who is entering the landscape now? Below follows a deep-dive into one such company, which is part of Tshimologong's incubator programme.

Given that all of the established studios detailed above are all focused on largely servicing niche markets in the US and Europe and are doing so mostly for PC/console game formats, it is interesting that this new company has chosen the opposite approach. This may be motivated by a desire to upturn the status quo, as is suggested, but also speaks to a need to address and be connected to local audiences.

Setswana for "new beginnings", Tshimologong's vision is to become a catalyst for the development of world-leading African digital entrepreneurs which will be achieved through their approach to digital innovation which is seen to be at the intersection of hardware, software and content. The Tshimologong Precinct is located in Braamfontein Johannesburg and is associated with the University of the Witwatersrand. It is a digital innovation ecosystem that includes a coworking and maker space that also runs structured programmes for creatives working in the digital sphere. Since the launch of their flagship incubation and acceleration programme in 2017, 159 start-ups have been incubated and 231 entrepreneurs impacted (Tsimologong, 2022).

Tshimologong focuses on three key pillars: 1) skills development through the Digital Skills Academy which seeks to help grow the talent for digital ventures to thrive, 2) incubation under the Enterprise Development model which accelerates the growth of digital ventures at every

stage of their business ensuring desirable and feasible technology, as well as viable business models with sound operations, 3) the Digital Marketplace provides platforms of access to markets, partnerships and funding for digital start-ups and creatives. Under skills development, a Gaming Academy was launched in 2022 to focus on developing skills for this industry.

The incubation hub aims to develop and provide access to the market for intermediate SMMEs that are geared up for growth. The main objective for the 2022 cohort is to help them to improve the quality of their games by providing technical and business skills that will shape their video games to be more commercially viable (Tsimologong, 2022). The gaming hub currently has three black-owned start-up studios that are working on three different projects and are at different development and production stages. One of these SMMEs is Case Study 2 who is working on a game called *Fatpack Joe*.

Case Study 2

Established: 2021
Location: Johannesburg
Employees: 5

Games:
Fatpack Joe (in the testing phase)

About:

Case Study 2 currently has five permanent team members who are graduates from Wits University (with whom Tshimologong is associated) in game design relating to game engineering, art, animation and script writing. The team have at least three years of experience each in the gaming industry. At times, the team expands to include freelancers to work on particular aspects of their current project. They tend to work with the same few freelancers who they would like to make permanent once they can afford it. Case Study 2 deliver gaming products relating to 2D games, 3D games, gamification, prototypes, game assets, animations and systems. These all combine to form stylistic games, passion projects and experimental projects of different genres within the game design space. Having started working together in 2020, the company was formalised in 2021 to allow them to be eligible to pitch game ideas.

The team came together at a campus game jam with a cash prize but found that Tshimologong's problem statement at the game jam was inaccurate and so their participation revolved around creating a game to illustrate this. Case Study 2 won the game jam and was invited to be a part of the incubator programme both as an incubated company and to give their inputs into the structuring and the set-up of the programme. This related to their observations that talented graduates in the gaming industry are leaving South Africa and those that do stay have no guidance and are not paid enough to tempt them to stay so that a vicious cycle is created. Moreover, Case Study 2 felt that the South African gaming industry was not catering to the skill level that would allow people to go into e-sports and develop the consumer base in South Africa.

Their current project, which is being developed under Tshimologong's incubator programme is *Fatpack Joe* attempts to address the issues that Case Study 2 has identified. The game is designed to nurture critical gaming skills such as spatial awareness and using the controls intentionally as there are multiple objects to manoeuvre around as the player plots a path through the game.

Case Study 2 identified a gap in the South African market for a game like this as they recognised that most gamers in Africa use mobile devices on which they play games that are quite simple to play, like *Candy Crush*, and do not engage them on a more developed skill level which makes it unlikely that they will progress to playing more complex games that require greater mastery of controls and within game awareness. If someone does try a more complex game like *Brawl Day*, they often find it too hard and daunting. Moreover, many of these games are too difficult to run on mobile which then excludes the majority of the African market. *Fatpack Joe* thus acts as a bridging game as it develops the necessary gaming skills on mobile that will allow gamers to progress to more complex games that require more advanced gaming skills.

"We believe that giving the community a tool to form such relationships with games caters towards bringing gamers on the periphery of gaming more into the main line. As such hopefully producing more competitive players over time as well as game developers," says one of the founders.

Business Model:

As part of Tsimologong's incubator programme, Case Study 2 receives financial support as well as access to equipment (though they purchased their own equipment with the first payment from Tsimologong). However, they feel that the most valuable support they receive is the connections to the industry and the introductions that help build networks.

Fatpack Joe is due to be completed before the end of the year. Through their networks, Case Study 2 has been in contact with Apple South Africa with whom they are moving forwards with delivering the mobile build of the game. For Android distribution, Case Study 2 has an opportunity to pitch to one of South Africa's main cellphone network providers. *Fatpack Joe* will be free to download and play and Case Study 2 has decided not to include advertisements in their game to generate revenue as they believe that it quickly reaches diminishing returns for South African audiences. However, players will be able to purchase skins to customise their game character.

This particular cellphone network provider is in the process of launching a new business model for mobile gaming whereby players use airtime to make in-game purchases rather than linking a credit or debit card to the game (Marule). This may be more comfortable and acceptable to South African mobile gaming audiences and parents as there is an unwillingness to link credit or debit cards to games (Marule). This is a model that Case Study 2 may benefit from in generating revenue from their game if their pitch is successful. This may help with converting South Africa's player base into a consumer base which is seen by Case Study 2 as one of the main challenges in the South African gaming industry.

For the time being, Case Study 2 plan to work in mobile gaming as it speaks to their design goal and mission statement of targeting African audiences for development. Currently, there are only 700 000 consoles in South Africa out of a total population of 60 million people and so they believe that the market is too small to be a viable target at this time as they will not be able to grow the gaming market or to reach and inspire the next gamer or competitive player through console or PC games.

This speaks to the personal experiences of the Case Study 2 team as they developed their passion for gaming and the desire to work in the gaming industry by growing up playing games. Through *Fatpack Joe*, they are attempting to replicate their own experiences with gaming in developing critical gaming skills to develop a gaming audience and consumer base.

Summary of Studio characteristics:

- The majority of studios are based in Cape Town.
- Only one service-based company contracts for local businesses. All service-based studios are dependent on revenue and clients from the US or Europe.
- Service-based companies are larger than those pursuing their own IP.
- South African studios are all mostly focused on production for PC and console games.
- Service-based companies have been involved in the production of mobile games but their focus is on premium games for PC.
- Those studios driven by creating their own IP are usually aligned with an international publisher.
- Most studios do not rely on outsourcing.
- Most staff are South African based.

6. Does SA make for a sustainable Gaming Development Hub?

Is the South African environment conducive to game development, whether for those studios driving IP or producing for other studios and/or publishers?

As the chapter on consumers will clearly demonstrate, the gaming industry in South Africa is not catering to locals. This is due to low fixed access internet connections amongst the population generally while the group that does have fixed internet access and an interest in playing niche indie games is too small to sustain them. This is coupled with the fact that South Africans have a preference for mobile games.

As a result, the gaming companies are catering to an audience that is at a geographic remove from them. In this way, particularly for those focused on IP, they have little idea what games will appeal. This has led to fairly extensive games testing. However, for those companies that are succeeding, for every 10 game concepts they come up with, only 1 may be able to sustain a large audience over an extended period of time (Stakeholder A).This requires building many prototypes of games. Yet there are no grants or public or private funds that support the making of prototypes. As such, this is one of the barriers for companies, particularly the

smaller ones that do not have revenue from other previous games or via service work to build them (Stakeholder A).

Prototypes are much cheaper to produce than a complete game since they require much less labour and time. They can also be tested on the market for free – largely on Itch.io (see chapter on economic value chains) where audience interest can be gauged and secured so that there is potential for a successful prototype to attract an international publisher. The number of downloads of a prototype on a 'testing' platform like Itch.io substantiates investment.

However, in the absence of local investment not only for prototypes but game development not being realised locally, studios need to look to international publishers (if they don't have their own funds, which some of the more successful companies now do). As such being located in South Africa, at such a geographical remove from these networks places them at a disadvantage, as it is costly to travel to gaming conferences and they can be difficult to access (Stakeholder E).

Some government funding to attend major gaming events has been made available, but in some instances notification of a successful application is only received a week before the event making it difficult for studios to secure meetings and arrive prepared. The Africa Games Week event has tried to address this problem by inviting international publishers to attend, but such invitations require resources that are not always readily available, according to Stakeholder C. However, this year it is expected that representatives from EPIC, XBOX, PlayStation, Ubisoft, Raw Fury, Xsolla, and Nintendo will be in attendance (Bowden, 2022).

A lower cost of living in South Africa, which is believed to translate into cheaper salaries for gaming professionals, has allowed local studios to remain competitive in the global market. Though as observed earlier, South Africa is not as cheap as labour in India or other countries in the Global South.

"We are seen as workhorses not sweatshops" (Stakeholder B).

Not all stakeholders felt that a lower cost of living meant that gaming companies should offer good quality work at bargain prices. Nor is cost always relevant to publishers, who are looking for high quality games.

"We can make a game that is the same quality level as something else for half its budget. But that also means that you're going to be stressed while you're doing it. So we prefer to say we can do this for 80% or 90% of that budget. The publisher does not care that we're spending less money. That's not the publisher's goal, the publisher's goal is to build a thing that is as good as or better than the existing games in the market," (Stakeholder C).

Those studios focused on operating as service providers cite that English-speaking staff and being in the same time zone as Europe is a distinct selling point and this is pointed out on some of their websites.

A lack of government support, and other unfriendly business trading practices were cited by a number of stakeholders as a barrier to SA as a gaming development hub. Currently, there

are no tax incentives, grants or other financial incentives to enable growth (Tshimologong, 2021: 6) while the supports that do exist are not fit for purpose (Stakeholder B).

Recently, representatives from the Department of Trade and Industry have engaged with some of the larger studios, inviting them to apply for some tax benefits afforded to companies that provide services to those beyond South Africa. However, the criteria is not appropriate for medium-sized enterprises.

> "Policies appear to be aimed at companies that are providing outsourced skills that predominantly bring money from outside the country, however, they are tailored for larger companies from outside South Africa like Amazon. They request documentation that is not befitting of our size. For them, it is a box-ticking exercise," (Stakeholder B).

An unstable electricity supply that load-shedding by Eskom has created has been challenging for gaming companies as not only do they need internet access, but they cannot work on laptops when working with certain software and programmes. One stakeholder suggested that unstable electricity could motivate them to relocate their company and disinvest from South Africa.

Despite all of these challenges, the majority of the 'Big 7' do not appear to have any plans to relocate their businesses as was indicated in the Tshimologong 2021 study. The majority of stakeholders interviewed for this report suggested that remaining in South Africa allowed them to be more competitive in terms of the quality versus cost they could offer if they were based elsewhere.

Nevertheless, Stakeholder I affirmed that his company would establish an office elsewhere in Africa which would allow them to benefit from less prohibitive exchange controls and other policies that would allow them to grow their business into a more Pan-African one. According to Stakeholder G, the majority of the Big 7 have holding companies in Mauritius. This does not indicate that these companies intend to relocate their businesses to that African country, but rather that Mauritius' sophisticated banking operations allow for them to retain dollar-based income in that currency and sidestep some of the exchange controls in South Africa. This obviously also presents these companies with some tax benefits as they would be able to set up subsidiary companies which would allow them to better track their investment in a particular IP and measure their ROI, which in this industry can only be gauged in the long-term.

7. Gaming Economies & Value Chains

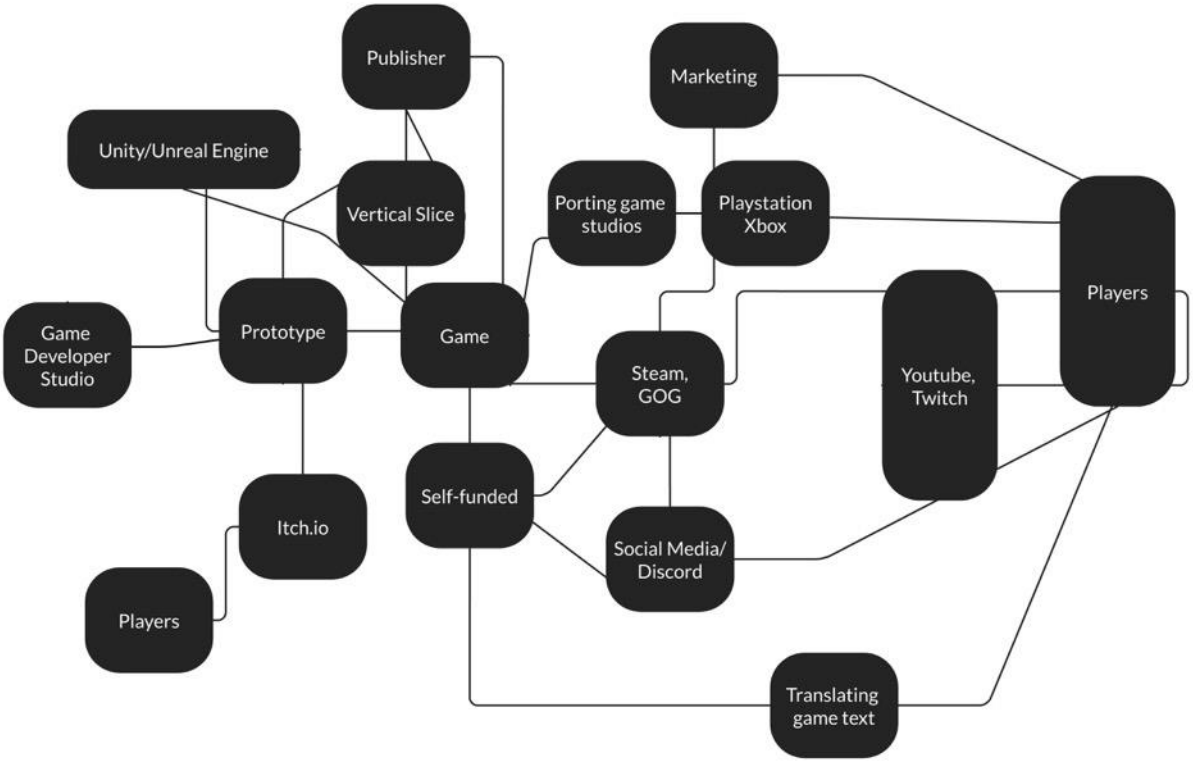


Figure 39 Gaming industry value chain for PC indie games

Pictured above is a visualisation of the gaming value chain specifically mapping the production, processes and online channels for PC indie games. The dynamic it depicts is informed by the experiences of the seven big South African studios. As such the mobile gaming economy is excluded, as it largely appears not to be the focus of South African developers. At the end of this chapter, this is discussed in more detail.

Some of the notable characteristics of this gaming economy are;

1) **Testing on Audiences** early in the process is vital. Gaining input and gauging player interest at the prototype phase was listed by all as an essential element of their business. The majority of studios cited Itch.io as the platform they preferred as it targets indie players. It is smaller than Steam and there is no cost involved in uploading a game. The games are available for free and if there is sufficient interest in the game, the studio will consider investing the time and labour into developing the game properly. If they cannot self-fund the game's development, then they may approach a publisher with the data on the game (gleaned from Itch) to pitch for investment. For South African studios the early testing of prototypes is essential given the high-risk and niche audiences that they tend to target.

"If people are willing to spend their time on a game, if they're willing to download it, it most often means that they're also willing to spend money on it. So for us, it's been a very good barometer of a game's viability" (Stakeholder A).

2) Unity/Unreal Engines are American-based engine providers that offer 'premade' elements or assets with different kinds of functionality that can be adapted in building games. In this way, developers are not starting from scratch. The majority of the Big 7 Studios use Unity, and only one Unreal. Studios have to pay a licensing fee per seat (per team member), per year or per month to use these engines. A subscription service with Unity for a professional studio costs around US$1 800 (R32 000) per seat per year.

3) A Vertical Slice would be commissioned or requested by a publisher in advance of investing in developing a game. They would want to be sure that the studio is able to create what they are proposing and therefore request them to generate a small section of a game to get an idea of the look and feel of the game as well as the technical abilities of the team to deliver on their vision.

4) Publishers play a fundamental role in the game value chain. They are involved in the following activities; selecting game titles, either from independent developers or from in-house teams, funding their development, overseeing production by assessing progress against project milestones, management of testing, localisation, marketing, manufacturing and distribution to retailers. Game publishers account for the bulk of revenues in the value chain. Their main task is to identify titles and market these to distributors, retailers and end users. Most South African studios work with smaller publishers. However, there are large global companies that employ thousands of people, mainly in marketing, who finance development costs and acquire intellectual property rights for new games (Digital Vector, 2019: 118).

   If a publisher invests in the development of a game, which essentially translates into financial support of a studio's overhead costs from two to three years, the studio will not be able to claim full royalties on sales of the game until this investment and other costs such as marketing, translations etc have been recouped. The standard royalty split between a publisher and a studio is 30/70 in favour of the studio.

   "Having a publisher reduces the stress on the team. It's important to have the people who are working on the game be able to focus as much of their energy on the creative side of it. A publisher is experienced in liaising with other partners and negotiating contracts. So, if PlayStation wants your game then they will give you some sort of incentive to get it on their platform and be sure to let you know when it is a good deal. They are able to manage the long tail – and market your games" (Stakeholder A).

   The marketing of games is very time-consuming. Building audiences has to be done in different community spaces and publishers are able to speak to those that are beyond South Africa's borders, perhaps in ways that locals might struggle with. However, this means that studios do not have a public profile or manage it as such – in other words,

audiences will often associate a developer's work with the publisher's brand and not necessarily the studio that has produced it (Stakeholder D).

On paper, you would expect South African studios to argue for a local publisher, and while there is one, Carry 1st, they do not invest in PC games. They appear to be more interested in mobile games, but also are not known to invest in developing games (Stakeholder G) and some stakeholders observed that this publisher were disconnected from the local gaming community and landscape. Most studios are more interested in working with publishers who can reach their audiences, make deals and are part of an international network that they cannot access.

A Profile of a US Publisher: Devolver Digital

Devolver Digital work with two of South Africa's most successful studios. They were founded in 2009 in Austin, Texas and have positioned themselves as a "punk rock" indie game label that "favours the small, offbeat, retro, and hyper-violent game experiences" (Vanderhoef, 2019: 19)[1]. To date, the publisher has 103 game titles to its name (including upcoming releases). They have published a wide range of games created by studios around the world including its notable debut titles of the HD remakes of the first two *Serious Sam* games (2009 and 2010) with Croatian-based Croteam[2], *Hotline Miami* (2012) with Swedish-based Dennaton Games, *Reigns* (2018) with UK-based Nerial and *Inscryption* (2021) with Canadian indie developer Daniel Mullins Games.

Key to the success of Devolver Digital was its early decision to prioritise digital distribution over the sales of physical goods by focusing on publishing for the online PC platform Steam (Webster 2019). In addition, Vanderhoef explains that, unlike traditional publishers who exercise control of content through development benchmarks and who often retain ownership of intellectual property, smaller publishers like Devolver Digital profess to "understand the proper support and distance to offer indies, who value their autonomy while still requiring financial and marketing assistance" (Vanderhoef, 2020: 20). By negotiating deals with Steam as well as other platforms such as PlayStation, Devolver Digital helps launch indie games in new territories and handles the logistics of showcasing games at events like E3 and PAX. Through the assistance it provides to game developers, Devolver Digital helps games become more visible and increases their reach to wider audiences around the world (Webster, 2018).

Although the company was launched over thirteen years ago, Devolver Digital has remained small in size. In 2019, it was recorded that the publisher had grown to a team of 16 people

[1] Citing Keogh (2019), Vanderhoef further explains that commercial indie games and developers refers to the "games and studios that exist to explicitly sell games in the marketplace with the goal of making a profit. These contrast, for example, with more informal game development practices, such as non-commercial, DIY, and craft game-making" (Keogh, 2019).

[2] The co-founders of Devolver Digital had a prior business relationship with Croteam owing to work completed by them whilst running a predecessor to Devolver Digital called Gamecock, which launched in 2007. The co-founders of Devolver Digital also built a publishing label before Gamecock in 1998 called Gathering of Developers. Both Gathering of Developers and Gamecock were eventually acquired by larger companies and subsequently shut down (Webster, 2018)

with no physical office and a presence "scattered across the globe" (Webster, 2019). Towards the end of 2021, Devolver Digital became a publicly traded company on AIM - the Alternative Investment Market which is a submarket of the London stock exchange. Despite the bold move, the company confirmed that employees would remain the majority owner of Devolver Digital. In November of 2021, the company also simultaneously announced its acquisition of several studios including Croteam, Dodge Roll, Nerial, and FireFly Studios.

5) Maintaining and engaging players remains an essential part of sustaining the life of games. As has been pointed out throughout this report, this is not simply an activity that takes place prior to a launch – games have a substantial long tail in terms of their profitability. This requires continuous engagement with audiences, for example through promotions and sales on Steam, as well as developing relationships on Discord (an online platform where communities are built up around games and exchange information with each other and the creators), particularly for smaller studios that do not have a publisher marketing their products and cultivating communities around their games. Creating a game that is 'spectator friendly' is part of this activity, as a game that others will enjoy watching someone else play is the fundamental motivation behind platforms such as Twitch, which no doubt drives sales.

6) Steam has democratised the dissemination of online games in that anyone can load a game for US$100. There were 11.7k games released on Steam in 2021 (Video Games Insights, 2022), which translates into 30 games being released on the platform a day. It is a sophisticated and complex platform – uploading a game takes a certain amount of expertise, so knowledge and experience are somewhat of a barrier. Success rates are low. Only about 8% of the games released in 2021 sold 10 000 units or more (Video Games Insights, 2022). As such, those South African studios that have managed to earn a living selling their games on this platform have done so against great odds, particularly in light of the fact that 95% of the games are classified as 'indie'.

   All the studios in South Africa barring those involved in service work sell their games on Steam, that is how they generate an income. Only 20% of games are free-to-play on the platform and that figure is said to be declining. There is also a cost to the studios to sell their games on Steam as Steam takes 30% of sales revenue from the developer. This revenue split is further adjusted if the game's sales generate more than US$10 million or US$50 million.

7) PlayStation and Xbox have come to operate very much like Steam in that they operate as digital storefronts. There is more of a filter or a form of gatekeeping involved in that their games have to go through a vetting process before they are approved to be sold on Xbox websites and/or listed in Xbox stores. Revenue is also split along the 30/70 percentage in favour of developers. However, both of these platforms also have a subscription service (PlayStation Plus and Xbox Game Pass). In this case, PlayStation and Xbox pay a lump sum to the developer for the game and a contract will then further stipulate how long the game will be available, if it is exclusive and/or

if there are royalty percentages. As third-party publishers would more than likely act on behalf of SA studios in negotiating these contracts, the lump sum would be split with them (Stakeholder A). Netflix is also looking at expanding into this territory and has been engaging with some local studios on this (Stakeholder B).

The Monetisation of Mobile Games

There are four ways that mobile games can be monetised. The "Free-to-Play" (often shortened to "F2P") model is the most common and popular and relies on in-App purchases to generate revenue. Most of the stakeholders interviewed for this report suggested that this model automatically shapes the design of a game in such a way that it exploits the psychology of the player. This not only results in a game structured around extracting money from players but also impedes the narrative, immersiveness and playing experience so that many have compared this game design as being not too dissimilar to gambling (Stakeholder G, Stakeholder A, Stakeholder C).

"The premium model (where you pay upfront for a game) is just more honest, right? It's like, here's everything, I'm not going to try and hook you with some weird psychological tricks so that you'll spend money two weeks from now," (Stakeholder A).

F2P games can also monetise via advertising that is displayed throughout the game. The owner of the game generates income for each advert that is screened. These are typically adverts for other games (Tshimologong, 2021: 26). However, your game needs to be incredibly popular to attract advertising and thus requires the game developer to advertise their own game on other games, which might be at a fairly high cost. In light of this, you would need to create not only a very popular game but also one of high quality. South African gaming companies would not be able to compete at this level (Stakeholder G).

"You have to be spending a million US$ a month in advertising and user acquisition costs. That money is going to the advertisers who are taking money from one brand to show it to players in somebody else's game. In my head, that just doesn't make any sense as with that money you could be producing 20 games on PC that have a better chance of generating an income," (Stakeholder C).

The third model is the premium model, which is in line with the PC and online gaming one where a single, once-off fee is paid upfront. This is not so popular given the most common model is F2P.

The fourth model being advanced by platforms such as Apple Arcade follows a subscription model. Much like Netflix, users can subscribe to the service and play a number of games for a monthly fee. In such a context, the developer is paid a lump sum as a signing bonus and then receives some royalties based on sales that would be based on the number of downloads (Stakeholder A). This kind of model is also being advanced in the PC/online gaming sphere too, as outlined above with PlayStation and Xbox.

“Premium mobile games, for all intents and purposes, have completely died, and subscription services are still very new and seem to rely on existing well-established development houses (and their IP) for their content. With this in mind, we must fully understand how the F2P monetisation model works for local developers and the local consumer market. There is insufficient demand for ads targeting African consumers to drive up the value of the ad space, making it next to impossible to get sufficient income to make a game profitable,” (Tshimologong 2021: 26).

Summary

At different junctures in the production of games, US-based companies are profiting from South African studios – in terms of the tech tools (Unity and others) and platforms for dissemination. Those studios using a third-party publisher are losing up to 60% of their game royalties – 30% to the publisher and an additional 30% to Steam (or other platforms). This highlights the importance of selling volumes by creating games that have a very wide appeal. These gaming economies draw attention to both the advantages of being part of a global ecosystem – gaining access to audiences that do not exist in your own territory, but in doing so, revenue generated from IP is flowing across the borders too.

8. Consumers

As the previous chapter indicated, the majority of the gaming studios in South Africa are not setting out to create products for the local consumer, whether it be for online, console or mobile games. This is because it has not proven to make economic sense to do so. Our research into global and local audiences for games substantiates this view, though it does point to a potential pan-African and African diaspora market that is not being tapped.

In coming to grips with global trends and the patterns defining consumers globally, the aim is to understand what portion of those audiences are relevant to local studios and to shed light on the potential audience in South Africa. In other words, what characteristics can we discover about global audiences for games that might help us understand South African consumers of games? Or conversely, as is the case that follows, to look at what factors or conditions in South Africa might be limiting or restraining audience numbers for online games. Naturally, the characteristics which define a global audience might not translate to a South African one – given the different socioeconomic conditions in this country, but they help provide a lens through which to discover potential audiences or limits to developing them and indeed what would be needed to do so in South Africa. Though figures for mobile games are presented throughout, as the focus of local gaming studios is on games for PC, this is of more relevance.

Secondary data on global and local consumers, reflecting the ages, generations, education level and engagement with technology is juxtaposed with primary data collected for this report on popular games on various platforms from PC and mobile and the sale of console games. This data can contextualise the size and focus of the South African gaming landscape, its peripheral position within the global industry, and the lack of motivation for creating products for local gamers.

Global Gaming Audiences

Our research illustrates that the demand for games at a global level is expanding each year. Once considered a niche hobby with an elusive audience, gaming has become mainstream with over three billion gamers, or approximately 40% of the world's population (Patel, 2022). There is no sign of the gaming industry's growth slowing down as it is projected to grow to 3.32 billion gamers by 2024 (see figure 4), an increase of over 1 billion gamers since 2015 (Newzoo, 2021).

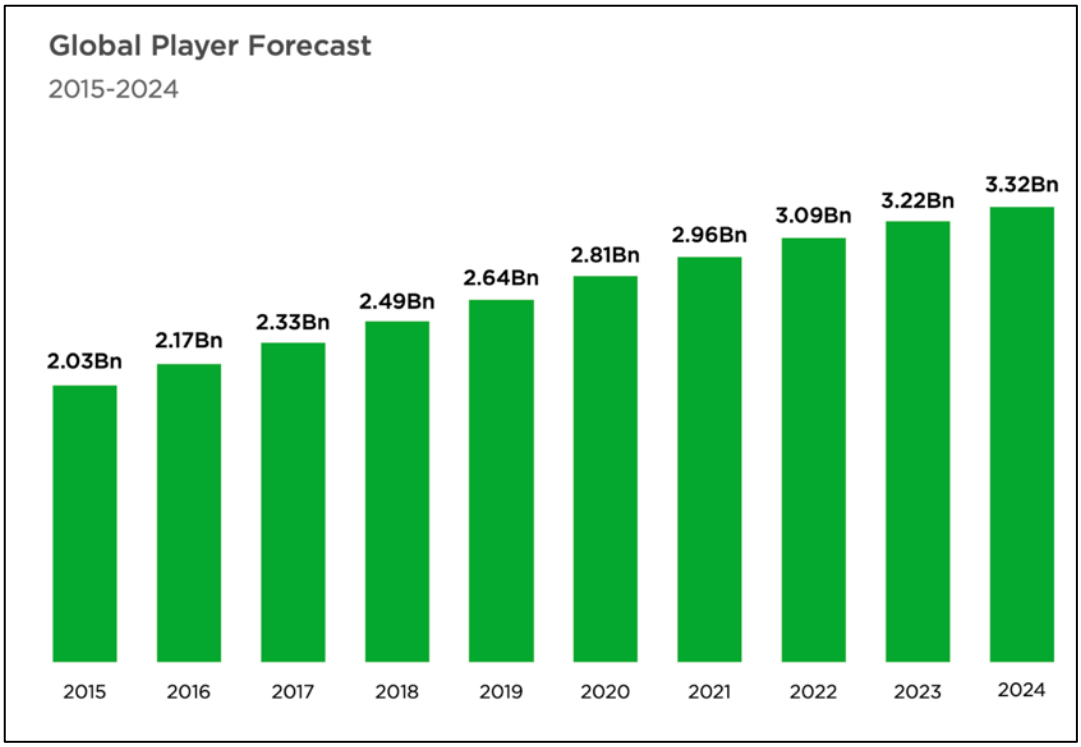


Figure 4 Global player forecast 2015 – 2024 (Newzoo, 2021)

During COVID-19 lockdowns, global gaming audiences increased as people were confined to their homes and turned to mobile and PC/console gaming for entertainment (Mordor Intelligence, 2021). The pandemic also accelerated the growth of game live streaming audiences. In 2021, the worldwide game live-streaming audience reached 728.8 million, up 10% from 2020 (Hotplay, 2021). One of South Africa's largest service studios, 24 Bit, has experienced sharp growth recently, which it partly attributes to this boom in online gaming.

While there were more players, the PC and console market shrank by 1% in terms of turnover in 2021 due to the effects of COVID-19 in delaying the release of big games and shortages of new consoles. It might be likely that the increase in revenue experienced by South African studios relates to an increase in the niche gaming market, but this is only speculation. The mobile gaming market, however, increased its revenue in consumer spending to US$90.7 billion in 2021, growing 4.4% from 2020 (Newzoo, 2021). This accounts for more than half of the global games market revenue. The segment is also less vulnerable to the effects of COVID-19 than PC and console gaming (Newzoo, 2021).

This data correlates with that tracking popular devices. Smartphones are the most popular device, representing 45% of the global market, while console games represent 28% and PC browser and downloaded/boxed games account for 20%. This means that in 2021, 2.8 billion of the world's 3 billion gamers played on a mobile device. This is compared to 1.4 billion on PC and 0.9 billion on console (Newzoo, 2021).

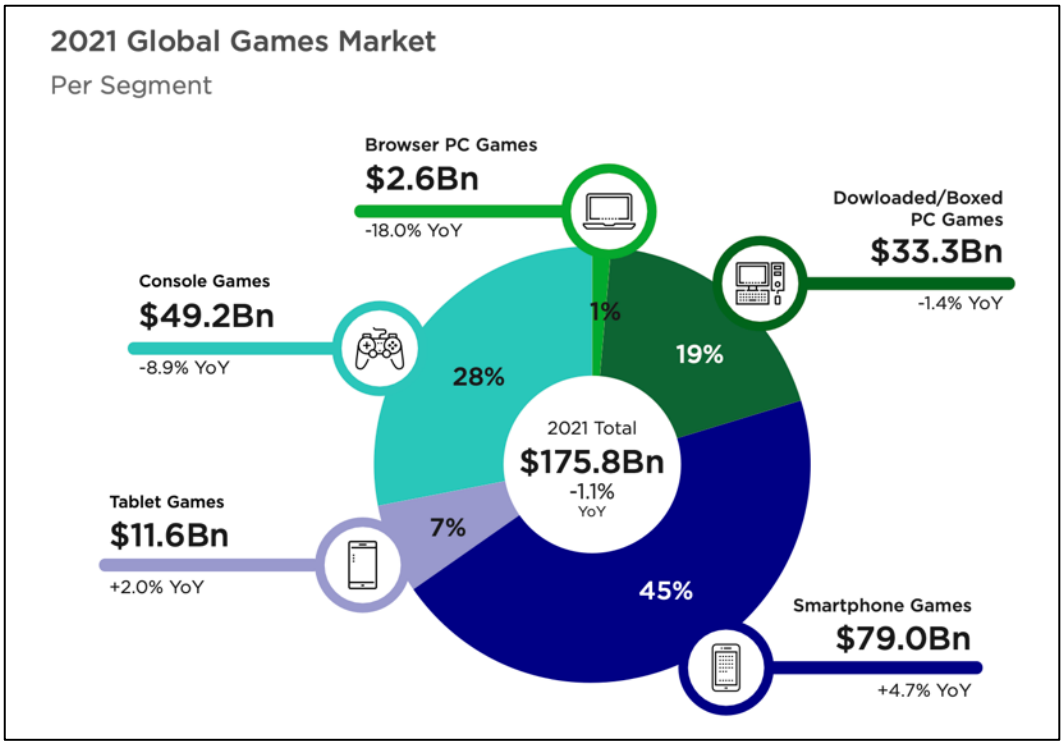


Figure 5 2021 Global games market per segment (Newzoo, 2021)

As suggested by global games market data per device segment (see figure 5 above), the slice of the veritable gaming pie that South African studios (particularly those creating IP) are aiming to capture is the browser PC games (primarily) and downloaded/boxed PC games segments, which only accounts for 20% of the global market in terms of revenue, which appears to be shrinking. Of course, the service studios are involved in smartphone games, but this is only the focus of one studio.

The service work and new IP being created by South African gaming studios tends to be aimed at North American and European audiences, however, as the graph below outlines,

the highest concentration of gamers are located in the Asia-Pacific region, claiming 55% of global gamers (Newzoo, 2021). It is also the region that generates the most income.
The Middle East and Africa represent the fastest growing regions with 10.1% year-on-year growth from 2020 (Newzoo (2021).

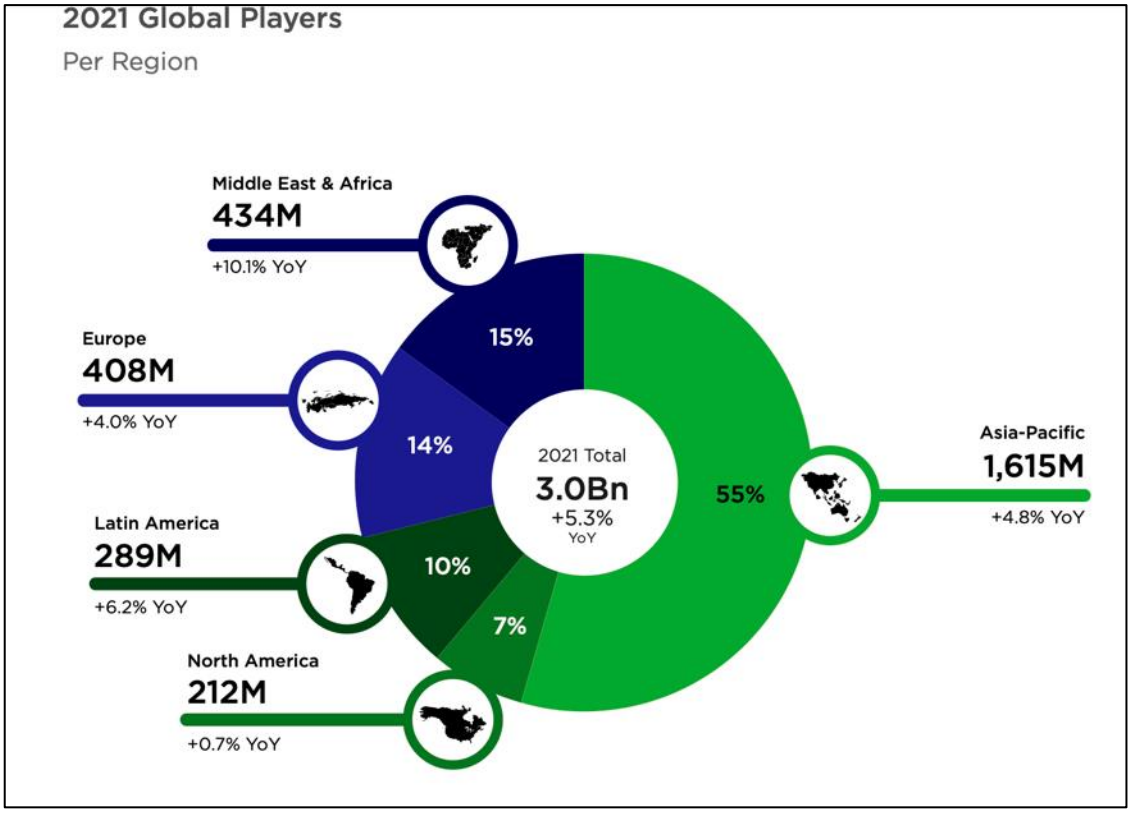


Figure 6 2021 Global game players per region (Newzoo, 2021)

Nevertheless, the US, or the North American market generates more income than the Middle East and African regions (see figure 6). This speaks to a number of observations made by South African stakeholders that while locals play games, they do not spend money doing so (Stakeholder G). This squares up with other statistics relating to South African consumers and the lack of spending power of our youth, who are the population group most likely to be gamers, given the global statistics and patterns outlined below.

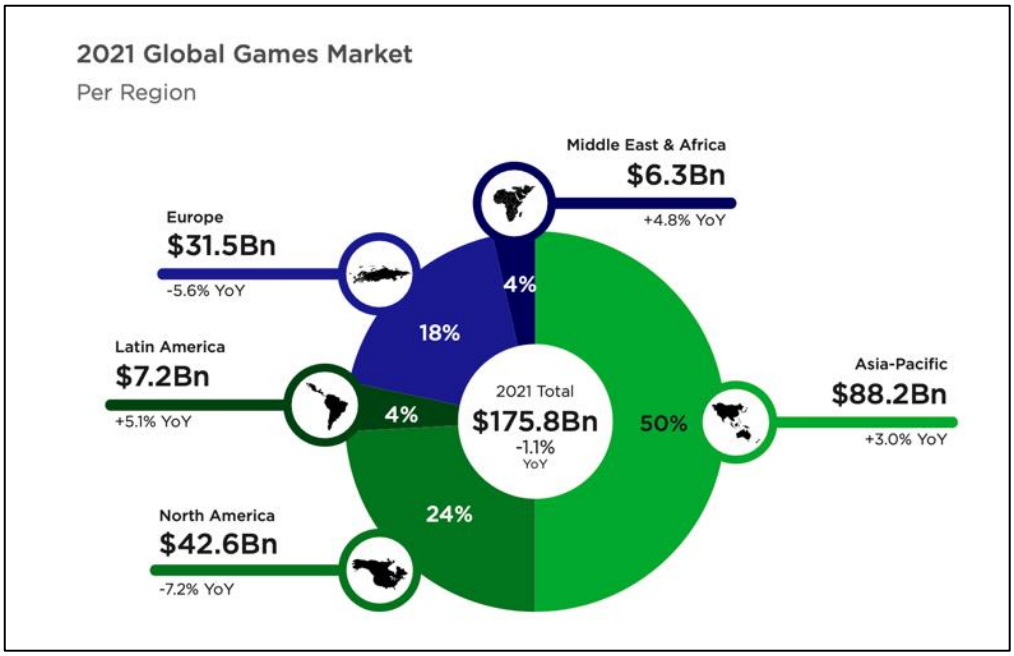


Figure 7 2021 Global games market revenues per region (Newzoo, 2021)

Given that most South African games are released on Steam and that this is the primary platform on which they release games, it is significant to note that based on a live snapshot (Steam have a live map showing how many users are online) most Steam users are located in the US and China with secondary hubs in Russia, Brazil, Canada, Australia and Europe (Steam, 2022). However, Africa does not have many Steam users, though this could potentially grow. South Africa currently represents 0.2% of global Steam traffic (Steam, 2022). It should however be noted that there are other gaming platforms and means of purchasing games which are not captured here.

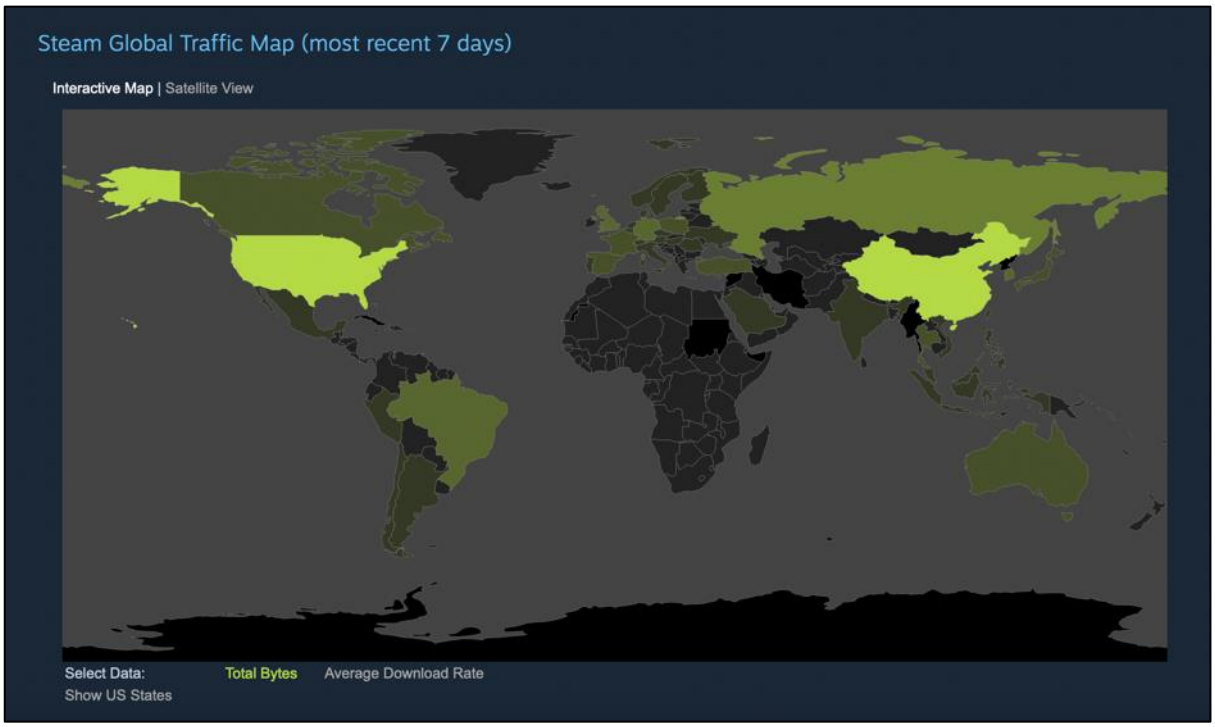


Figure 8 Steam global traffic shown through total bytes downloaded per country

Who are Global Gaming Audiences, Where are They and What are Their Characteristics?

Gaming has become more mainstream and the audience engaging with games has become more diverse, as such there is no narrow criteria to define them. The widespread popularity of casual mobile games has helped to diversify the demographic of the modern gamer (Patel, 2022). As smartphone processors become cheaper and more powerful, more high-profile popular games such as *Call of Duty*, *Fortnite* and *Need for Speed*, are becoming available for mobile. This is especially true for emerging markets where mobile gaming has surpassed console gaming in popularity due to a low price barrier to entry for gamers. This has fuelled a massive growth in player numbers over recent years (Patel, 2022).

As the data shown earlier in figure 7 suggests, global gaming is dominated by the Asia-Pacific market, with Middle Eastern and African markets experiencing fast growth. It has been found that gaming is most popular amongst younger people, Millennials and Gen Z (see figure 9).

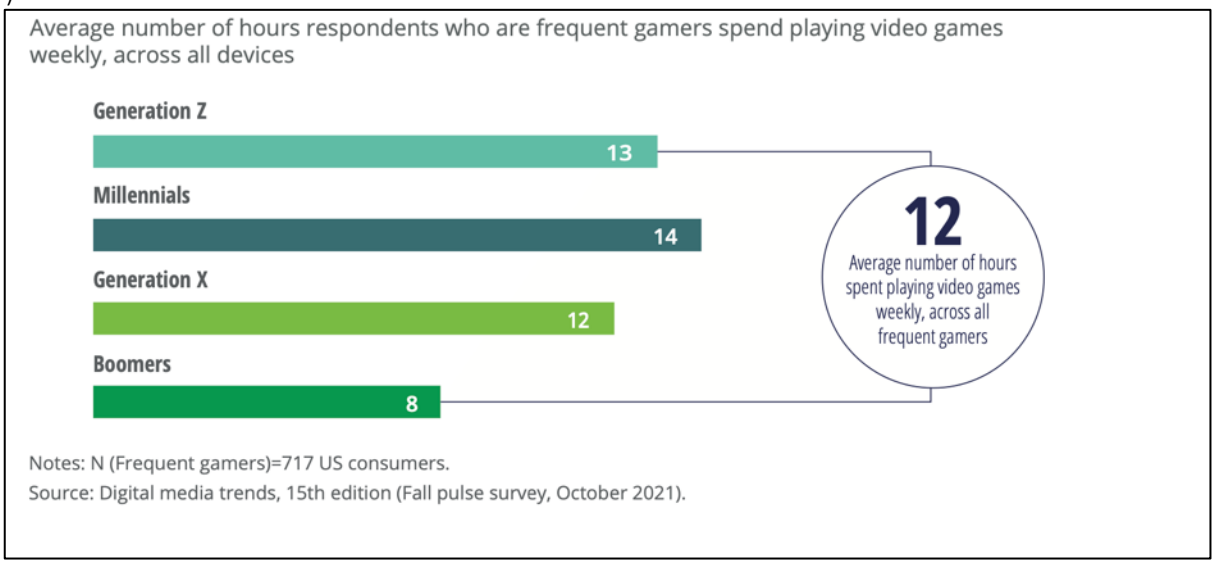


Figure 9 Average number of hours respondents who are frequent gamers spend playing video games weekly across all devices (Westcott et al, 2021)

Despite this, gaming is becoming more popular with each passing generation (see figures 10 and 11 below) so that it is now the most popular source of entertainment amongst Gen Alpha with 94% engaging with games and games content (Newzoo, 2022).

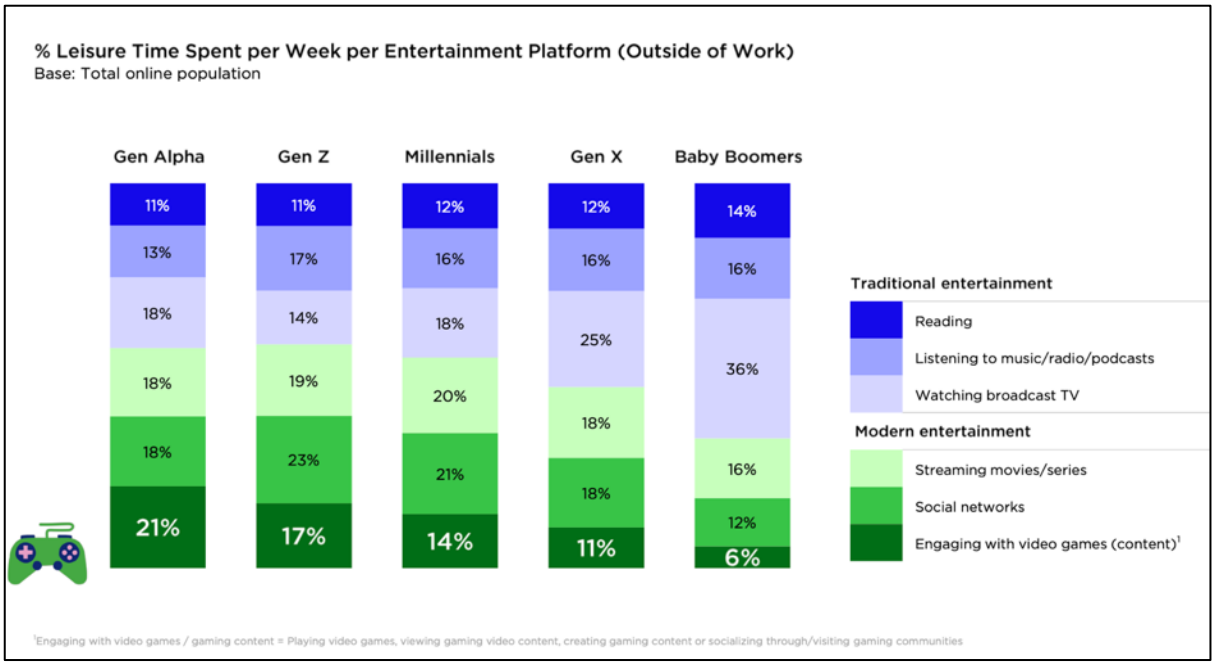


Figure 10 Percentage of leisure time spent per week per entertainment platform per generation (Newzoo, 2022)

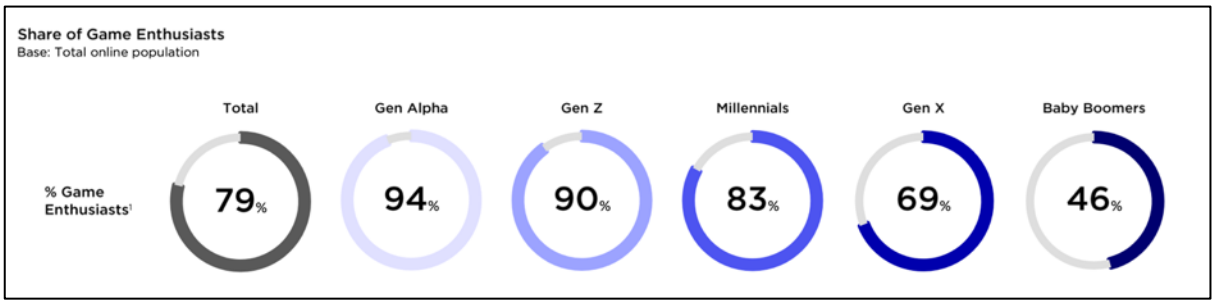


Figure 11 Share of gaming enthusiasts per generation (Newzoo, 2022)

The greater penetration of gaming among younger generations is attributed to them having grown up connecting through digital networks and engaging with digital and interactive entertainment. Gaming is meeting these expectations through unique immersive experiences (Westcott et al, 2021). This connects to the concept of the metaverse as gaming ecosystems are evolving into virtual worlds so that it fulfils needs beyond gameplay (Newzoo, 2022). As a space for immersive and interactive entertainment as well as the community, gaming's popularity is likely to continue to increase.

Though most popular with younger generations, gaming is attractive to everyone as almost half of Baby Boomers engage with games (Newzoo, 2022). Motivations and engagement with games are diverse (see figure 12), making it important to understand gaming personas. While most Baby Boomers and Gen X play games as a way to fill time, younger generations are more multi-dimensional gamers as they enjoy the gameplay, the sense of community as well as other related gaming content (Newzoo, 2022).

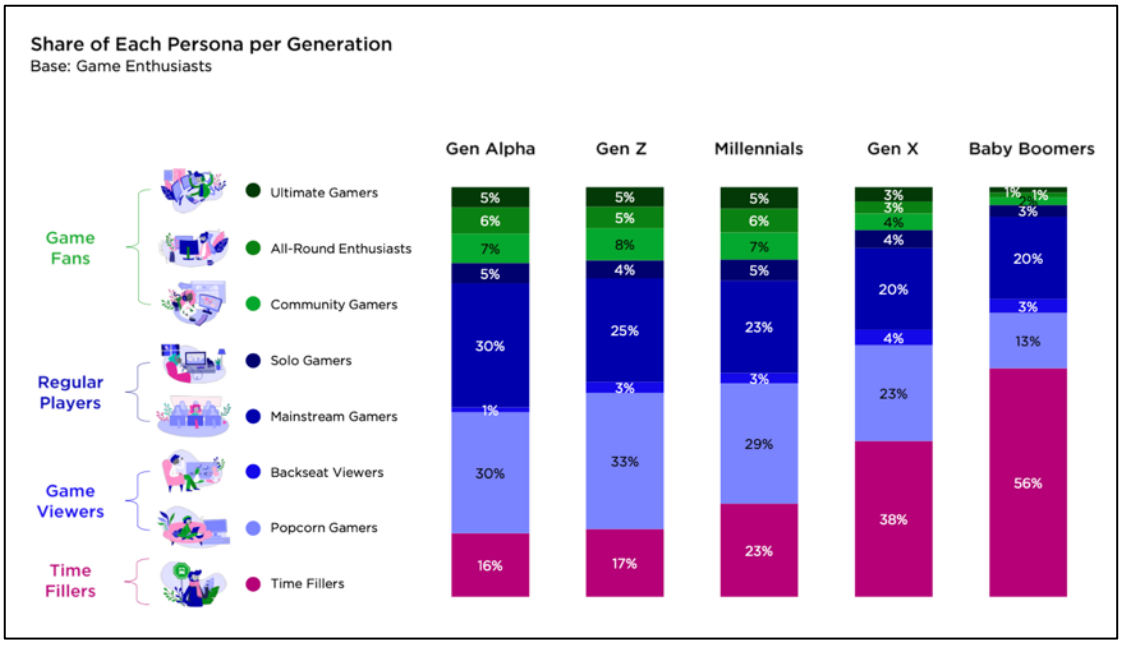


Figure 12 Share of each persona per generation (Newzoo, 2022)

Globally, 54% of gamers are male and 46% are female. However, whilst hardcore and midcore gamers are most likely to be young males (92% and 86% respectively), females account for 52% of casual gamers (Xaxis, 2021). The e-sports audience also skews largely male and millennial (Schiff, 2020).

A gamer's spending power tends to be considerably higher than average. Consumer research group Magid (2021) found that gaming enthusiasts, those who game for 10 hours or more a week, have disposable income that is double that of non-gamers. The study also found that the gaming community is becoming increasingly diverse, with the power gamer community being comprised of women (33%), Hispanics (19%), and African Americans (14%). 40% of this community graduated from college, 68% are employed and 42% are parents who may share gaming with their children (Weiss, 2018). Younger generations also tend to spend more on games (Newzoo, 2022). However, Gen Alpha and part of Gen Z do not yet earn their own incomes. As they age, their gaming spend may thus increase.

Income

In service of better isolating South African audiences who may or could potentially be gamers, their income and education levels might become relevant characteristics to identify. As such, we identified secondary data from developed countries to gain some insight into the role income and education might have in predetermining or understanding access to games and spending.

In a sample of Earnest's (2018) student loan refinancing applicants, it was found that applicants with high school diplomas followed by Associate and Bachelor's degrees were the most likely to make video game purchases (see figure 13). The correlation between advanced degrees and lower interest in the gaming industry could be a result of age as it takes time to complete these degrees and so those holding these qualifications tend to be older (Morris, 2018).

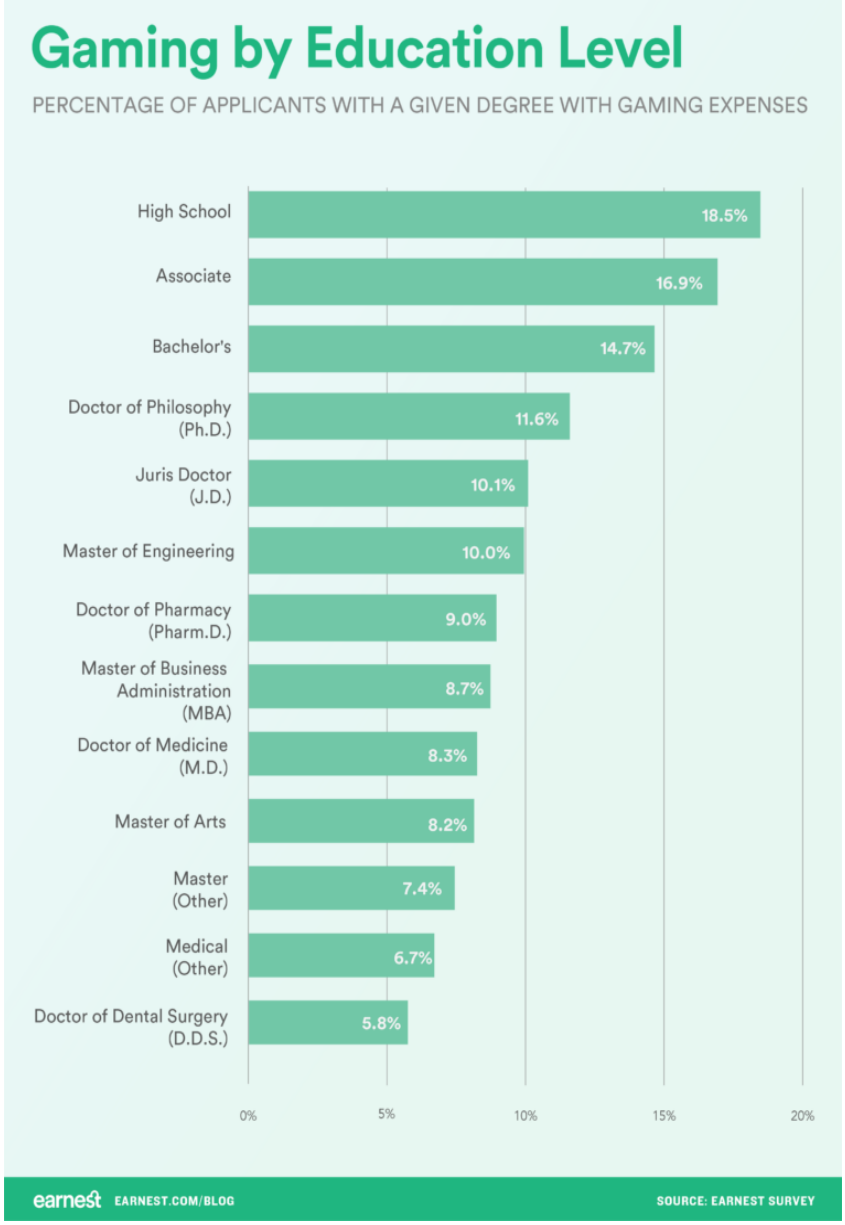


Figure 13 Gaming by education level amongst Earnest student loan refinancing applicants (Morris, 2018)

Based on this 2018 study, it appears that high income and high education are not factors determining whether individuals are more likely to be gamers. Applicants with more advanced degrees tend to have higher incomes and those making more than US$90 000 are less likely to make gaming purchases (see figure 14). However, other than this, income does not seem to make much of a difference to video game consumer spending (Morris, 2018). This was further supported by Statista (2022) where UK video gamers did not show large differences based on income (see figure 14).

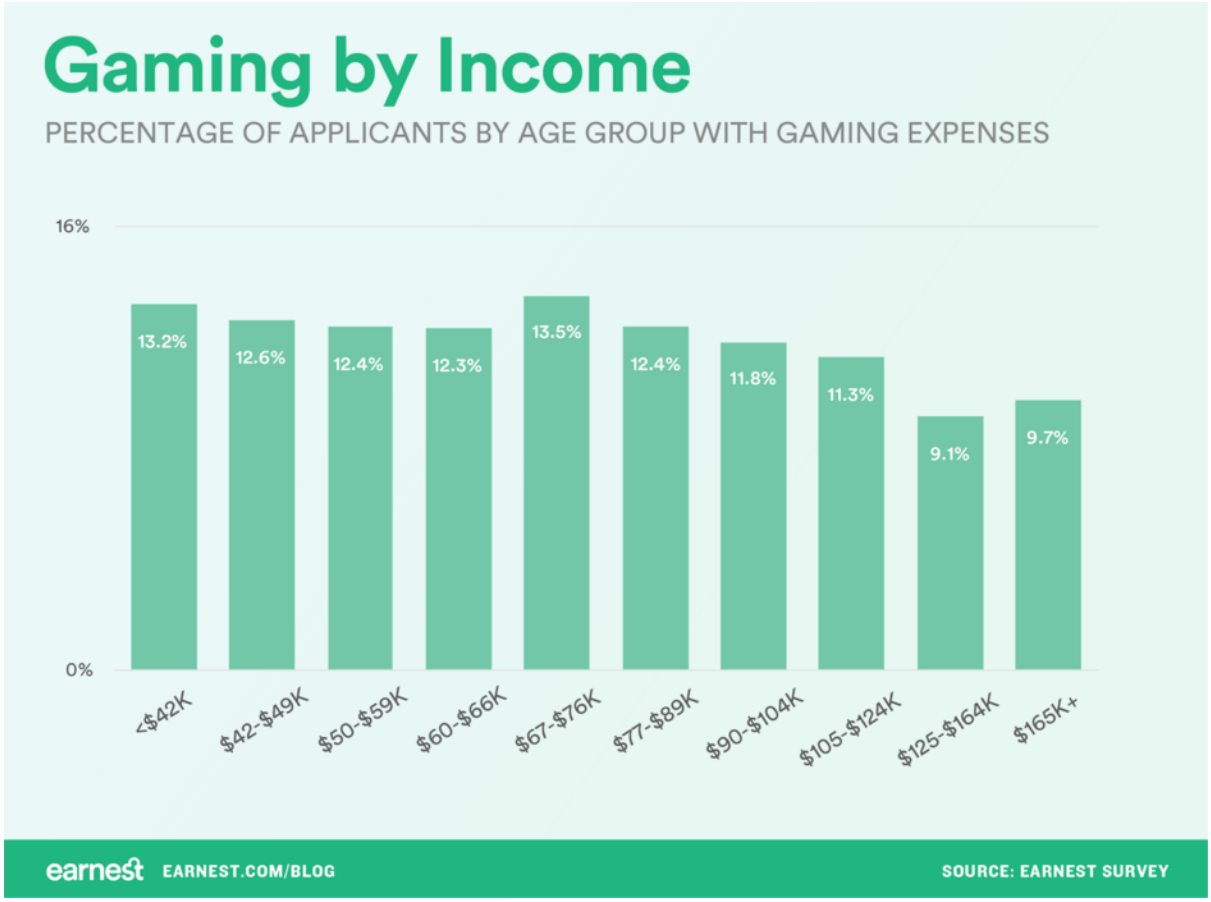


Figure 14 Percentage of Earnest applicants with video game purchases by income group (Morris, 2018)

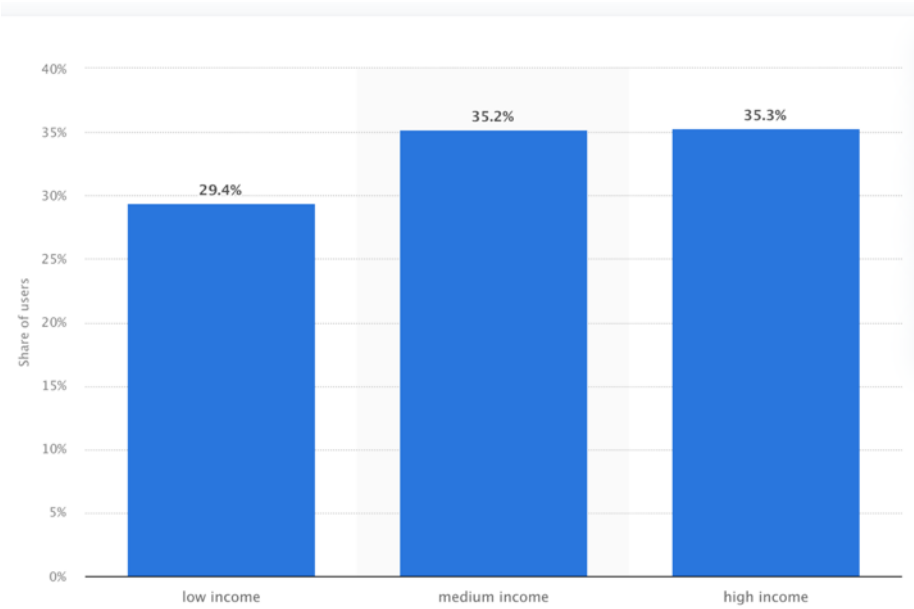


Figure 15 Distribution of video game users in the UK in 2021, by income (Statista, 2022)

Access to Technology

Considering that outside of the Asia-Pacific region, the US generates the highest revenue for gaming, it follows that a brief overview of their online connectivity might offer some insight –

particularly since there are significantly smaller audiences for online gaming in South Africa and Africa, which will be shown to be linked (among other factors) to internet penetration.

As expected, in the US the internet penetration rate is 92% of the total population at the start of 2022 (Kepios, 2022). In 2021, 77% of Americans had high-speed broadband services at home (Pew Research Center, 2021). The quality and speed of the data is also fairly high. The median mobile internet connection speed via cellular networks is 53.31 Mbps and the median fixed internet connection speed is 134.10 Mbps (Kepios, 2022). 99.5% of mobile connections are broadband (3G, 4G and 5G) (Kepios, 2022).

In terms of device ownership, 96.1% of US internet users own a smartphone, which shows its dominance (see figure 16). In relation to gaming, 37.1% own a games console and 6.4% own a VR device (Kepios, 2022)

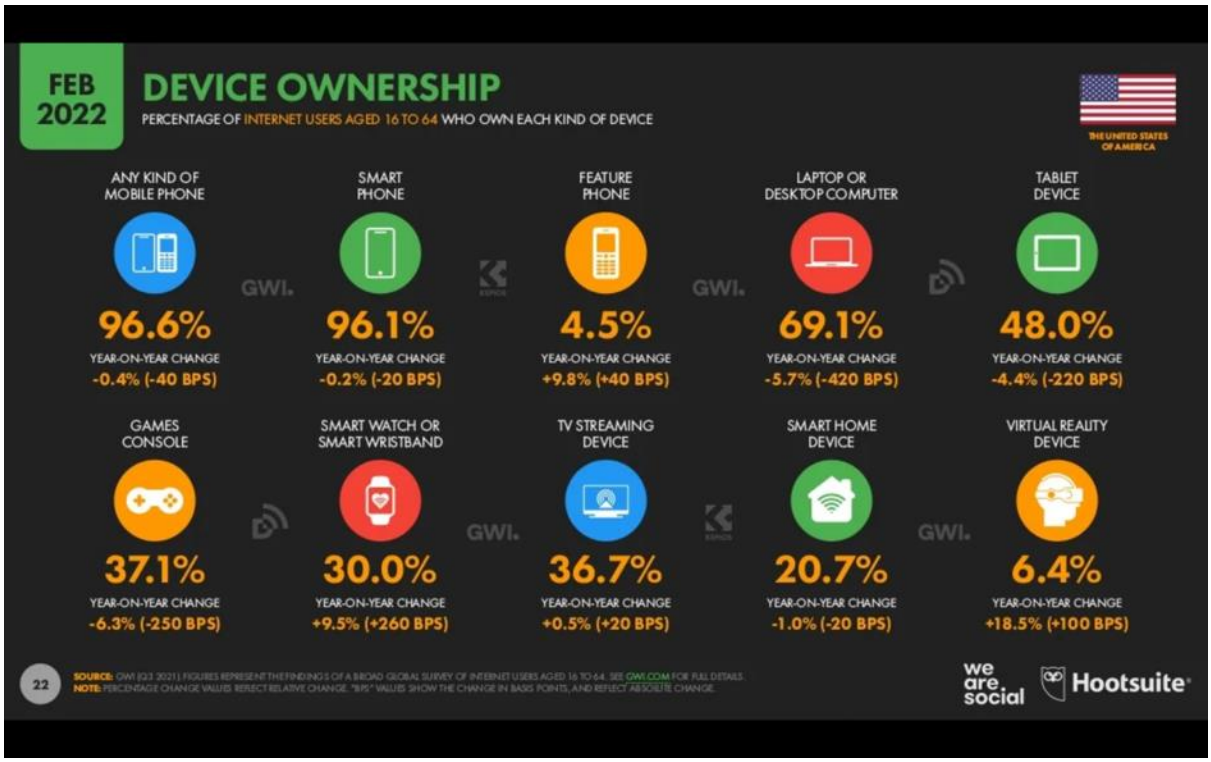


Figure 16 Percentage of internet users aged 16-64 who own each kind of device (Kepios, 2022)

People in the US also reported gaming as a significant reason for using the internet. In South Africa, gaming was not reported as one of the main reasons for accessing the internet (Kepios, 2022).

Consumer Taste in the Global Market

In order to gain insight into consumer patterns in the global market, we gathered primary data to shed some light on what kind of games are dominating the online PC game sphere, specifically Steam. This choice is motivated by the fact that South African producers/studios primarily create games for PC and sell their games on Steam (though there are other platforms that they also sell their games through). The data will also demonstrate which

countries appear to be claiming the largest market share based on the popularity of games on Steam, which might offer some insight into the kind of revenue they might be generating.

In reading the data it is necessary to bear in mind that there is no single or 'standard' way of measuring popularity. An analysis of the data on Steam demands gauging it through different filters from 'positive reviews' to 'top sellers' to 'the most played' games.

As pointed out earlier, one of the defining characteristics of the gaming industry is that 'success' is measured and driven by data points. Despite or due to this, there is some transparency but also little absolutes with regards to the data on any of the platforms for PC or mobile. This might be motivated by a need not to skew players' perceptions of certain games. Due to the data having economic value in this industry as it gives publishers insight into their products and what games are doing well, Steam might also (as with other publishers) opt not to share all of the data they are generating.

Some of the results of the data sets on Steam regarding popularity that are presented below are a snapshot taken on a particular day and time – all the data on their website is live and is constantly being updated as it changes by the second or minute. As such, the data below gives only a transient view into what is 'popular' – one would probably have to take snapshots daily over a long period of time to discover more concrete patterns.

Steam Data

Two data sets were collected from Steam on the popularity of PC games. The first data set illustrates the fifteen games with the most followers[3] (table 1) and the second data set lists the top fifteen most played games on the platform (table 2). Both data sets were collected in July 2022 with the key difference between them being that table 1 illustrates popularity based on a cumulative determining factor (ie the number of followers accumulated on the platform) whereas table 2 offers a more time-sensitive account of popularity in PC games. Analysis of the two data sets offers several insights on the games that are dominating the market, which geographic regions they hail from, popular game genres as well as the behaviour of the global gaming community.[4]

[3] Steam followers are viewable for every released and unreleased Steam game and refers to the number of people who decided to voluntarily subscribe to receive news and updates about a game without necessarily wish listing it.

[4] Although information on the best-selling games on Steam would have made for a useful (additional) data set for analysis, Steam does not offer a comprehensive list of its top-selling games. Therefore the decision was made to rather focus on two other measurable factors - the top fifteen most followed games and the top fifteen most played games.

Table 1 Most followed Steam games

Title	Developer	Publisher	Country (Developer)	Type	Store Data
PAYDAY 2	OVERKILL - a Starbreeze Studio.	Starbreeze Publishing AB	Sweden	Strategy	8,003,316 followers #427 in top sellers 521,182 positive reviews 62,603 negative reviews 89.28% positive reviews
Counter-Strike: Global Offensive	Valve	Valve	America	Strategy	3,194,197 followers 5,770,887 positive reviews 767,471 negative reviews 88.26% positive reviews
PUBG: BATTLEGROUNDS	KRAFTON, Inc.	KRAFTON, Inc.	South Korea	Strategy	3,052,827 followers 1,156,399 positive reviews 896,780 negative reviews 56.32% positive reviews
Grand Theft Auto V	Rockstar North	Rockstar Games	UK	Action-adventure	2,543,640 followers 1,175,100 positive reviews 210,413 negative reviews 84.81% positive reviews
Dota 2	Valve	Valve	America	Action role-playing	1,995,972 followers 1,479,433 positive reviews 301,277 negative reviews 83.08% positive reviews
Deep Rock Galactic	Ghost Ship Games	Coffee Stain Publishing	Sweden	Strategy	1,769,788 followers #173 in top sellers 138,660 positive reviews 4,696 negative reviews 96.72% positive reviews
Dead by Daylight	Behaviour Interactive Inc.	Behaviour Interactive Inc.	Canada	RPG	1,416,396 followers #163 in top sellers 495,744 positive reviews 113,483 negative reviews 81.37% positive reviews
ARK: Survival Evolved	Studio Wildcard	Studio Wildcard	America	Action-adventure	1,362,294 followers #90 in top sellers 462,994 positive reviews 98,889 negative reviews 82.40% positive reviews

Team Fortress 2	Valve	Valve	America	Strategy	1,272,772 followers 824,796 positive reviews 56,708 negative reviews 93.57% positive reviews
Cyberpunk 2077	CD PROJEKT RED	CD PROJEKT RED	Poland	Action role-playing	1,212,285 followers #106 in top sellers 392,279 positive reviews 129,971 negative reviews 75.11% positive reviews
Tom Clancy's Rainbow Six Siege	Ubisoft Montreal	Ubisoft	France	Strategy	1,169,961 followers #452 in top sellers 930,864 positive reviews 138,982 negative reviews 87.01% positive reviews
Rust	Facepunch Studios	Facepunch Studios	UK	Strategy	927,657 followers #28 in top sellers 704,833 positive reviews 108,412 negative reviews 86.67% positive reviews
Left 4 Dead 2	Valve	Valve	America	Strategy	924,183 followers #20895 in top sellers 622,517 positive reviews 16,283 negative reviews 97.45% positive reviews
Fallout 4	Bethesda Game Studios	Bethesda Softworks	America	Action role-playing	854,097 followers #596 in top sellers 229,943 positive reviews 53,164 negative reviews 81.22% positive reviews

Upon analysis of table 1, several key trends emerge with respect to the nationality of the game developers as well as the preference of certain game genres. In terms of the origin of the game developers of the most popular games on Steam, it is undeniable that the US dominates with 40% of the most followed games on Steam originating from American-based developers. Impressively, of the 40% share that American game developers have in the data set, Valve is responsible for developing and publishing over half of the games (four out of six) which include: *Counter-Strike: Global Offensive; Dota 2*; *Team Fortress 2;* and *Left 4 Dead 2*. Following America, game developers from the UK and Sweden also make a notable contribution with 13.3% of the most followed games originating from each country.

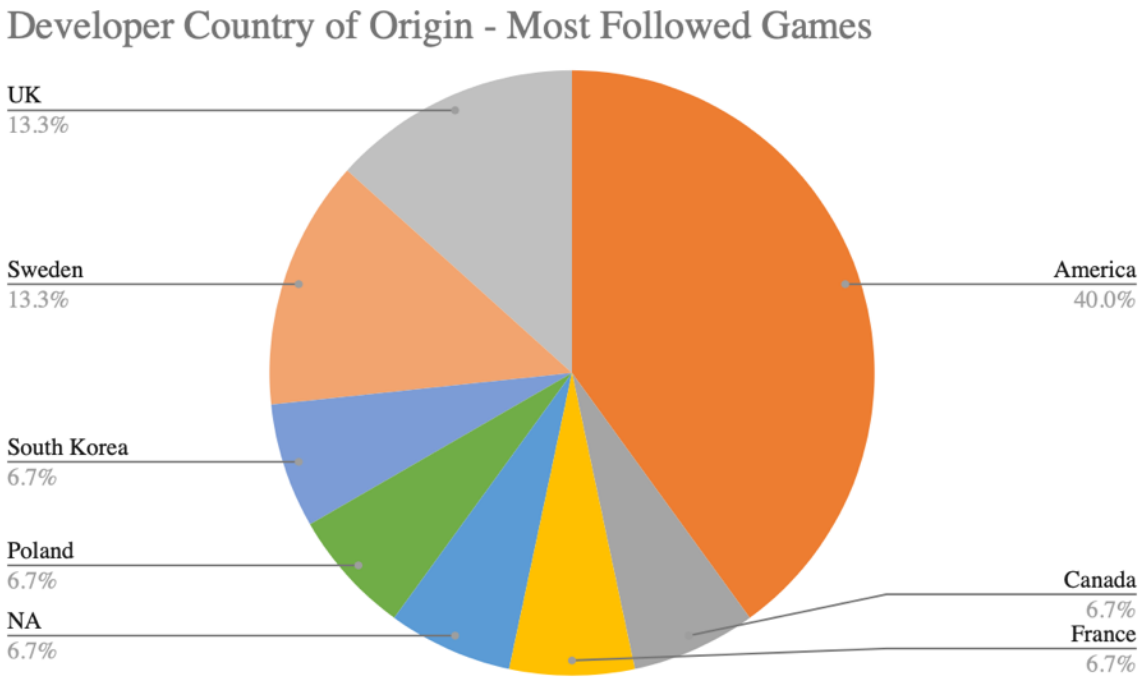


Figure 17 Game developer country of origin for the 15 most followed games on Steam

Shifting the focus to genre, of the top fifteen most followed games on Steam, more than half (53.3%) are categorised as strategy games. This refers to games in which players engage in "combat between many controlled units with skilful planning and tactical thinking" (Digital Vector, 2021). It is notable that the two other most popular game genres are also action related - 20% Action role-playing and 13.3% Action-adventure.

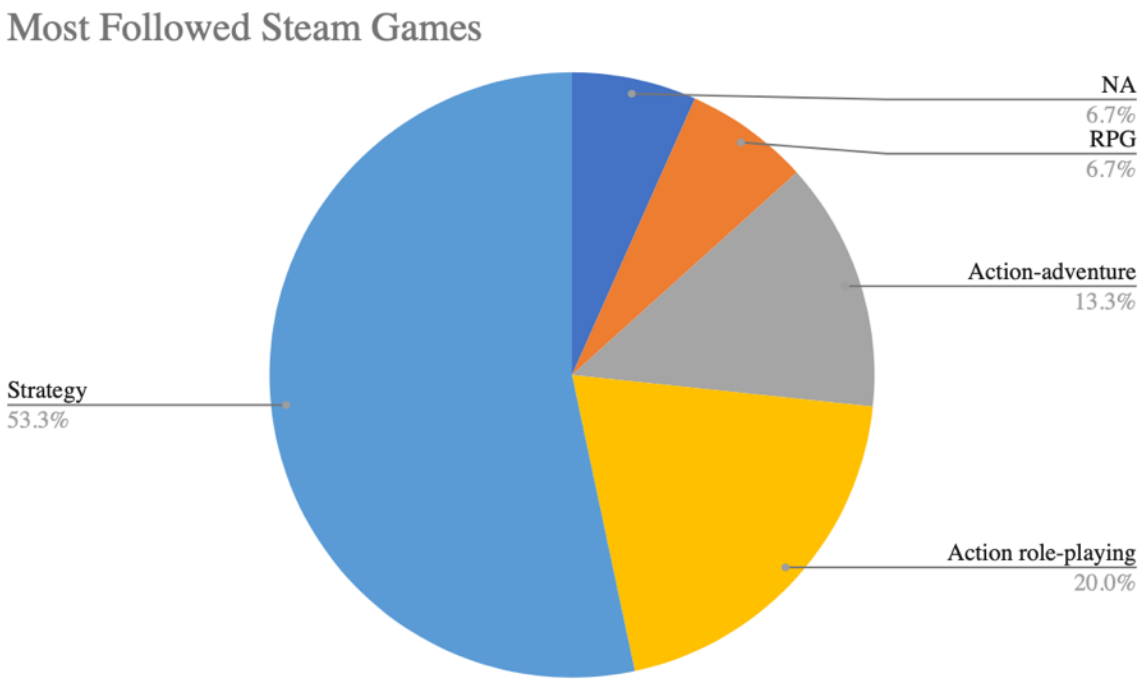


Figure 18 Game genres of the 15 most followed games on Steam

Table 2 Most played games on Steam

Title	Developer	Publisher	Country (Developer)	Type	Store data
Counter-Strike: Global Offensive	Valve	Valve	America	Strategy	3,194,197 followers 5,770,887 positive reviews 767,471 negative reviews 88.26% positive reviews
Dota 2	Valve	Valve	America	Action role-playing	1,995,972 followers 1,479,433 positive reviews 301,277 negative reviews 83.08% positive reviews
Lost Ark	Smilegate RPG	Amazon Games	South Korea	RPG	271,635 followers 124,541 positive reviews 44,142 negative reviews 73.83% positive reviews
MultiVersus	Player First Games	Warner Bros. Games	America	Action	63,253 followers 33,461 positive reviews 3,680 negative reviews 90.09% positive reviews
Apex Legends	Respawn Entertainment	Electronic Arts	America	Strategy	343,249 followers 417,554 positive reviews 67,156 negative reviews 86.15% positive reviews
Grand Theft Auto V	Rockstar North	Rockstar Games	UK	Action-adventure	2,543,640 followers 1,175,100 positive reviews 210,413 negative reviews 84.81% positive reviews
Team Fortress 2	Valve	Valve	America	Strategy	1,272,772 followers 824,796 positive reviews 56,708 negative reviews 93.57% positive reviews
PUBG: BATTLEGROUNDS	KRAFTON, Inc.	KRAFTON, Inc.	South Korea	Strategy	3,052,827 followers 1,156,399 positive reviews 896,780 negative reviews 56.32% positive reviews
Rust	Facepunch Studios	Facepunch Studios	UK	Strategy	927,657 followers #28 in top sellers 704,833 positive reviews 108,412 negative reviews 86.67% positive reviews
ARK: Survival Evolved	Studio Wildcard	Studio Wildcard	America	Action-adventure	1,362,294 followers #90 in top sellers 462,994 positive reviews 98,889 negative reviews 82.40% positive reviews

Destiny 2	Bungie	Bungie	America	Strategy	570,143 followers 403,932 positive reviews 77,238 negative reviews 83.95% positive reviews
FIFA 22	EA Canada &; EA Romania	Electronic Arts	America	Sports	85,085 followers #2020 in top sellers 70,457 positive reviews 18,105 negative reviews 79.56% positive reviews
Football Manager 2022	Sports Interactive	SEGA	UK	Sports	41,379 followers #107 in top sellers 15,523 positive reviews 1,296 negative reviews 92.29% positive reviews
PAYDAY 2	OVERKILL - a Starbreeze Studio.	Starbreeze Publishing AB	Sweden	Strategy	8,003,316 followers #427 in top sellers 521,182 positive reviews 62,603 negative reviews 89.28% positive reviews
ELDEN RING	FromSoftwa re Inc.	FromSoftware Inc.	Japan	RPG	599,173 followers #11 in top sellers 462,328 positive reviews 51,304 negative reviews 90.01% positive reviews

Table 2 illustrates the most played games on Steam and, like table 1, details the origin of the game developer as well as the genre of the game. The order of the games listed in table 2 reflects the number of active players at the time of data collection (on July 31, 2022) in descending order. Although reflective of the information accurate at the time of data collection, the similarities and differences between the games that appear in table 2 relative to table 1 offer interesting results.

Firstly, with consideration of the developers of the most played games on Steam, again, the domination of American game developers is unquestionable with a 53.3% share. The UK also surfaces as a notable contributor with 20%. Additionally, Asian game developers make a more considerable contribution to the top fifteen most played games on Steam with 13.3% of the titles originating from South Korean studios and 6.7% of games being developed in Japan.

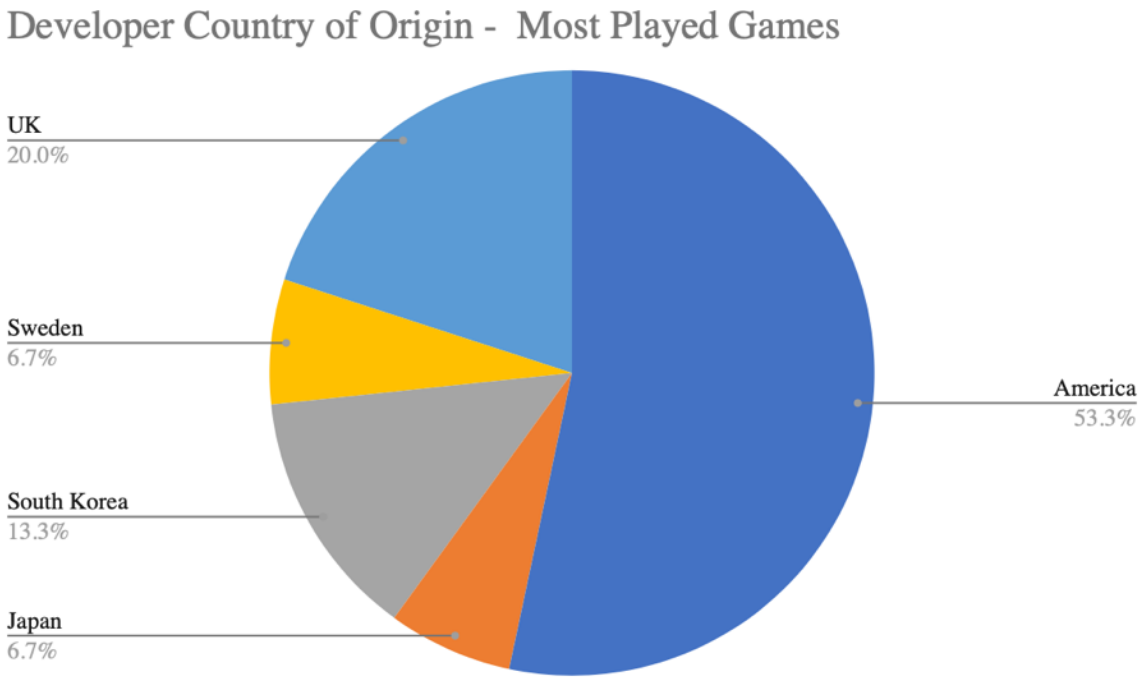


Figure 19 Developer country of origin for the 15 most played games on Steam

Turning to an assessment of genre for the most played games on Steam, the strategy genre once again prevails as the most popular (46.7%). Like the most followed games, other action-related genres also prove to be popular among the gaming community. The sports genre emerges as a new addition to the mix with a notable 13.3% share of the top 15 most played games. The two titles that contribute to this result are *FIFA 22* and *Football Manager 2022.*

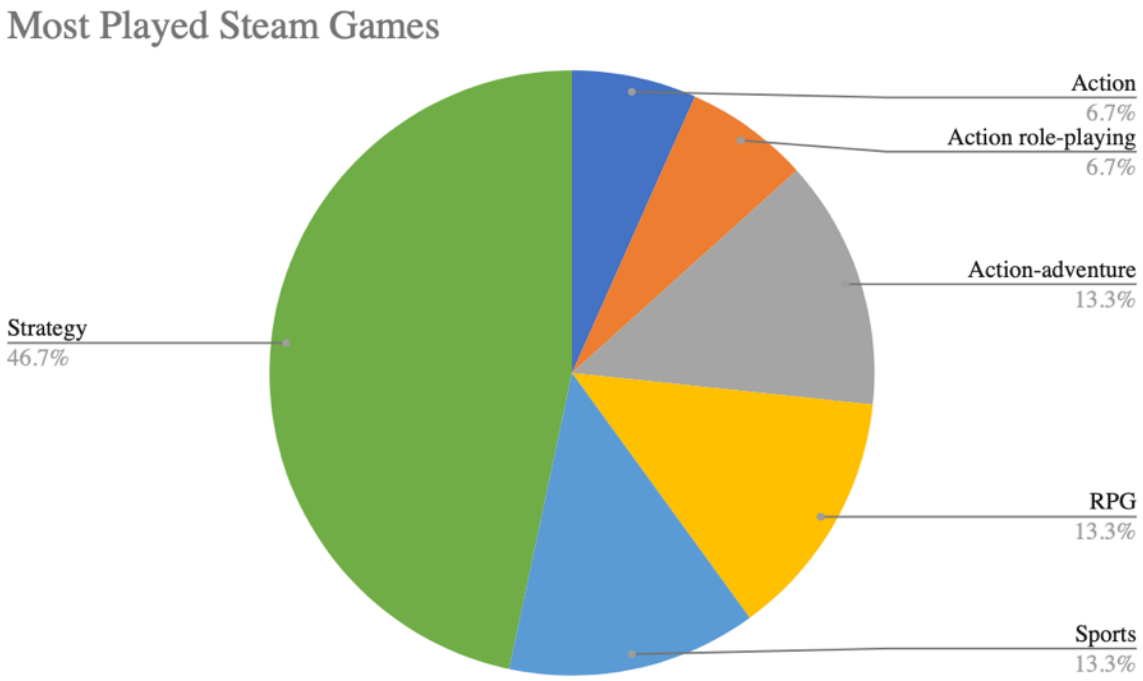


Figure 20 Game genres of the 15 most played games on Steam

EA's *FIFA 22* and Sports Interactive's *Football Manager 22* are both the most recently released titles in their respective series, whereby new and updated games are released on an annual basis (both titles were released in 2021). As such, these two games are inherently quite different from other games such as Valve's *Counter-Strike: Global Offensive* and *Dota 2* which are stand-alone releases. The popularity of new instalments in game series demonstrated in table 2 speaks to the preference of gamers for relevant and updated material when playing games. Looking closer at the release dates of all the most played titles as represented in table 3, the surfacing of newly released titles is a trend that can be observed given that three titles were released in 2022 including *Lost Ark* (2022), *Multiversus* (2022) and *Elden Ring* (2022).

Simultaneously, table 3 also illustrates that older titles on the platform still continue to be popular among gamers - and in many cases, older titles continue to be significantly more popular. For example, although released a decade ago in 2012, *Counter-Strike: Global Offensive* surfaces as the most popular game (in terms of player numbers) on the day of data capture (table 2) and assumes the rank of the second-most followed game on the platform overall (table 1). A further piece of information extracted from Steam and shown in table 3 is the date and time that the games last received an update from the developer.

Table 3 Most played games release year and update information

Title	Year Released	Last Update - 29 August
Counter-Strike: Global Offensive	2012	29 August 2022 – 17:30:33 UTC
Dota 2	2013	29 August 2022 – 09:56:42 UTC
Lost Ark	2022	26 August 2022 – 01:28:00 UTC
MultiVersus	2022	29 August 2022 – 16:53:11 UTC
Apex Legends	2020	29 August 2022 – 17:29:27 UTC
Grand Theft Auto V	2015	29 August 2022 – 17:33:29 UTC
Team Fortress 2	2007	26 August 2022 – 02:12:33 UTC
PUBG: BATTLEGROUNDS	2017	26 August 2022 – 01:27:32 UTC
Rust	2018	26 August 2022 – 01:27:17 UTC
ARK: Survival Evolved	2017	29 August 2022 – 18:22:14 UTC

Destiny 2	2019	29 August 2022 – 18:20:44 UTC
FIFA 22	2021	26 August 2022 – 09:27:22 UTC
Football Manager 2022	2021	26 August 2022 – 03:57:58 UTC
PAYDAY 2	2013	29 August 2022 – 15:15:00 UTC
ELDEN RING	2022	26 August 2022 – 01:27:50 UTC

As can be seen, *Counter-Strike: Global Offensive* was updated the very same day that data was collected. Moreover, all the top fifteen most popular games on the platform received an update within the last four days of data collection with most receiving an update on the very same day that data was extracted from Steam (29 August 2022). This consistent update cycle raises an important point about the online PC game landscape - although one might assume that new releases would naturally replace and displace older titles in terms of popularity and sales by offering gamers more advanced and relevant games to play and engage with, being on an online platform like Steam offers two key advantages. Firstly, the ability for developers to continually update and upgrade their games allows them to appeal to existing players and attract new ones and secondly, it also allows them to adapt to updating technologies and operating systems in order to prolong their relevance.

Discussion

Asia claims the biggest market share of the global gaming market in terms of audience and turnover numbers. Africa and the Middle East boast a larger number of users than North America or Europe, however, the two latter continents boast a larger income. This might relate to the fact that Steam and many other publishers that act as conduits for gaming companies in the Global South are based on those continents and are benefiting financially from growth elsewhere. As the chapter on economic value chains has shown, different US platforms are profiting from South African gaming studios at different junctures and through different tools. No doubt this would be a similar picture in other developing countries. Nevertheless, the larger income generated from games in the US and Europe is also most likely due to players spending more money online than in Africa.

One of the most significant determinants for game consumption appears to relate to age or generation. As the secondary data demonstrates, while Baby Boomers and Gen Xs are gamers, it is Millennials and Gen Zs that account for the most gamers. Indeed, an interest in gaming and the adoption of it as a pastime is much stronger in these younger generations. Therefore, isolating potential audiences in South Africa for gaming consumer data relating to these generations is most pertinent in predicting future growth and understanding the current status quo.

There appears to be little correlation between income and education as factors encouraging gaming, this needs to be taken into consideration, though with an awareness that there are considerable income and education gaps between the US/UK and South Africa.

Substantiating the secondary data is primary data collected on Steam which shows that in the online PC gaming sphere, America claims the majority market share in terms of production. This fact also bears out when considering that South Africa's top-selling game on this platform, *Broforce*, is primarily played by an audience in North America (Stakeholder A).

American domination in terms of studios and publishers also aligns with the fact that South African studios, whether advancing their own IP or servicing other studios or publishers mostly rely on companies in the US. As such, establishing a foothold in the gaming industry as a studio producing indie games demands forging a relationship with either a US publisher or selling it on a platform, like Steam, that services this audience.

An analysis of the titles of the most played games reveals two seemingly contradictory characteristics of the gaming economy; a hunger for the new, but also continued support for older games, which speaks to the long tail nature of the return on investment of games.

In terms of genre, as the South African gaming fraternity is less focused on the most popular genres or at least in a traditional approach to them as indie games can be a subversion of commercial typologies – they more than likely cannot compete with those AAA games reaching heights in those genres. The success they are more likely to achieve could be down to a creative interpretation of these genres that would appeal to an audience interested in indie games.

Undoubtedly, given that South African audiences do not carry much influence on Steam at a global level, it follows that local studios that are interested in developing IP are not designing games that target them, which perhaps colloquial references might make. Indeed, when Case Study 1 released a game with South African flavour in terms of the lead character having been a soldier on the 'border' during the Apartheid era and voice-over actors from South Africa, they were prompted, due to its reception, to rather use American voices/accents in their next game.

On paper, generating local content is viewed as important but "not necessary… African gamers don't want African games, they want to play the best games in the world" (Tshimologong, 2021: 28). This sentiment is not unique to the mobile market, however. Several stakeholders raised the point that an African "themed" game, or the fact that it was "made in Africa" are not unique selling points that have value – players simply do not care. If one wants to find commercial success (internationally and in the local market) you have to first ensure you are making a world-class game (Tshimologong, 2021: 28).

Nyamakop is said to be in the process of creating a game with an African flavour, but they are doing so with an African American audience in mind. It is the African audience in the diaspora in the US and Europe that could perceivably be more open to African content.

African Americans make up a significant portion of US gamers and are the second-likeliest ethnic group to play, after Asian Americans (Nielsen Company, 2018). 73% of African Americans aged 13 and older are gamers, compared with 66% of the total population (Nielsen Company, 2018). This group also tend to play on fewer devices than the total population, with 64% of African American gamers using only one device, versus 48% of the total population of gamers (Nielsen Company, 2018). The majority (55%) of African American gamers prefer playing on a game console (vs. 49% of total gamers), while 31% prefer gaming on a mobile device (vs. 30% of the total population) and only 15% prefer a computer (vs. 21% of the total population) (Nielsen Company, 2018). Despite the large number of African American gamers, there is a lack of diversity and diverse stories within the games themselves and within gaming developers in the industry (Nielsen Company, 2018). The need for diversity and storylines that appeal to this audience would likely also apply to African audiences.

To this end, established studios in the west are recognising the need to diversify their workforce to enable the creation of this unique content. South Africa, Africa, is in a prime position to capitalise on this demand, however in South Africa especially, the inability of the local industry to tap into the full potential of the workforce is notable (Tshimologong, 2021: 35).

Authentic representation of diverse cultural characters in games and gender representation within games could have a positive impact and benefit on perceptions, socio-cultural and economic value of the video games development industry as a whole. South African game developers could potentially benefit from this, however, they would need to have the support of a publisher in the US or Europe that could fund, market and publish games that advance these social ideals, as it might prove too risky to do so independently. An international publisher would have little motivation to support 'African' content, given they wish to reach the largest audience possible and might view Afrocentric games as limiting sales rather than increasing them.

African & South African Consumers

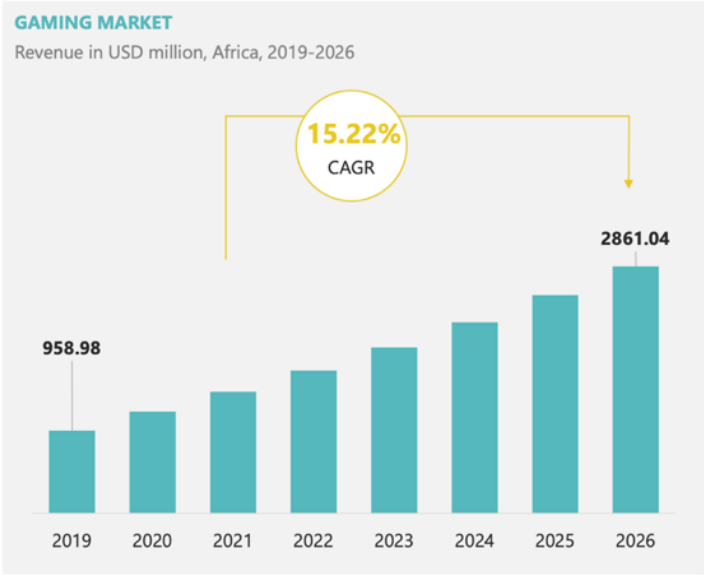
From a pan-African perspective, the growth in the gaming industry is tied to an increase in ownership and use of smartphones. As stated above this is a global phenomenon, however, as a brief overview of the gaming industries in Kenya and Nigeria shows, this has not translated into a robust industry in those countries. As in South Africa, this is primarily due to the fact that local gaming economies do not pivot or profit from mobile gaming, even in a country such as Kenya which has more business-friendly policies in place that encourage co-productions, and different ownership models.

Indeed, this trend is further substantiated via a look at African consumers on Steam, which does not reflect a large number of gamers using the platform on the African continent (Steam, 2022). This may not be tied to a preference for playing games on mobile, as a close look at South African consumers reveals it is also connected to a lack of access to a PC and/or fast internet connections in order to play games on the Steam platform.

The African Market

The African gaming market is expected to double in revenue in the next five years; it was valued at US$1178.40 million in 2020 and is expected to reach US$2861.04 million by 2026 (see figure x), registering a CAGR of 15.2% during 2021-2026 (Mordor Intelligence, 2021). This potential growth is based on the following factors;

- A large and growing young population who are the main target audience for games
- Growing penetration of smartphones and the internet which increases accessibility
- The growing popularity of multi-player games which makes gaming a more sociable activity



SOURCE: Mordor Intelligence

Figure 21 African gaming market projected growth (Mordor Intelligence, 2021)

Some of the continent's leading gaming markets are Egypt, South Africa, Morocco, Nigeria, and Algeria (Mordor Intelligence, 2021). Their growth appears to be more closely related to mobile games as opposed to those on PC or console. According to data.ai (previously App Annie), South Africa ranked top on the continent in 2020 for app store downloads, consumer spend and hours spent on mobile with total consumer spending in app stores (iOS, Google Play and third-party Android combined) being US$210 million (Mordor Intelligence, 2021).

There is potential in the African mobile game consumer market, unlocking that potential has been incredibly difficult thus far. "There is a perception that one cannot make money from users [in Africa], which we believe is false. In our opinion, it is an infrastructure problem. The future is here in Africa. And if you do want in on the African market, you need to do it on mobile, because that is where the gamers interact. However, they are not traditional players" (Tshimologong, 2021: 27). The interviewees in the Tshimologong (2021: 27) study also pointed out that for a mobile game to be commercially successful in the African market, it needs to be F2P and monetised through In-App-Purchases. However, it was also pointed out that "traditional payment methodologies don't work. [You] need a regional approach and acquire users relatively easily and cheaply." This cannot be done with the existing

international ecosystem and storefronts (Tshimologong, 2021: 27). This will be explored in more depth in the chapter on gaming economies and value chains.

Nigeria

Sub-Saharan African countries are fairly new to the game development industry. The increase in smartphone penetration and the availability of the Android platform for software development has directed much of the region's focus towards mobile game development (Tshimologong, 2021). So while Nigeria is described as "a fast-moving tech ecosystem," it has failed to capitalise on the growing interest in video games which took hold in the mid-2010s in terms of establishing its own game development industry (Tshimologong, 2021: 75). Though the first game studios were operational from around 2012, many failed to survive (Tshimologong, 2021). Despite this, as in South Africa, gaming spend has been increasing; Nigeria's total entertainment and media market spend on video games for 2018 was US$67 million and is projected to reach US$176 million by 2023 (PWC, 2019).

As such, there is a great disparity between the revenue being generated and the lack of growth or robustness of the industry. This is partially attributed to insufficient quality content being made to drive the market forward, lack of cataloguing and documentation of Nigerian game development efforts, game development education and an inability to compete with the popularity and marketing of other games (Tshimologong, 2021).

Consequently, the Nigerian consumer patterns are following the same trends in South Africa where the traditional gaming sector is growing more slowly and has been eclipsed by the booming social/casual or mobile gaming segment, which is seeing rapid forecasted growth at a CAGR of 25.3% between 2018-2023 (PWC, 2019). Data consumption for gaming purposes was 61 million GB in 2018 and is set to grow to 156 million GB in 2023, placing Nigeria in a similar situation to South Africa in terms of growth in data consumption for gaming (PWC, 2019).

Kenya

Unlike South Africa and Nigeria, Kenya's market is still reliant on traditional gaming which accounted for 71% of the market in 2018, rather than being dominated by social/casual mobile gaming (PWC, 2019). Kenya's total entertainment and media market spend on video games for 2018 was US$83 million and is projected to reach US$153 million by 2023 (PWC, 2019). However, there will be growth experienced in social/casual gaming, an 18.6% CAGR in 2023, which is attributed to an increase in smartphone ownership (PWC, 2019).

Growth in the Kenyan games industry has been spurred through African collaborations which have resulted in skills being imported into Kenya. This is based on a friendlier business environment as 30% of a business is required to be Kenyan owned as compared to 50% local ownership in other African countries (Tshimologong, 2021). Recently, Kenya has started to participate in global gaming events such as the Global Game Jam which has increased their visibility and enabled the growth of local talent (Tshimologong, 2021). On the local level,

growth and development have been encouraged through game development meet-ups, tech incubators, support programs, and government grants for ICT (Tshimologong, 2021: 77).

However, as in South Africa, the gaming industry has been hindered by a lack of a skilled game development workforce, funding opportunities and the challenge of monetizing games (Tshimologong, 2021: 77).

Yet the future outlook for gaming should be positive given it was found that games will be the fastest rising content type for which data is used, going from 12 million GB in 2018 to 80 million GB in 2023 with a CAGR of 47.3% over the period (PWC, 2019).

The South African Market

The development of the games industry in South Africa depends to a large extent upon technology. With regards to online gaming, which is the focus of South African gaming companies, the spread of broadband has defined the limits of the market. Demographics, income and preferences of computer game players have naturally impacted the growth and shape of the industry.

The games market in South Africa is said to be growing at a fast pace with revenues reported to have reached US$124 million in 2018. The games sector is deemed to be the fastest growing sector in the media and entertainment industry in South Africa and was projected to reach US$150 million by 2020 (Digital Vector, 2019: 617).

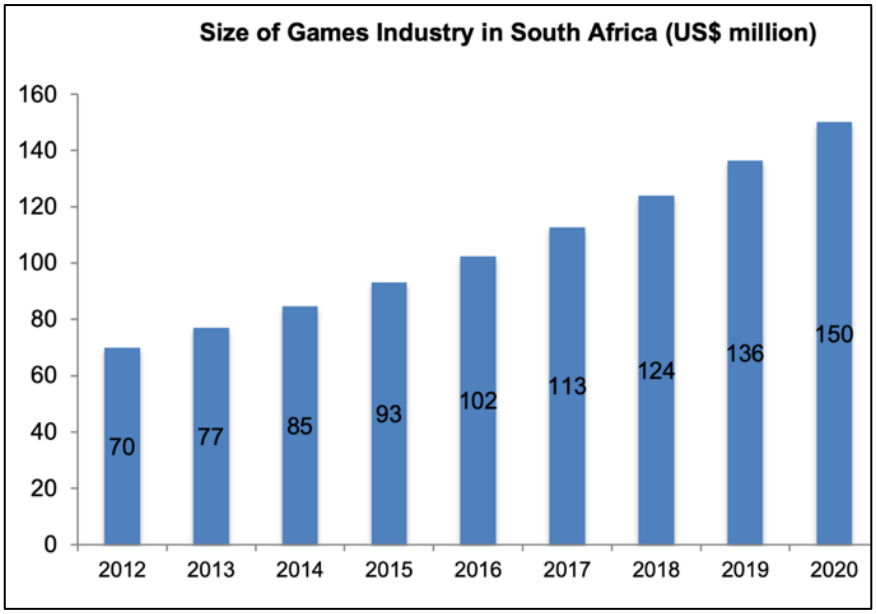


Figure 22 Market size of the games industry in South Africa (Digital Vector, 2019).

South Africa's total video games revenue is set to increase at 9.2% CAGR, but as with other African countries and the global market at large, this will mainly be through social/casual gaming spend (PWC, 2019).

As figure 23 below suggests, there has been a slight increase in revenue of PC games since 2014, but it has been nominal, particularly in comparison with the rise in turnover in social/casual gaming which primarily is taking place on mobile devices.

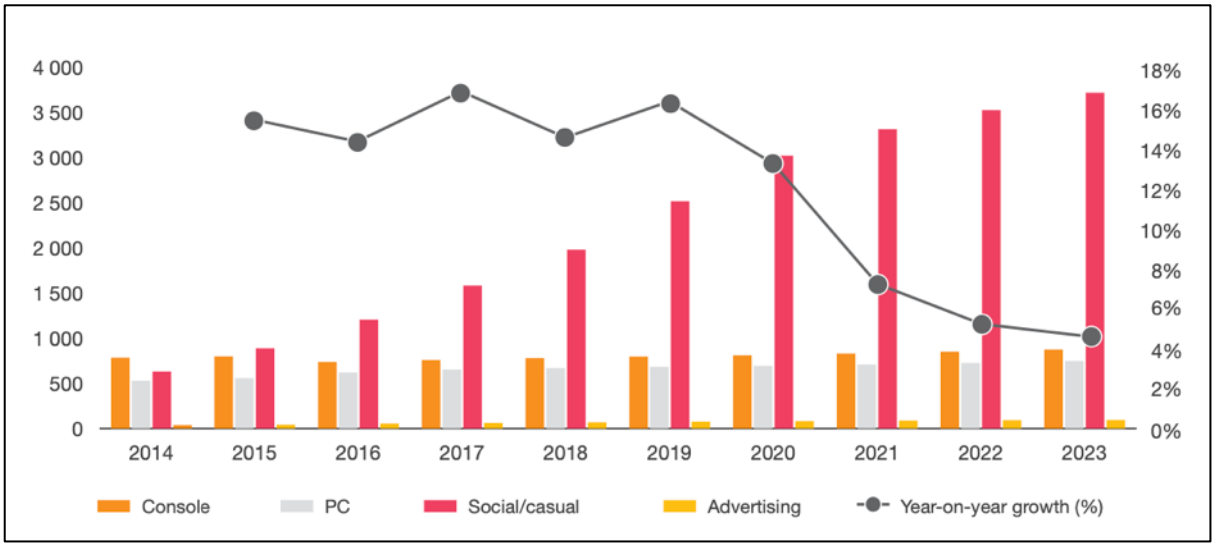


Figure 23 South Africa video games revenue by segment (R millions) and year-on-year growth (%), 2014-2023 (PWC, 2019)

The traditional gaming sector includes video games on PCs and game consoles that can connect to TVs and have portable hardware. The console industry is thought to be strong, especially in countries where consumers cannot afford to buy the newest models, which keeps older models in demand and gamers trade used console games with one another.

It was expected that the console market would continue to be popular due to the higher costs of digital video games and a lack of network infrastructure, especially in developing economies, which will keep physical distribution relevant (Digital Vector, 2019). However, combined revenue from physical console and PC games is expected to fall gradually from R789 million in 2018 to R608 million in 2023 with a -5.1% CAGR (PWC, 2019). According to Games 4U, a local company that has been in existence for a decade that promises to offer the "cheapest prices" for the latest video games, consoles and accessories in South Africa, the decline in sales of physical games is due to the growth of high-speed internet and gamers buying games online or making use of subscriptions services (Bechoo, 2022).

However, an analysis of consumer and population data in South Africa shows that the majority of the population does not have access to a fixed internet line. For this reason, mobile and hand-held games is the fastest growing segment (see figure 23), followed by console games (Digital Vector, 2019). The PC games segment is the slowest growing segment (Digital Vector, 2019).

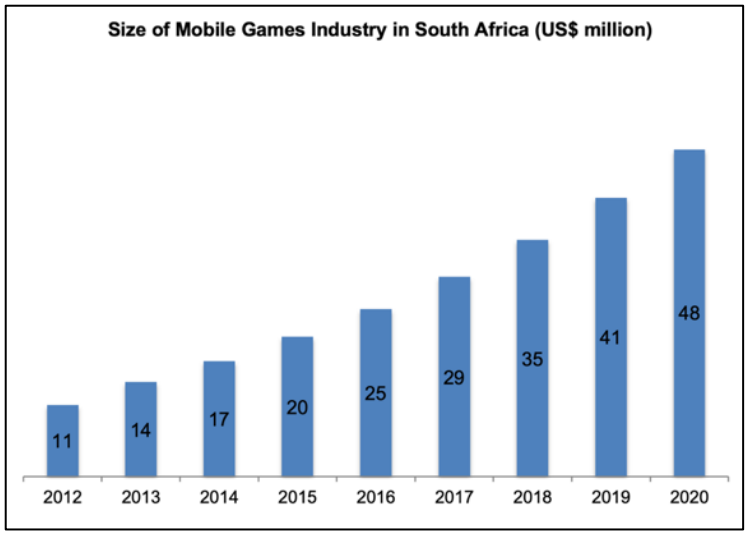


Figure 24 Market size of the mobile games industry in South Africa (Digital Vector, 2019).

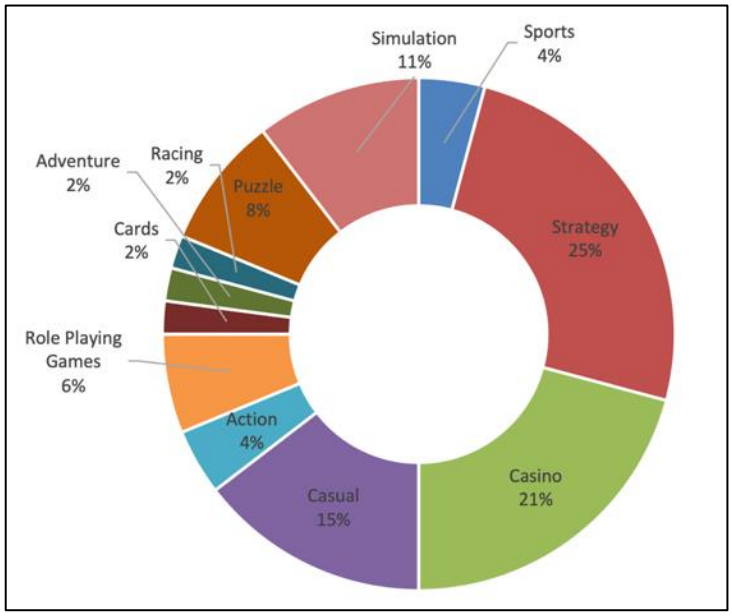


Figure 25 Revenue breakdown by mobile game genres in South Africa (Digital Vector, 2019).

Social/casual gaming surpassed traditional gaming in 2017 as the main revenue segment in South Africa's gaming industry (see figure 26). It represented 56.6% of total video game revenue in 2018 and will increase its dominance to 68.4% in 2023 (PWC, 2019).

	Historical data					Forecast data					CAGR
Category	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2018–23
Traditional gaming revenue	**1 315**	**1 358**	**1 358**	**1 413**	**1 451**	**1 482**	**1 507**	**1 540**	**1 579**	**1 624**	**2.3%**
Total console games revenue	**785**	**800**	**738**	**760**	**781**	**798**	**812**	**831**	**852**	**876**	**2.3%**
Physical console games revenue	702	695	597	590	581	568	553	537	521	506	-2.7%
Digital console games revenue	43	56	73	89	106	124	142	162	185	210	14.6%
Online/microtransaction console games revenue	40	49	67	80	94	106	118	132	146	160	11.2%
Total PC games revenue	**530**	**558**	**620**	**654**	**670**	**684**	**695**	**709**	**727**	**749**	**2.3%**
Physical PC games revenue	258	248	237	224	208	188	164	141	120	102	-13.3%
Digital PC games revenue	90	102	124	137	147	158	169	182	196	210	7.4%
Online/microtransaction PC games revenue	181	209	260	293	315	338	362	386	412	437	6.8%
Social/casual gaming revenue	**633**	**889**	**1 206**	**1 584**	**1 982**	**2 517**	**3 023**	**3 316**	**3 528**	**3 720**	**13.4%**
App-based social/casual revenue	474	723	1 035	1 412	1 811	2 348	2 858	3 156	3 375	3 576	14.6%
Browser-based social/casual revenue	160	166	171	172	171	169	165	159	152	145	-3.3%
Video games advertising revenue	38	43	56	63	70	77	83	89	93	95	6.4%
Total video games revenue	**1 986**	**2 291**	**2 619**	**3 060**	**3 503**	**4 075**	**4 613**	**4 944**	**5 200**	**5 440**	**9.2%**
YOY growth (%)		***15.4%***	***14.3%***	***16.8%***	***14.5%***	***16.3%***	***13.2%***	***7.2%***	***5.2%***	***4.6%***	

Figure 26 Breakdown of South Africa's video games market, 2014-2023 (R millions) (PWC, 2019)

However, as indicated earlier, the majority of the large South African studios do little to no work in the mobile sector, with console and PC being the platforms responsible for the majority of their revenue (Tshimologong, 2021: 3).

As shown in figure 27, consumer spending on video games in South Africa was reported to have reached R3 433 million in 2018 and is projected to reach R5 344 million by 2023, while spending on e-sports and VR is also increasing (PWC, 2019). However, it is more likely that this figure is substantially higher, given that Bechoo (2022) estimates that Game4U sells between R4-6 million worth of console game titles in a year. At least 60-70% of that would be from the titles listed below, which they have indicated are the top 10 selling games in 2021;

1. FIFA Series (18,19,20,21,22)
2. Grand Theft Auto V
3. Marvel's Spider-Man Franchise
4. God of War
5. Forza Horizon Series (FH3, FH4, FH5)
6. Red Dead Redemption 2
7. Call of Duty Franchise (Modern Warfare, Black Ops 4)
8. Minecraft
9. Pokémon Franchise
10. Mario Franchise (Super Mario Bros. Mario Kart)

Significantly, none of the titles listed above are produced by South African gaming companies, despite the fact that many have ported their online games to console in order to sell hard copies of their games.

Total consumer market (R millions)											
South Africa	Historical data					Forecast data					CAGR %
Category	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2018–23
Books	3 828	3 812	3 818	3 834	3 853	3 872	3 890	3 904	3 912	3 914	
YOY growth (%)		*-0.4%*	*0.2%*	*0.4%*	*0.5%*	*0.5%*	*0.5%*	*0.4%*	*0.2%*	*0.1%*	*0.3%*
Business-to-business	4 515	4 697	4 907	5 096	5 282	5 449	5 598	5 726	5 834	5 919	
YOY growth (%)		*4.0%*	*4.5%*	*3.9%*	*3.6%*	*3.2%*	*2.7%*	*2.3%*	*1.9%*	*1.4%*	*2.3%*
Cinema	941	1 113	1 171	1 193	1 330	1 292	1328	1 373	1 417	1 461	
YOY growth (%)		*18.3%*	*5.2%*	*1.8%*	*11.5%*	*-2.8%*	*2.8%*	*3.3%*	*3.2%*	*3.1%*	*1.9%*
Internet	26 611	34 872	41 554	48 543	54 444	60 706	67 003	72 748	77 942	82 669	
YOY growth (%)		*31.0%*	*19.2%*	*16.8%*	*12.2%*	*11.5%*	*10.4%*	*8.6%*	*7.1%*	*6.1%*	*8.7%*
Magazines	2 564	2 682	2 597	2 549	2 519	2 505	2 510	2 505	2 497	2 488	
YOY growth (%)		*4.6%*	*-3.2%*	*-1.9%*	*-1.2%*	*-0.6%*	*0.2%*	*-0.2%*	*-0.3%*	*-0.4%*	*-0.3%*
Music and podcasts	1 817	1 808	1 843	1884	2 003	2 154	2 323	2 491	2 652	2 796	
YOY growth (%)		*-0.5%*	*2.0%*	*2.2%*	*6.3%*	*7.6%*	*7.8%*	*7.3%*	*6.5%*	*5.4%*	*6.9%*
Newspapers	2 667	2 665	2 644	2 606	2 555	2 491	2 415	2 328	2 232	2 128	
YOY growth (%)		*-0.1%*	*-0.8%*	*-1.4%*	*-2.0%*	*-2.5%*	*-3.1%*	*-3.6%*	*-4.1%*	*-4.6%*	*-3.6%*
TV and video	19 214	21 142	23 815	24 860	26 221	27 714	29 216	30 488	31 706	32 644	
YOY growth (%)		*10.0%*	*12.6%*	*4.4%*	*5.5%*	*5.7%*	*5.4%*	*4.4%*	*4.0%*	*3.0%*	*4.5%*
Video games	1948	2 247	2 563	2 997	3 433	3 998	4 530	4 855	5 107	5 344	
YOY growth (%)		*15.4%*	*14.1%*	*16.9%*	*14.5%*	*16.5%*	*13.3%*	*7.2%*	*5.2%*	*4.7%*	*9.3%*
E-sports	1.5	2.4	3.3	5.5	7.4	10	13	17	20	24	
YOY growth (%)		-	*37.5%*	*66.7%*	*34.5%*	*36.5%*	*30.7%*	*25.8%*	*20.5%*	*17.5%*	*26.0%*
VR	0	0	28	40	75	146	226	307	392	462	
YOY growth (%)		-	-	*42.3%*	*84.9%*	*95.3%*	*55.0%*	*35.6%*	*27.8%*	*18.0%*	*44.0%*
Total consumer	**63 255**	**73 909**	**83 450**	**91 698**	**99 378**	**10 7427**	**115 604**	**122 976**	**129 709**	**135 636**	
YOY growth (%)		***16.8%***	***12.9%***	***9.9%***	***8.4%***	***8.1%***	***7.6%***	***6.4%***	***5.5%***	***4.6%***	***6.4%***

Figure 27 South Africa consumer media and entertainment spending 2014-2023 (PWC, 2019)

Not surprisingly, streaming videos drive the vast majority of data consumption in South Africa with games at the lower end of uses for data consumption at 49 million GB in 2018 (see figure 28. It is expected that this figure will increase considerably over the period at 18.9% CAGR to 117 million GB (PWC, 2019). This seems likely given the Covid-19 pandemic which saw a migration of work and entertainment activities taking place online. Covid-19 may have further impacted on an increase in online gaming beyond what was forecast in the graphic below (Figure 28).

South Africa: Data consumption by content type, 2014–2023 (GB millions)

	Historical data					Forecast data					CAGR %
Category	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2018–23
Video	1 304	1 877	2 378	3 309	4 095	5 128	6 747	9 256	12 385	15 742	30.9%
Games	21	29	35	41	49	58	69	82	98	117	18.9%
Music	15	27	44	67	98	142	205	293	406	546	40.9%
Web browsing	28	30	32	33	70	101	143	202	277	367	39.2%
Social networking	17	25	32	40	50	62	76	95	116	143	23.6%
Communications	156	222	284	352	439	552	690	876	1 114	1 412	26.3%
Other digital content	19	23	30	30	64	93	135	193	269	363	41.3%
Total (GB millions)	**1 560**	**2 234**	**2 835**	**3 871**	**4 866**	**6 136**	**8 066**	**10 997**	**14 665**	**18 691**	**30.9%**

Figure 28 South Africa data consumption by content type 2014-2023 (PWC, 2019)

The quality and speed of internet connections has also impacted the PC gaming segment with many data servers being located far away from South Africa, resulting in a high latency and thus a poorer online gaming experience.

South African Consumers

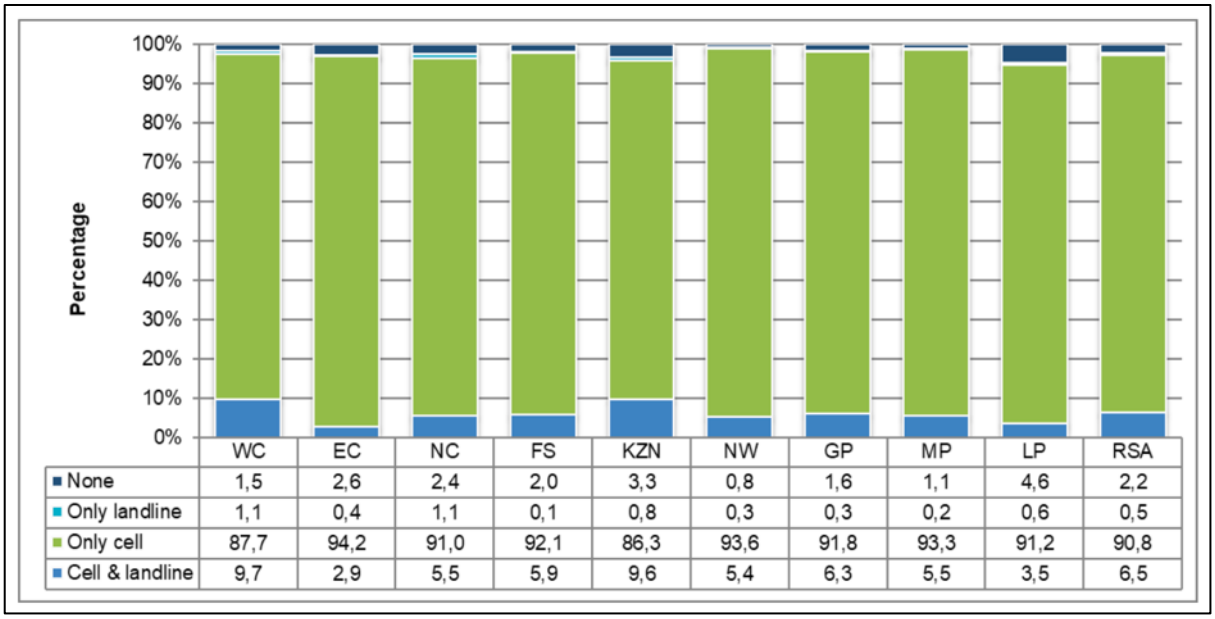
In an effort to identify a potential or existing audience for gaming, in particular online/PC gaming – given this is the focus of the local gaming studios, we have analysed different demographic information relating to the South African population that could offer insight

into them. As such we have looked at the following, which had been identified previously as defining global audiences;

1. Access to technology - cellphones, PC and the internet.
2. Unemployment, which could point to a percentage of the audience who may not be able to afford to buy equipment, data and games.
3. Age – as highlighted the largest audiences are Millennials and Gen Z.
4. Education – there was little correlation here though high-school students are the largest market.

Technology

The vast majority of South Africans have access to a cellphone (97.3%), while 27.3% have access to a PC (see figure 29), both of which could potentially be used for gaming (StatsSA, 2021).



	WC	EC	NC	FS	KZN	NW	GP	MP	LP	RSA
None	1,5	2,6	2,4	2,0	3,3	0,8	1,6	1,1	4,6	2,2
Only landline	1,1	0,4	1,1	0,1	0,8	0,3	0,3	0,2	0,6	0,5
Only cell	87,7	94,2	91,0	92,1	86,3	93,6	91,8	93,3	91,2	90,8
Cell & landline	9,7	2,9	5,5	5,9	9,6	5,4	6,3	5,5	3,5	6,5

Figure 29 Percentage of households who have a functional landline and cellular telephone in their dwellings by province, 2021 (StatsSA, 2021)

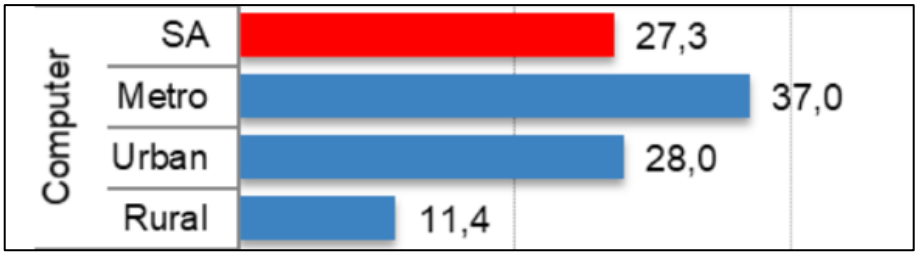


Figure 30 Percentage distribution of households who own a computer, by urban/rural status, 2021 (StatsSA, 2021)

In 2017, there was a turning point in South Africa where the smartphone emerged as the most popular communication device. South Africans are now amongst the top users of smartphones globally with the most popular content-related activities that these devices are used for being games, short videos and navigation (see figure 31) (Deloitte, 2017). It should be noted that a preference for playing games on mobile devices is not only due to greater

adoption/accessibility of mobile technology, but also relates to the fact that most games are based on a free-to-play model, whereas online games can be free, but the premium ones are acquired via a once-off-payment.

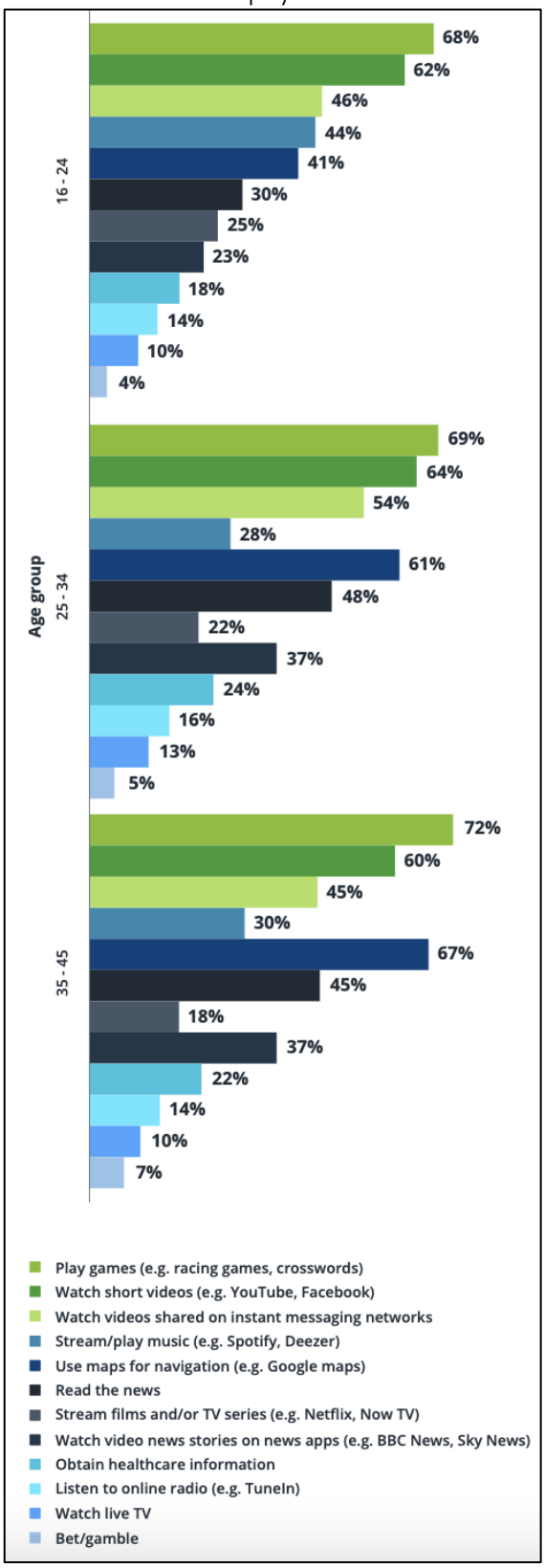


Figure 31 Usage frequency of content-related activities by age (Deloitte, 2017)

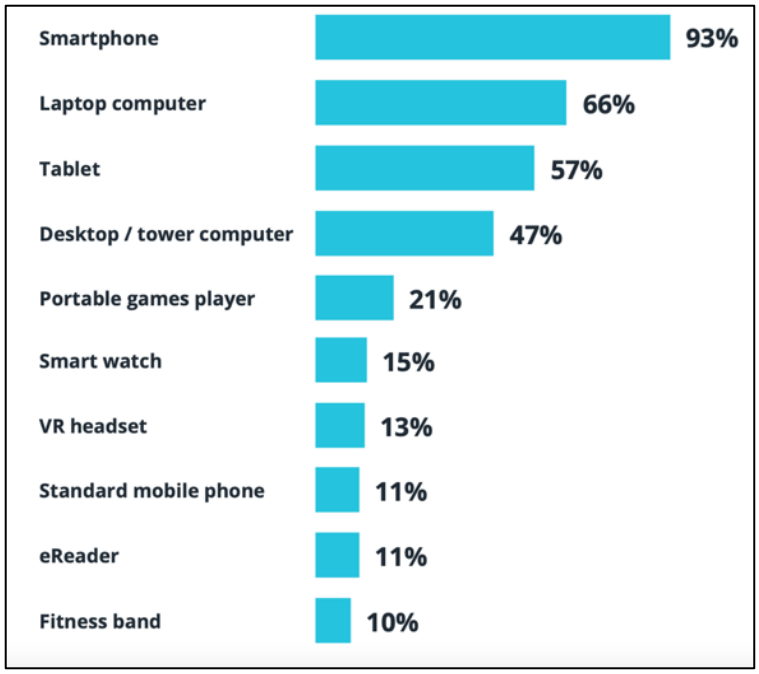


Figure 32 Device penetration (Deloitte, 2017)

There were 41.19 million internet users in South Africa in January 2022 with the country's internet penetration rate standing at 68.2% of the total population at the start of 2022 (Kepios, 2022). Mobile accounts for 76.36% of web traffic share and PC is 22.16% which shows that most South Africans are accessing the internet through their phones and may not have fixed connections in the home (Kepios, 2022).

South African internet speeds are also relatively slow at 30.54 Mbps for mobile and 29.73 Mbps for fixed internet connections (Kepios, 2022). This has implications for mobile and online PC/console gaming as the faster the internet connection speed, the better the online gaming experience.

South Africans spend above the global average time on the internet each day at 10 hours and 46 minutes (see figure 33). They also spent 1 hour and 3 minutes per day on average using a games console (Kepios, 2022).

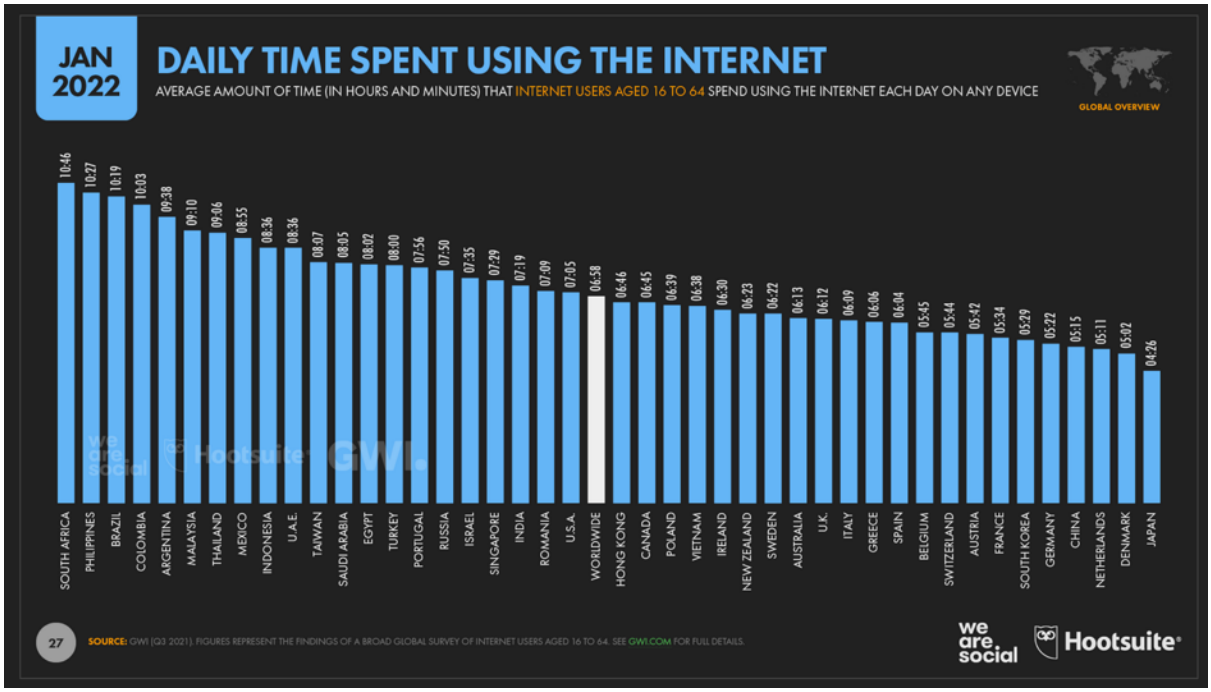


Figure 33 Average amount of time spent using the internet each day

77.5% of South African households had at least one member who had access to or used the internet at locations such as their homes, work, place of study, internet cafes, or at public hot spots. Access to the internet using all available means was highest in the Western Cape (89.1%) and Gauteng (86.7%) and lower in the more rural provinces (StatsSA, 2021).

66% of the population (See Figure 32) have access to laptops which appears to be a positive sign with regard to audiences for online games (Deloitte, 2017). However, while it is possible to play online games on laptops, this is not considered an ideal device and if used for gaming would need to be of a certain type and quality. Owning a desktop computer would be more ideal and penetration within the South African population is considerably less at 47% (Deloitte, 2017) . Naturally, as the decrease in console games evinces, the demographic or consumer characteristics that would need to intersect to increase the potential of gaming would be a desktop computer combined with a fixed internet line.

However, shockingly only one-tenth (10.4%) of South African households have access to fixed internet at home (see figure 33) (StatsSA, 2021). Access to the internet at home was highest among households in the Western Cape (25.9%) and Gauteng (16.4%), and lower in the more rural provinces (StatsSA, 2021). This has implications for the uptake of gaming in South Africa as console and PC games would be played mainly in the home. When you compare this figure to the US, where 77% of Americans had high-speed broadband services at home, it is easy to see why South African gaming studios claim that the majority of their audience is based in that country.

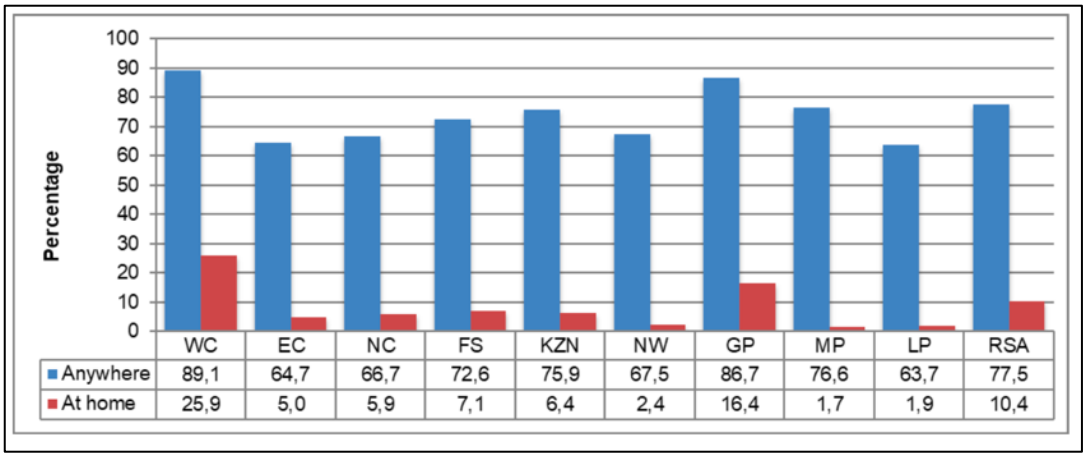


Figure 34 Percentage of households with access to the Internet at home, or anywhere, by province, 2021 (StatsSA, 2021)

Moreover, while 17.2% of households in metropolitan areas had access to the Internet at home, this was true for only 1.2% of rural households in general (see figure 35) (StatsSA, 2021). It is thus more likely that hardcore South African gaming audiences (as well as people working in game development) would be located in metropolitan areas. Nevertheless, as the majority of South Africans (69.4%) have access to the internet via mobile devices, it follows that mobile gaming would be more popular (StatsSA, 2021).

Place where Internet is accessed	Rural/ Urban status	Province (per cent)									
		WC	EC	NC	FS	KZN	NW	GP	MP	LP	RSA
At home	Metro	30,3	10,7	-	12,1	10,2	-	16,5	-	-	17,2
	Urban	18,3	5,1	6,7	5,1	10,0	5,2	15,4	2,5	4,4	8,8
	Rural	12,2	0,2	4,1	4,5	0,2	0,3	29,7	1,0	1,3	1,2
	Total	**25,9**	**5,0**	**5,9**	**7,1**	**6,4**	**2,4**	**16,4**	**1,7**	**1,9**	**10,4**
At work	Metro	20,4	16,2	-	18,8	27,9	-	29,0	-	-	26,1
	Urban	27,9	11,8	18,1	9,4	22,3	13,0	20,1	10,0	17,8	17,1
	Rural	11,9	7,2	5,8	8,9	3,2	1,7	9,1	4,4	4,8	4,6
	Total	**22,2**	**11,3**	**14,4**	**12,1**	**17,3**	**6,6**	**27,8**	**6,8**	**7,3**	**17,6**
Using mobile devices	Metro	75,4	61,7	-	62,8	83,5	-	72,4	-	-	73,4
	Urban	78,9	73,2	64,3	66,3	80,8	72,9	74,5	68,7	79,1	73,7
	Rural	55,0	53,6	52,9	72,5	57,8	61,7	63,2	66,3	57,5	59,2
	Total	**75,4**	**60,5**	**60,8**	**66,0**	**73,2**	**66,5**	**72,6**	**67,3**	**61,7**	**69,4**
At Internet cafes or educational facilities	Metro	17,1	12,5	-	5,8	28,2	-	23,2	-	-	21,6
	Urban	18,3	1,6	1,4	6,5	7,4	3,6	24,6	18,8	1,7	11,1
	Rural	3,7	1,3	0,0	11,3	3,9	2,7	16,9	8,1	1,5	3,5
	Total	**16,8**	**5,4**	**1,0**	**6,9**	**14,4**	**3,1**	**23,3**	**12,7**	**1,5**	**13,6**

Figure 35 Households' access to the internet by place of access, urban/rural status and province, 2021 (StasSA, 2021)

Township Internet Connectivity

Internet connectivity from a fixed line in households is currently very low. However, many companies have set their sights on townships and smaller markets, popularly referred to in the sector as the secondary or underserved markets. Innovative ways to provide affordable fibre to homes in underserved areas are required to address connectivity shortfalls in the

country, and the pay-as-you-go model is one such solution, as it is flexible and removes the need to commit to lengthy contracts. Fibre would also be a cheaper option than mobile data for many South African households (MyBroadband, 2022). According to ISP Vumatel, the poorest households in South Africa use up to 3GB or 4GB of data per day if you give them uncapped Internet for free (MyBroadband, 2022). The South African government is committed to increasing connectivity and has announced its intention to provide high-speed internet to every community by 2024, with free data provided for those citizens in need (Mwareya and Simango, 2022).

A number of providers including Vumatel, Telkom's Openserve, and MetroFibre already offer low-cost prepaid fibre services in underserved areas. These providers offer fibre connections with 20Mbps download speeds for pay-as-you-go options ranging from R20 for 24 hours to between R400 and R450 for 30 days access (MyBroadband, 2022; IT web, 2022). Access to the internet is seen as a crucial economic enabler used for education, spreading information and entertainment. By potentially providing low-cost fibre to the home connections for millions of South Africans, the digital divide could be addressed. This would open up the market for digital services including streamed entertainment content and online gaming.

How Affordable is Access to Gaming Technology?

Below is a list of all the necessary equipment required to play online PC or console games from gaming console sets, to headsets, computers, gaming laptops and monitors, as well as the monthly cost of an internet connection. Included are different options ranging from the cheaper to the more expensive.

- Xbox Series X – R11 999
- Xbox Series S – R6 999
- Xbox Game Pass Ultimate – R1 428 pa
- Xbox Game Pass PC and Console – R948 pa
- PlayStation PS5 – R11 999
- PlayStation PS5 Digital – R9 999
- PlayStation Plus Deluxe – R1 429 pa
- PlayStation Plus Extra – R1 239 pa
- PlayStation Plus Essential – R749 pa
- PC and Console Games – R700 – R1 599
- Steam Games – R80 – R1 400 (also many free games but may have in-game purchases)
- Headset – R500 - R2 000
- Controller* – R350 – R2500
- Gaming Desktop** – R17 500 – R44 999
- Gaming Laptop*** – R16 999 – R36 000
- Mouse – R400 – R1 500
- Keyboard – R600 - R2 799
- Monitor – R2 500 – R16 999
- Nintendo Switch – R6 999

- Nintendo Switch Lite – R4 499
- Nintendo Games – R699 – R1 999
- Other accessories can be purchased like a gaming chair, a camera so that you can see your friends while you play, or a steering wheel or joystick for some driving and flying games.

*For wireless controllers, you may also need to purchase a charging station separately or replace a charging station (R499-R899)
** Individual components can also be bought to build a gaming desktop and/or to upgrade the one you already have.
*** You could buy a non-gaming laptop which would be cheaper (starting price from around R5 500), however, it may not be able to support some of the more complex or larger games in terms of memory, poorer graphics, loading/buffering etc.

Internet

Fibre ranges from R3 468 pa to R16 164 pa. LTE is cheaper though slower. It is likely that hardcore gamers would prefer faster internet connections and would need uncapped options in order to play online and download games (50-100GB depending on the game).

Shown below are the average download rates for Steam clients on the most popular internet service providers for South Africa, sorted by the number of bytes delivered to that network.

Table 4 Prices for popular internet service providers for online gaming

Network	Average Download Rate	Price (per annum)
Vox Telecom	38.8 Mbps	R3 468 fibre R840 LTE
Telkom Internet	17.4 Mbps	R5 988 - R16 140 fibre
Web-Africa-Networks	39.8 Mbps	R2 388 LTE
Rain	18.2 Mbps	R5 988 – R11 988 5G
HeroTel	18.8 Mbps	
Vodacom Business	27.4 Mbps	
AFRIHOST FIBRE	51.8 Mbps	R5 964 – R16 164 fibre
Cool-ideas	49.6 Mbps	

*Prices for some providers were not freely listed on their websites and only cover certain areas of South Africa so will only quote once you have entered your address

As the above costs outline suggests, though there is an upfront capital outlay to buy the computer, the console set and other accessories, the monthly costs are relatively low.

South Africa's Middle Class

Assessing the viability of these costs in the context of South Africa's 'middle class' can be difficult given the financial disparity in this population group and the difficulty of defining this group. Economist Justin Visagie (2013) describes the middle class as a household of four persons with a total income of between R5 600 and R40 000 per month after direct income tax. According to Statistics South Africa's employment report for the fourth quarter of 2021,

the average worker's salary in South Africa is R23 982 per month. This amounts to R287 784 annually. The middle class is thus effectively classified as a working person who earns an annual income upwards of just R87 000 (Businesstech, 2022). From this perspective, some middle class people could afford gaming while others might not be able to.

Only 20% of South Africans belong to the middle class, of whom 50% are black Africans, according to a 2014 study by the University of Cape Town and the Department of Monitoring and Evaluation in the president's office (Zarecruitment, 2022). However, it has recently been suggested that South Africa's middle class is shrinking, declining from 6.1 million to 2.7 million individuals between 2017 and 2020 (Pitt, 2022).

If you work on the assumption that South Africa's middle class could afford the technology to play online games, you would then also have to assume that of the 20% of the population group who could, only a small fraction might do so, and they are more likely to be of a younger generation.

Employment/Age

Given that younger generations are more likely to be interested in games and are more assiduous gamers, we took a look at some of the characteristics defining South Africa's youth.

In 2022, South Africa's total population was estimated at 60.6 million people (StatsSA, 2022b). Gaming tends to be most popular amongst younger generations – Gen Alpha, Gen Z and Millennials. In South Africa, these groups make up approximately 71% of the population which means that gaming should be popular in South Africa, or has the potential to become so. The potential for gaming amongst these generations may be limited by unemployment and income. For 15-24 year olds (the approximate Gen Z population group), unemployment was 63.9% while for 25-34 year olds (the approximate Millennial group), unemployment was 42.1% (see table x) (StatsSA, 2022a).

Table 5 Generational breakdown of South Africa's Population (StatsSA, 2022b)

Generation	Age Group	Population	%
Gen Alpha	0-14	17 012 769	28
Gen Z	15-29	14 984 807	25
Millennials	30-39	10 725 759	18
Gen X	40-54	10 022 284	17
Baby Boomers	55-64	4 106 259	7
Silent Generation	65+	3 753 114	6

*South Africa reports population statistics in 5 year age intervals and so these population estimates do not directly correlate with generation intervals

Education

According to Earnest's data (Morris, 2018), gaming is most popular amongst those who have completed secondary education (high school) and a Bachelor's degree. In the case of South

Africa, this should mean that there is a good interest in gaming as 43.7% of South Africans have completed secondary education, though only 4.1% hold a Bachelor's degree or higher. This group would also tend to earn higher incomes and so could potentially have a higher spend on games.

Table 6 Distribution of persons aged 20 years and older by level of education (StatsSA, 2016)

No Schooling	Primary Education	Secondary Education	Bachelor's Degree
7.1%	81.5%	43.7%	4.1%

*because of accumulating persons, the percentages do not add up to 100%

High-schoolers were shown to be the most likely to play games in a global study (Morris, 2018). However, in the South African context where there is such a high unemployment rate, it is likely that many high-schoolers (who depend on their parents' income) who might be interested in playing online games do not have access to a fixed internet line at home or a computer – either at school or in the home (Stakeholder H).

You could work on the assumption that those students enrolled at private schools in South Africa are more likely to have access to a fixed internet connection at home or school and can play games. However, that number is relatively small. In 2021, 703 092 South African students were enrolled in private schools (Department of Education, 2022).

South African Consumer interests

Given that South African gamers are more focussed on mobile games, and indeed it is possible to discover what preferences consumers from this country have in terms of games on this platform, data can be extracted that offers some insight into their behaviour.

Below follows data reflecting the most popular mobile games from the Apple App Store as well as the Google Play store. As before with Steam's gaming data, there is no standard measurement for popularity on the Apple App Store, though it is possible to glean this via ratings – not unfortunately according to downloads/sales. However, as shall be explained in the next chapter, most games on mobile follow the free-to-play model and it is through in-App purchases that revenue is generated.

Table 7 Top 20 trending games in South Africa on the Apple App Store

Game	Rating figure - Apple store Global	Rating figure - Apple store SA	Developer	Country	Type
Fortnight[5]			Epic Games	America	Sandbox
Candy Crush Saga	2.5M Ratings - 4.7	49K Ratings - 4.7	King	Sweden	Casual
Angry Birds 2	1.1M Ratings - 4.6	7.4K Ratings - 4.6	Rovio Entertainment	Finland	Casual
Toon Blast	2.2M Ratings - 4.7	34K Ratings - 4.7	Peak Games	Turkey	Puzzle

[5] *Fortnight* is no longer available on the Apple App Store as of August 2020.

Design Home	458.6K Ratings - 4.6	8K Ratings - 4.5	Crowdstar Inc.	America	Simulation
Huuuge Casino - Slot Machines	50.7K Ratings - 4.5	549 Ratings - 4.3	Huuuge Global Ltd	Germany	Casino
Heart of Vegas - Slots Casino	60.6K Ratings - 4.5		Product Madness	UK	Casino
Clash Royale	2.2M Ratings - 4.6	14K Ratings - 4.6	Supercell	Finland	Strategy
Episode - Choose Your Story	2.4M Ratings - 4.7	32K Ratings - 4.5	Pocket Gems	America	RPG
Gardenscapes	1M Ratings - 4.7	16K Ratings - 4.6	Playrix Games	Ireland	Casual
Vikings: War of Clans	11.7K Ratings- 4.4	127 Ratings - 4.3	Plarium LLC	Israel	Strategy
Homescapes	1.5M Ratings - 4.6	20K Ratings - 4.5	Playrix Games	Ireland	Simulation
Cashman Casino Las Vegas Slots	156.1K Ratings - 4.6	707 Ratings - 4.5	Product Madness	UK	Casino
Summoners War	32.9K Ratings - 4.2	118 Ratings - 3.9	Com2uS Corp.	South Korea	RPG
Brawl Stars	1.1M Ratings - 4.8	5.6K Ratings - 4.7	Supercell	Finland	Action
Matchington Mansion	282.1K Ratings - 4.2	1.9K Ratings - 4.2	Firecraft Studios Ltd.	America	Casual
Sniper 3D Assassin: Gun Games	38.4K Ratings - 4.7	38K Ratings - 4.7	Fun Games For Free	America	Action
Big Fish Casino: Slots & Games	200.1K Ratings - 4.6	596 Ratings - 4.6	Big Fish Games, Inc	America	Casino
Hay Day	453.7K Ratings - 4.7	5.4K Ratings - 4.6	Supercell	Finland	Casual
Candy Crush Soda Saga	583.5K Ratings - 4.7	9.9K Ratings - 4.7	King	Sweden	Casual

Source: Adapted from Digital Vector, 2019.

The data collected from the Apple App Store echoes the findings observed with PC game ratings on Steam, with the US emerging as the dominant player in the mobile game development space with 30% of the most popular mobile games produced in that country. Finland is an additional leader in the field with a considerable 20% share. Contributing to this result are the games produced by Supercell (*Clash Royale, Brawl Stars*, and *Hay Day*) and Rovio Entertainment (*Angry Birds 2*). Other countries also finding a strong foothold in the SA consumer market are mostly European based; Ireland (10%), Sweden (10%) and the UK (10%) with South Korea being the only other contributing region beyond Europe or America claiming a 5% share.

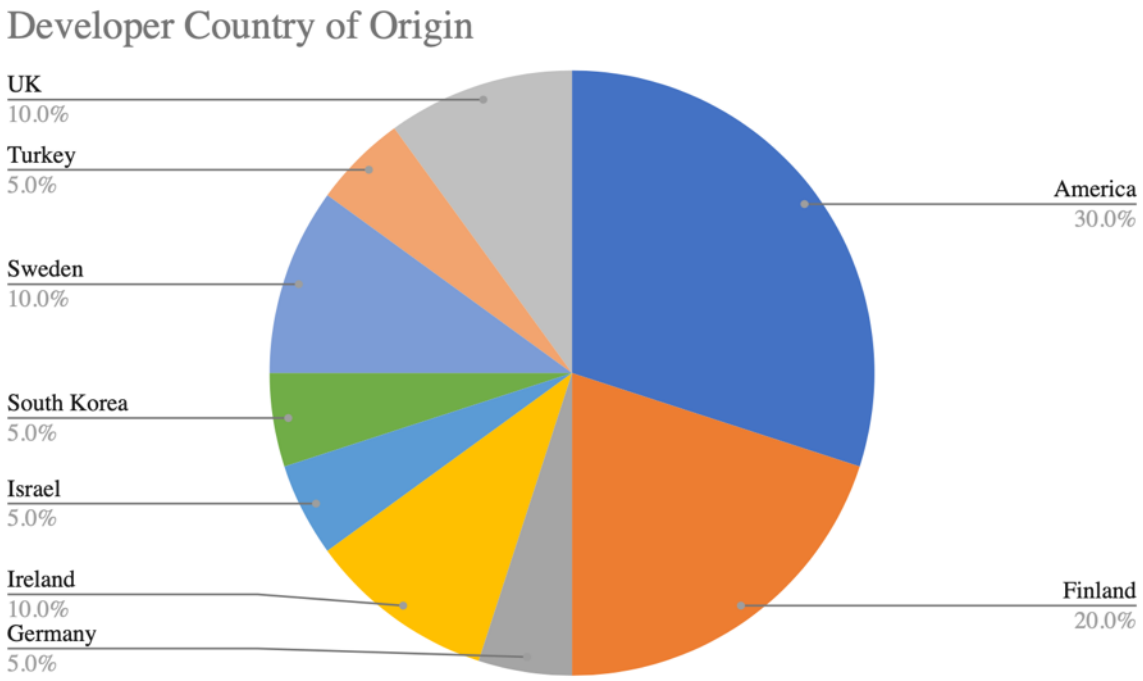


Figure 36 Developer country of origin for the top 20 trending games on South Africa's Apple App Store

Turning to genre, an analysis of the top twenty games within South Africa reveals that there is a considerable variety of popular game genres in the mobile space with two dominant genres - casual (30%) and casino (20%). Whereas casual games encompass puzzle-related and short-duration games, casino games refer to games that mimic those found in a traditional casino and which emphasise gambling with real or fake currency (Digital Vector, 2019).

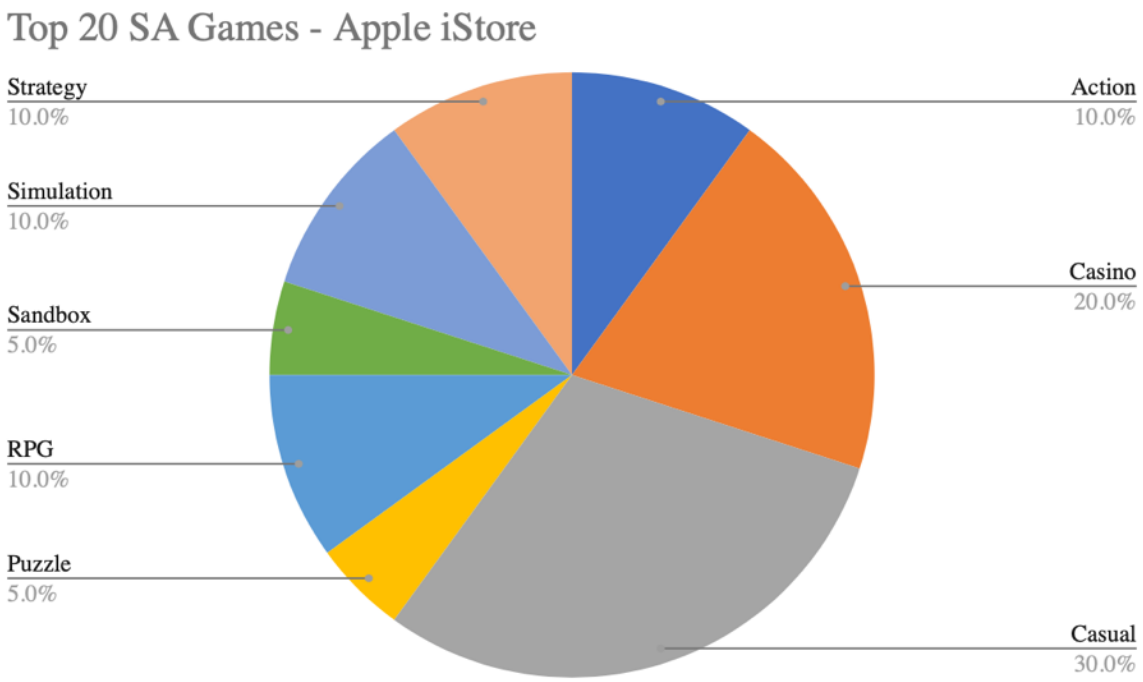


Figure 37 Game genres of the top 20 trending games on South Africa's Apple App Store

Below represents the top 20 games in South Africa on the Google Play Store. Unlike the Apple App Store, no data on game ratings or downloads is regional. As such while *Candy Crush* is the top trending game, the 1 billion downloads do not reflect figures in South Africa, but globally. A detailed analysis taking into account the developers and genres of the games follows.

Table 8 Top 20 trending games in South Africa on the Google Play Store

Game	Rating figure - Playstore Global	Downloads	Developer	Country	Type
Candy Crush Saga	4,6 - 8,51M reviews	1B+	King	Sweden	Casual
Toon Blast	4.5 - 3.6M reviews	50M+	Peak Games	Turkey	Puzzle
Clash of Clans	4.6 - 59.2M reviews	500M+	Supercell	Finland	Strategy
King of Avalon: Dragon Warfare	4.3 - 1.16M reviews	50M+	Diandian Interactive	America	Strategy
Design Home	4.2 - 1.14M reviews	50M+	Crowdstar Inc.	America	Simulation
Gardenscapes	4.4 - 11.4M reviews	100M+	Playrix Games	Ireland	Casual
Guns of Glory	4.3 - 569K reviews	50M+	Diandian Interactive	America	Strategy
Lords Mobile: Battle of the Empires	4.3 - 7.78M reviews	100M+	IGG.COM	Singapore	Strategy
Huuuge Casino	4.3 - 799K reviews	10M+	Huuuge Global	Germany	Casino
Empires & Puzzles: RPG Quest	4.3 - 2.27M reviews	50M+	Small Giant Games	Finland	RPG
Casino Slots: House of Fun	4.5 - 1.54M reviews	10M+	Playtika UK	UK	Casino
Billionaire CasinoTM Slots 777	4.3 - 299K reviews	10M+	Huuuge Global	Germany	Casino
SlotomaniaTM Slots	4.4 - 2.04M reviews	50M+	Playtika	Israel	Casino
Heart of VegasTM Slots	4.3 - 400K reviews	10M+	Product Madness	UK	Casino
Homescapes	4.3 - 11.3M reviews	100M+	Playrix Games	Ireland	Casual
Township	4.3 - 9.05M reviews	100M+	Playrix Games	Ireland	Casual
Candy Crush Soda Saga	4.6 - 8.52M reviews	100M+	King	Sweden	Casual
Fishdom	4.3 - 5.54M reviews	100M+	Playrix Games	Ireland	Puzzle
Golf Clash	4.3 - 2.05M reviews	10M+	Playdemic	UK	Sports
Hay Day	4.2 - 12.8M reviews	100M+	Supercell	Finland	Casual

Source: Adapted from the Digital Vector (2019).

In terms of the geographic origin of game developers for the most popular Google Play Store games, Ireland can be seen to make a much more notable contribution with a 20% share. Four games produced by Playrix Games inform this result including three casual games (*Gardenscapes, Homescapes* and *Townships*) and one puzzle game (*Fishdom*). As such, Ireland stands out as the more dominant region for mobile game development than both America and Finland with a very respectable 15% share each.

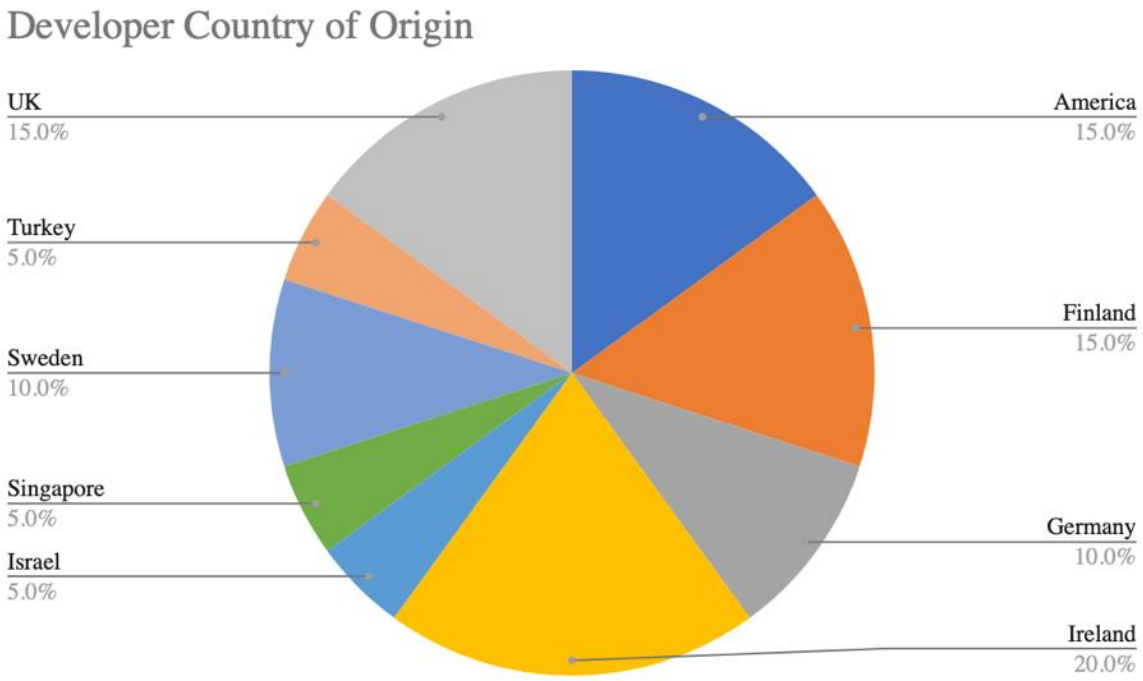


Figure 38 Developer country of origin for the top 20 trending games on South Africa's Google Play Store

Turning attention to game genres, similar trends emerge with casual (30%) and casino (25%) games proving to be the most popular with strategy games coming in a very close third.

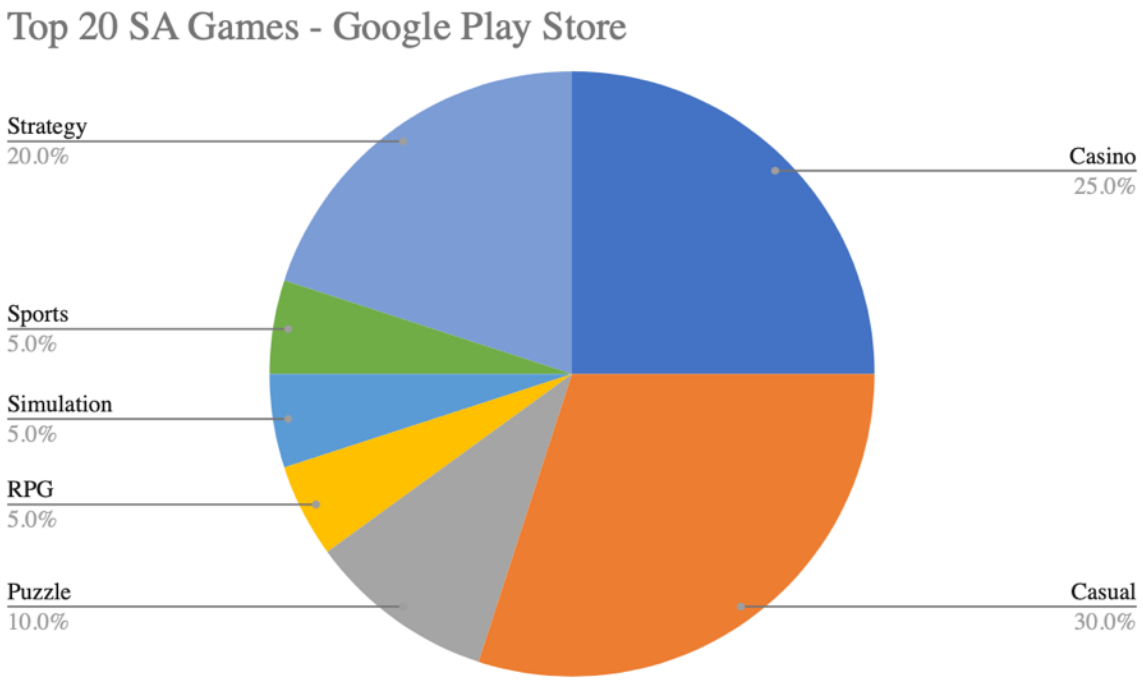


Figure 38 Game genres of the top 20 trending games on South Africa's Google Play Store

A key difference between the PC and the mobile games space is that genre preferences vary considerably. The lack of multiplayer capability offered by mobile games relative to PC is a

key contributor towards this result. Additionally, unlike in the PC space, game series do not seem to be a feature of the mobile gaming landscape. That said, the ability for game developers to continue offering updates to mobile game applications once already installed on user devices allows mobile games a longevity that is undefined by their initial year of release. To this end, it can be said that owing to the continuous interaction between game developers and game consumers afforded by the current digital climate, the popularity of a game, mobile and/or PC, transcends its age provided the content and gameplay remains relevant and accessible to players - existing and future.

Clearly in the mobile space, casino games emerge as a genre that South African gamers have a preference for over and above casual games.

South African Produced Games - Mobile and PC

In no particular order, the table below lists some of the games produced by South African developers for PC and mobile.

Table 9 South African developed games

Title	Type	Developer	Publisher	Platform(s)	Downloads - Google Play Store	STEAM - https://steamdb.info
Boet Fighter	Action	Cali4ways Games	Cali4ways Games	PC		973 followers 99 positive reviews 13 negative reviews 88.39% positive reviews
Fruit Full	Brand-Centric gaming	BigBrave (for Tru-Cape) Shine Interactive	BigBrave	Mobile (Google App Store and Apple App store)	500+	
Toxic Bunny	Adventure	Celestial Games	Celestial Games	PC		111 followers 9 positive reviews 35 negative reviews 20.45% positive reviews
Jetstream	Puzzle game	Clockwork Acorn	Noodlecake	Windows Mac Linux Android iOS		437 followers 34 positive reviews 4 negative reviews 89.47% positive reviews
Monsters and Medicine	Puzzle game	Clockwork Acorn	Clockwork Acorn	Microsoft Windows, Linux, macOS		97 followers 6 positive reviews 0 negative reviews 100.00% positive reviews

Her Majesty's Ship	Simulation	Every Single Soldier (pty) Ltd	Every Single Soldier	PC - Paid		4,467 followers #18570 in top sellers 52 positive reviews 55 negative reviews 48.60% positive reviews
Spider World Multiplayer	Simulation	Wild Foot Games		Mobile - Android	1M+	
Horses of the Forest	Simulation	Wild Foot Games		Mobile - Android	1M+	
Broforce	Action	Free Lives	Devolver Digital	Nintendo Switch, PlayStation 4, Microsoft Windows, Linux, macOS, Macintosh operating systems, Classic Mac OS		105,905 followers #1713 in top sellers 47,604 positive reviews 1,456 negative reviews 97.03% positive reviews
GORN	Simulator	Free Lives	Devolver Digital	PC		22,005 followers #3181 in top sellers 7,180 positive reviews 436 negative reviews 94.28% positive reviews
Genital Jousting	Casual	Free Lives	Devolver Digital	PC		27,291 followers #4611 in top sellers 8,332 positive reviews 726 negative reviews 91.98% positive reviews
My Lemonade Day	Business/Finance - Education/Serious Games	Sea Monster		IOS AND ANDROID	1K+	
Livin' it up	Brand-Centric gaming/Finance/Serious Games	Sea Monster (Capitec)		Android and iOS	100K+	
Pick n Pay Super Cards	Brand-Centric gaming	Sea Monster (PnP)		Android and iOS	10K+	
Semblance	Action	Nyamakop	Good Shepherd Entertainment	PC, Mac and Nintendo Switch		2,615 followers 231 positive reviews 30 negative reviews 88.51% positive reviews
WORDFIX	Puzzle game	OrangeSpice Games		Android and Windows	10K+	
Mini Killer Sudoku SUDOMATIK	Puzzle game	OrangeSpice Games		Android and Windows	1K+	
System Crash	Card Game	Rogue Moon Studios	Rogue Moon Studios	PC		1,931 followers 222 positive reviews 48 negative reviews 82.22% positive reviews

Rooks Keep	Action	RuneStorm	RuneStorm	PC		517 followers 57 positive reviews 26 negative reviews 68.67% positive reviews
Viscera Cleanup Detail - The space-station janitor simulator:	Action RPG	RuneStorm	RuneStorm	PC		59,468 followers #503 in top sellers 14,996 positive reviews 1,099 negative reviews 93.17% positive reviews
Pocket RPG	Action RPG	Tasty Poison Games		PS Vita, Windows Phone, iOS, Android, OUYA	50K+	
Beautiful Desolation	Adventure	The Brotherhood Games	The Brotherhood Games	PC		11,642 followers #12557 in top sellers 392 positive reviews 97 negative reviews 80.16% positive reviews
Stasis	Adventure	The Brotherhood Games	The Brotherhood Games	PC		15,093 followers #15233 in top sellers 1,336 positive reviews 302 negative reviews 81.56% positive reviews
Line Smash	Adventure	HotPixel Games		Mobile - Android	50+	
Desktop Dungeons	Strategy	QUARTER CIRCLE FORWARD + DESIGN		Mobile - Android	1K+	
Tornado Strike Zone	Simulation Game	Distinct Media		Mobile	500K+	
Its TITANIC	Simulation Game	Distinct Media		Mobile	1M+	
World Empire 2027	Strategy simulation games	iGindis Games	iGindis Games	Mobile and PC	1M+	264 followers #17916 in top sellers 16 positive reviews 11 negative reviews 59.26% positive reviews
Asia Empire	Strategy simulation games	iGindis Games		Android	500K+	
Europe Empire	Strategy simulation games	iGindis Games		Android	1M+	
Super Warrior Adventure	RPG	Mosola Game Studios		Mobile	100K+	
Barber Shop, Haircut Simulator	Simulation	Mosola Game Studios		Mobile	50K+	

Hansel and Gretel in Afrikaans	Education	SMART GECKO SOFTWARE DEVELOPMENT (PTY) LTD		Mobile	10K+	
Free Spel Pret	Education	SMART GECKO SOFTWARE DEVELOPMENT (PTY) LTD		Mobile	10K+	
Slapmania 3D - Slap Kings Game	Action	Bestmobs International		Mobile	100K+	
Cannon Ball!	Arcade	Bestmobs International		Mobile	10K+	
BOXlogic - Think outside the box	Puzzle game	JBC Interactive		Mobile	10K+	
WordAce - Afrikaanse Woordsoeker & Blokraai Helper	Puzzle game	JBC Interactive		Mobile	5K+	
Sudoku Ninja – For Sudoku Grandmasters	Puzzle game	JBC Interactive		Mobile	5K+	
Fun Monster Math: Addition and Subtraction	Puzzle game/ Education	TnTGameWorks		Mobile - Android and IOS	50K+	
Destiny of Ancient Kingdoms	Action	UDEA		PC		2,112 followers 86 positive reviews 88 negative reviews 49.43% positive reviews
Kea's World: Tselane and the Giant	Adventure	The Africa Space Programme		Mobile	100+	
Final Armada	Action	I-Imagine Interactive		PlayStation 2, PSP		
Amina's Journey	Adventure	KIMARD STUDIO		Mobile	100+	
MindCiti	Education	KIMARD STUDIO		Mobile	1K+	

As can be deduced from the above discussion, no South African game has made its way into the top popularity charts for either PC or mobile - globally or locally. It is however notable to highlight the cases of significant success generated by local studios.

Firstly, in the PC space, games by Free Lives stand out as the most successful in terms of follower numbers on Steam. Secondly, In the mobile space, several game developers have produced games which have been downloaded more than 1 million times: Wild Foot Games, Distinct Media and iGindis Games. The imprint made on the industry by other local game developers appears much smaller in both the PC and mobile space.

Given that console gaming makes up a very small share of the South African gaming landscape, the focus of this discussion has been concentrated on PC and mobile games.

Summary

South African gamers have a preference for playing games on mobile devices. This is not only shaped by the fact that the penetration of smartphones has been high, but because there is more and better connectivity to the internet through smartphones and cellphones. Only 10% of the population have access to a fixed internet connection, which is generally a prerequisite for PC and console online games.

The economic models underpinning mobile games are also more accessible as they tend to be free-to-play with in-App purchases, while premium PC games require an upfront fee. This may not be a high fee, but the outlay required to buy a PC, hard drive, screen and other accessories to play at home does require a healthy income. Given the statistics around South Africa's shrinking middle class and the income brackets that define this group, the market for online gaming is small.

On paper South Africa should boast a large group of online gamers, however, the age group that should account for the largest consumers of games is at a disadvantage not only economically, but due to this in terms of accessibility to technology.

Those that are playing games on mobile devices are playing games that are primarily being produced by developers in the US and Europe. As such, the predicted growth and revenue expected on mobile devices with regards to gaming is not feeding into the local gaming ecosystem in any way.

As most of the stakeholders interviewed for this report indicated, it is impossible to make games for mobile devices given the current free-to-play model that underpins it.

It seems unlikely that the plans to increase access to fixed internet at homes in townships will translate into growth for online/PC games. However, given that gamers are more interested in the genre of games than the origin of them – that Steam does not have a function , which allows gamers to browse games according to the country where they were produced substantiates this motivation - means that any growth in online gaming might not translate into any immediate gains for the local gaming industry as locals would not be able to find South African games. This is a truly globalised industry, which is fortunate for local gaming studios as the population statistics in South Africa reveal a minuscule market for the products that they are generating.

9. Conclusion & Recommendations

The Impact of the absence of local investment

The lack of local funding for games has to some degree left some South African studios either unable to generate their own IP – shifting their focus to service work - or beholden to publishers in the US as they cannot self-fund new games development. As noted throughout the report, publishers have operated as a go-between as they are more connected and embedded in the global network. This has huge benefits for local developers because there are insufficient audiences for online indie games in South Africa. Local funding opportunities would not disrupt this relationship but would put it on a better footing from launch, allowing local companies to enjoy more royalties from early on in the process and perhaps spread out profit sharing over a longer period rather than waiting for upfront costs to be recouped in an early tranche.

An education drive or series of presentations on the gaming sector's business models and investment potential targeting venture capitalists or the like might work towards galvanizing interest in supporting grants or investment schemes in gaming. The Department of Trade and Industry, the Department of Small Business Development and the financial press could work in partnership to propel the gaming industry forward.

An intervention to support growth

Building and testing prototypes (that are more likely to fail than succeed) is part of the ongoing process to discover a game that appeals to audiences in other countries – as this is hard to predict. If grants were available for the funding of prototypes, it is likely that more South African games would be produced, leading to an increase in smaller studios and the growth of existing ones. It is far easier to secure funding for a successful prototype than to attempt to do so off the back of an untested concept. As has been the case, a successful prototype which attracts funding can create up to 25 jobs for a three-year period. There is also a potential to create even more jobs off the back of a successful game given that the long tail economic benefits could extend for up to a decade. During this time, a company would more than likely build other games based on the success of the first game and be able to offer more long-term employment to more people.

Harnessing the mobile platform and its popularity

Given the monetisation models bearing down on mobile platforms, the disconnect between the growth of mobile gaming and local companies' interest in premium gaming for the online indie gamer is not likely to be reconciled any time soon. However, the mobile space could and does seem to have great potential for non-profit serious games (with an educational intent) for locals or other Africans. The #GamingForGood movement, which is a pan-African initiative that advances the

“Made In Africa, For Africa” campaign, is a good example of this. Mobile games are seen as a means to drive, share and inculcate social values through 'serious' games ideals that are “non-violent and gender-inclusive games that entertain, engage and educate” (Gaming for Good, 2020). In this way, the popularity of gamification is being harnessed to address social challenges across the continent. These games might not prove to be as popular as *Candy Crush,* but their continued existence and growth could at least offer an impactful counterpoint to popular social/casual games and allow Africans to play games that are tailored to them and reflect local cultural norms.

Promoting SA companies on the global stage

Small gaming studios struggle to connect to global networks from such a geographical remove, though it is vital to their success. Some observed that they could not afford to attend many international events and while there have in the past been grants made available to support attending gaming events, this might not be the only available option. One stakeholder suggested that South Africa should rather have representatives attend these international events in the form of a national stand that would promote SA companies involved in service work and draw attention to those studios that have good track records, some interesting new prototypes being tested and those successfully driving their own IP. Connecting to global players could also be further advanced via travel grants that bring them to gaming events staged in South Africa.

Resolving the skills deficit

A skills deficit is a barrier to growth in this sector as well as the animation one. An industry roundtable discussion with various stakeholders from both is needed to work towards brainstorming solutions to address this issue. As the deficit is not at a junior level but at a mid-to senior-level specialist, the current or future graduates in this field will not be able to address this gap. A study looking into how this might have been resolved in other countries might also be required. Identifying precisely which set of skills is in demand across the board might also be needed in advance of any roundtable.

Government support for prototypes could entice some of those skilled workers to leave banking and gambling industries that have been offering them higher wages. If their prototypes are successful, and the pipeline to production is supported they may be happy to pursue gaming on a full-time basis.

Workshops and programmes designed at upskilling junior staff members should be encouraged.

Tax Incentives

The current tax incentives for gaming studios are not fit for purpose according to stakeholders. Closer engagement between the sector and government should be

encouraged in an attempt to identify the specific requirements that do not apply to small and medium gaming companies. Other interventions from government with regards to taxation of gaming companies could also be considered, particularly given the long-tail nature of the ROI. Such as long-term costs being off-set against current profits.

Transformation of the sector

The transformation of the gaming sector in terms of race and gender remains a pressing issue. Two of the 'Big 7' Studios are committed to shifting the status quo. As most of the studio owners grew up playing games, it seems essential that growing an audience for online premium games is not only connected to establishing more fixed internet lines, but also in encouraging a new generation of gaming fanatics who may become creators.

As such, the growth of creative (and other) tech industries in South Africa will be constrained by the lack of access to technology combined with the lack of resources that a shrinking middle class indicates.

SA as an outsourcing hub

The growth of the studios offering third-party services suggests there is potential for more of these entities and further growth of existing ones. None of the Big 7 gaming studios indicated any interest in relocating their businesses to other countries, nor did they express interest in employing staff from outside South Africa unless essential. These two points were investigated due to being raised in the Tshimologong report and were not found to be accurate.

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