# THE ROLE OF THE JSE ALTX AS A PLATFORM FOR SUSTAINABILITY AND GROWTH FOR HIGH GROWTH POTENTIAL SMEs

by

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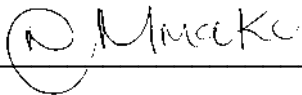
# DECLARATION

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I, the undersigned, declare that this thesis entitled,

**"The role of the JSE ALTX as a platform for sustainability and growth for high growth potential SMEs"**

is my own work, and that all the sources I have used or cited have been indicated and acknowledged by means of complete references.


_____          _____11 June 2021_____

Signature                                        Date

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# ABSTRACT

Stock exchanges are organised marketplaces, licensed by a relevant regulatory body, where ownership shares in companies are listed and traded. They are continuous trading platforms, which could improve the sustainability, growth and liquidity of companies. The JSE AltX is marketed as a funding platform for high growth potential SMEs that provides an opportunity for SMEs to raise capital and grow. However, much of the existing literature on Small and Medium-sized Enterprises (SME) either focuses on survivalist businesses and when research on stock exchanges is conducted; it often focuses on larger companies. This research analysed the role of the JSE AltX as a platform for growth and sustainability for delisted, listed and migrated companies for the period 2008 to 2018. To fulfil the objectives of the study, a quantitative research design approach was followed. Nineteen ratios that measure sustainability and growth were calculated for 38 listed, 55 delisted and 37 migrated JSE AltX companies.

Most hypotheses that tested sustainability and growth for listed, delisted and migrated companies were rejected. Listed and migrated companies showed a statistically significant relationship with market capitalisation, while for delisted companies, the market capitalisation hypothesis was rejected. There was a statistically significant relationship with return on capital and return on assets for delisted companies. The results indicated that while all the sustainability ratios for delisted companies were rejected, there was a statistically significant relationship with the profitability ratios. A new empirically tested framework was proposed that shows that while sustainability no longer plays a role in migrated companies, it still plays a role in JSE AltX-listed companies and JSE AltX-delisted companies. Sustainability is driven by liquidity in JSE AltX-listed companies, while in JSE AltX-delisted companies it is driven by profitability. The role of the JSE AltX in sustainability and growth should not be considered a one-size-fits-all approach for companies. The findings of the study suggest that the stock exchange is not a robust platform for achieving sustainability and growth for these high growth potential SMEs.

This research contributes to the understanding of the role of the JSE AltX in the growth and sustainability of high growth potential SMEs. High growth potential SMEs should determine realistically what is possible to achieve from participating on a stock exchange intented for SMEs. The results of this study may be useful in providing

insights for companies, the JSE, investors, policymakers and academics on stock exchanges intended for SMEs.

**Keywords**: High growth potential SME, JSE AltX, sustainability, growth, capital structure, SME, listed JSE AltX companies, delisted JSE AltX companies, migrated JSE AltX companies.

# OPSOMMING

Aandelebeurse is georganiseerde markte, wat deur 'n relevante beheerliggaam gelisensieer word, waar eienaarskapsaandele in maatskappye genoteer en verhandel word. Hulle is ononderbroke handelsplatforms wat die volhoubaarheid, groei en likiditeit van maatskappye kan verbeter. Die JSE AltX word as 'n finansieringsplatform vir klein en medium ondernemings met hoë groeipotensiaal bemark as 'n geleentheid vir hierdie klein en medium ondernemings om hulle kapitaal te verhoog en te laat groei. Die meeste van die bestaande literatuur oor klein en medium ondernemings fokus egter op oorlewingsondernemings en wanneer navorsing oor aandelebeurse gedoen word, fokus dit hoofsaaklik op groter maatskappye. Hierdie navorsing ontleed die rol van die JSE AltX as 'n platform vir groei en volhoubaarheid vir gedenoteerde, genoteerde en gemigreerde maatskappye vir die tydperk 2008 tot 2018. Om die doelwitte van die studie te behaal, is 'n kwantitatiewe- navorsingsontwerpbenadering gevolg. Altesaam 19 ratio's wat volhoubaarheid en groei meet, is vir 38 genoteerde, 55 gedenoteerde en 37 gemigreerde JSE AltX-maatskappye bereken.

Die meeste hipoteses wat volhoubaarheid en groei vir genoteerde, gedenoteerde en gemigreerde maatskappye getoets het, is verwerp. Genoteerde en gemigreerde maatskappye toon 'n statisties betekenisvolle verhouding met markkapitalisering, terwyl die markkapitaliseringshipotese vir gedenoteerde maatskappye verwerp is. Daar was ook 'n statisties betekenisvolle verhouding met opbrengs op kapitaal en opbrengs op bates vir gedenoteerde maatskappye. Die resultate het getoon dat hoewel al die volhoubaarheidsratio's vir gedenoteerde maatskappye verwerp is, daar 'n statisties betekenisvolle verhouding met die winsgewendheidsverhoudings was. 'n Nuwe empiriesgetoetsde raamwerk is voorgestel wat wys dat hoewel volhoubaarheid nie meer 'n rol by gemigreerde maatskappye speel nie, dit steeds 'n rol by JSE AltX-genoteerde maatskappye en JSE AltX-gedenoteerde maatskappye speel.

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Volhoubaarheid word deur die likiditeit in JSE AltX-genoteerde maatskappye gedryf, terwyl winsgewendheid JSE AltX-gedenoteerde maatskappye dryf. Die rol van die JSE AltX ten opsigte van volhoubaarheid en groei moet nie as 'n een-grootte-pas-almal-benadering vir maatskappye beskou word nie. Die bevindinge van die studie doen aan die hand dat die aandelebeurs nie 'n kragtige platform vir klein en medium ondernemings met hoë groei potensiaal is om volhoubaarheid en groei te bereik nie.

Hierdie navorsing dra by tot begrip van die rol van die JSE AltX ten opsigte van die groei en volhoubaarheid van klein en medium maatskappye met hoë groeipotensiaal. Hierdie tipe klein en medium ondernemings moet op 'n realistiese wyse bepaal wat hulle deur deelname aan 'n aandelebeurs wat vir klein en medium ondernemings bedoel is, kan bereik. Die resultate van hierdie studie kan insig bied vir maatskappye, die JSE, beleggers, beleidmakers en akademici op aandelebeurse, bedoel vir klein en medium ondernemings.

**Sleutelwoorde:** Klein en medium ondernemings met hoë groeipotensiaal, JSE AltX, volhoubaarheid, groei, kapitaalstruktuur, klein en medium ondernemings, genoteerde JSE AltX-maatskappye, gedenoteerde JSE AltX-maatskappye, gemigreerde JSE AltX-maatskappye

# SETSOPOLWA

Mafelo a kgwebišano ya dišere ke mafelo a mebaraka ao a beakantšwego, ao a filwego dilaesentšhe ke sehlongwa sa bolaodi sa maleba, fao dišere tšeo di nago le beng ka dikhamphaning di ngwadišwago le go gwebišanwa ka tšona. Ke mafelo a kgwebišano ao a tšwelago pele, ao a ka kgonago go kaonafatša tšwelopele go ya go ile, kgolo le kgwebišano ya dikhamphani. JSE AltX go gwebišanwa ka yona bjalo ka lefelo la thekgo ya ditšhelete la Dikgwebopotlana le Dikgwebo tša magareng (di-SME) tšeo di ka kgonago go gola kudu leo le fago di-SME sebaka sa go hlaloša letlotlo la tšona le kgolo. Le ge go le bjale, bontši bja dingwalwa tša bjale ka ga dikgwebopotlana le dikgwebo tša magareng (di-SME) di lebeletše kudu dikgwebo tšeo di atlegago, gomme ge go dirwa dinyakišišo ka ga mafelo a kgwebišano ya dišere, dinyakišišo tšeo di lebeletše kudu dikhamphani tše kgolo. Dinyakišišo tše di sekasekile tema yeo e kgathwago ke JSE AltX bjalo ka lefelo la kgolo le tšwelopele ya go ya go ile go dikhamophani tšeo di sego tša ngwadišwa, tšeo di ngwadišitšwego le tšeo di

hudugilego ka mengwageng ya bo 2008 go fihla ka 2018. Go phethagatša maikemišetšo a dinyakišišo tše, mokgwatlhamo ya dinyakišišo tša bontši o latetšwe. Direšio tše lesomesenyane tšeo di elago go tšwela pele go ya go ile le kgolo di ile tša hlakanywa go dikhamphani tše 38 tšeo di ngwadišitšwego le  JSE AltX, tše 55 tšeo di sego tša ngwadišwa le tše 37 tšeo di hudugilego go yona.

Bontši bja ditatelano tša mabaka tšeo di lokilego go tšwela pele go ya go ile le kgolo ya dikhamphani tšeo di ngwadišitšwewgo, tšeo di sego tša ngwadišwa le tšeo di hudugilego di ile tša ganwa. Dikhamphani tšeo di ngwadišitšwego le tšeo di hudugilego go lefelo le la kgwebišano ya dišere di aleditše kamano ye kgolo go ya ka dipalopalo le letlotlo la mebaraka, mola e le gore go dikhamphani tšeo di sego tša ngwadišwa, tatelano ya mebaraka ya letlotlo la mebaraka e ile ya ganwa. Go ya ka dipalopalo go bile le kamano ye kgolo ya poelo go letlotlo le go poelo go thoto go dikhamphani tšeo di sego tša ngwadišwa. Dipoelo di laeditše gore le ge e le gore direšio ka moka tša tšwelopele ya go ya go ile di ile tša ganwa, go ya ka dipalopalo go bile le kamano ye kgolo le direšio tša go hwetša poelo. Tlhako ye mpsha yeo e lekilwego ka bohlatse e šišintšwe yeo e laetšago gore le ge e le gore go tšwela pele go ya go ile ga go sa kgatha tema go dikhamphani tšeo di hudugilego, e sa kgatha tema ka go dikhamphani tšeo di ngwadišitšwego le JSE AltX le ka go dikhamphani tšeo di sego tša ngwadišwa le JSE AltX. Go tšwela pele go ya go ile go hlohleletšwa ke thekišo ka go dikhamphani tšeo di ngwadišitšwego le JSE AltX, mola e le gore dikhamphani tšeo di sego tša ngwadišwa le JSE AltX di hlohleletšwa ke poelo. Tema ye e kgathwago ke JSE AltX ka go tšwela pele go ya go ile le ka go kgolo ga se ya swanela go bonwa bjalo ka mokgwa wo o akaretšago dikhamphani ka moka. Dikutollo tša dinyakišišo di šišinya gore lefelo la kgwebišano ya dišere ga se lefelo la go fihlelela tšwelopele go ya go ile le kgolo tšeo di tseneletšego go di-SME tšeo di nago le bokgoni bja go fihlelela kgolo ya godimo.

Dinyakišišo tše di tsenya letsogo ka go kwešišo ya tema ye e kgathwago ke JSE AltX ka go kgolo le ka go tšwelopele ya go ya go ile go di-SME tšeo di nago le bokgoni bja go fihlelela kgolo ya godimo. Di-SME tšeo di swanetše go tšea sephetho ka fao go kwalagalo mabapi le gore ke eng seo se kgonagalago go ka fihlelelwa ka lebaka la go kgatha tema ka go kgwebišano ya dišere yeo e diretšwego di-SME. Dipoelo tša dinyakišišo tše di ka ba mohola ka go fana ka tsebo go dikhamphani, go JSE, go

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babeeletši, go bahlami ba melawana le go dirutegi ba kgwebišano ya dišere yeo e diretšwego di- SME.

**Mantšu a bohlokwa**: SME yeo e nago le bokgoni bja go fihlelela kgolo ya godimo, JSE AltX, go tšwela pele go ya go ile, kgolo, sebopego sa letlotlo, SME, dikhamphani tšeo di ngwadišitšwewgo le JSE AltX, dikhamphani tšeo di sego tša ngwadišwa le JSE AltX, dikhamphani tšeo di hudugilego go JSE AltX

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# LIST OF ABBREVIATIONS AND ACRONYMS

The following abbreviations are used throughout the study:

| | |
|---|---|
| ACCA | Association of Chartered Certified Accountants |
| AIM | Alternative Investment Market |
| ASeM | Alternative Securities Market |
| ASX | Australian Securities Exchange |
| BSE | Botswana Stock Exchange |
| BRICS | Brazil, Russia, India, China and South Africa |
| BVC | Casablanca Stock Exchange |
| CEO | Chief Executive Officer |
| CFO | Chief Financial Officer |
| CFI | Corporate Finance Institute |
| EAT | Earnings After Tax |
| EBITDA | Earnings Before Interest, Tax, Depreciation and Amortisation |
| EGM | Enterprise Growth Market |
| EU | The European Union |
| GAX | Ghana Alternative Market |
| GDP | Gross Domestic Product |
| GEMS | Growth Enterprise Market Segment |
| HGF | High growth Firm |
| ICSA | International Council of Securities Exchange |
| JSE | Johannesburg Stock Exchange |
| JSE AltX | Johannesburg Stock Exchange Alternative Exchange |
| INET BFA | The merge of two of South Africa's financial data powerhouses, McGregor BFA and I-Net Bridge became INET BFA |
| Iress | Technology company providing financial data (formerly INET BFA) |
| IPO | Initial Public Offering |

| | |
|---|---|
| LuSE | Lusaka Stock Exchange |
| MANOVA | Multivariate Analysis of Variance |
| MSE | Malawi's Stock Exchange |
| NI | Net Income |
| NILEX | Nile Stock Exchange |
| NOI | Net Operating Income |
| NYSE | New York Stock Exchange |
| OECD | Organisation for Economic Co-Operation and Development |
| p/s | per share |
| PWC | PriceWaterhouse Cooper |
| RBT | Resource Based Theory |
| RDT | Resource-Dependence Theory |
| RSE | Rwanda Stock Exchange |
| SA | South Africa |
| SARB | South African Reserve Bank |
| SD | Standard deviation |
| SEDA | Small Enterprise Development Agency |
| SEMDEM | Stock Exchange of Mauritius Development & Enterprise Market |
| SME | Small Medium Enterprise |
| SMME | Small, Medium and Micro Enterprise |
| TSXV | TSX Venture Exchange |
| UK | United Kingdom |
| UNISA | University of South Africa |
| USA | United States of America |
| VAT | Value Added Tax |
| WACC | Weighted Average Cost of Capital |
| ZSE | Zimbabwe Stock Exchange |

# CHAPTER 1

# INTRODUCTION AND BACKGROUND TO THE STUDY

## 1.1    INTRODUCTION

In many developing economies, small businesses are seen as the engines of economic growth and job creation, and as mechanisms to create a more equal distribution of income (GEM, 2020). Small and Medium-sized Enterprises (SMEs) may also be seen as key actors in the promotion of more inclusive and sustainable growth, economic resilience and social cohesion. South Africa, like many other developing countries, has a long way to go in the development of entrepreneurship as a significant driver of economic development and job creation (GEM, 2020:vi). In South Africa, SMEs employ between 50 to 60% of the country's total workforce (Kalidas, Magwentshu & Rajagopaul, 2020) However, the reality is that five out of seven SMEs do not survive the first year of operation and their rate of failure is the world's highest at 75% (Msomi & Olarewaju, 2021:104). While the common theme related to SMEs remains their role in job creation, innovation, economic growth and sustainable competitive advantage, few studies have explored the role of stock exchanges in the performance of SMEs (Makhabeni, 2015:2).

Van Heerden (2015:10) describes a stock market as an organised marketplace where members of an exchange trade securities. This provides SMEs with a place where they can access long-term funds. Ideally, stock exchanges provide continuous trading markets, thereby creating liquidity for investments and opportunities for growth. Such a platform could potentially improve SME performance and sustainability, as liquidity is considered a prominent factor in business failure (Mwarari & Ngugi, 2013:101; Wong, Tang & Chan, 2013:2).

Stock exchanges in developing countries can have a significant impact on economic growth (Van Heerden, 2015:17), as well-functioning financial institutions and stock exchanges are considered preconditions for the proper financial development of all economies (Rabiul, 2010:6). Furthermore, while many developing countries may have underdeveloped banking industries, some have long-standing stock exchanges, which are often characterised by poor liquidity and a small number of investors. Notably, countries that focus on the growth of the financial industry, and where funds are made

available for entrepreneurial activity show higher economic growth than those countries that do not (Rabiul, 2010:6). However, although many countries have attempted to develop SME exchanges, few have succeeded (Harwood & Konidaris, 2015:5).

The JSE AltX, launched in 2003, is an alternative index on the Johannesburg Stock Exchange (JSE) for small businesses that have high growth potential (JSE, 2016b). Growth potential describes a company's ability to generate larger profits, expand its workforce, increase production and distribution (Osborne, 2016). However, desibing high growth is not without its complexities. There is no consensus of what constitutes a high growth business. However, several approaches to identifying a high growth business include two main features of the business being: 1) the achievement of high growth and 2) concentration of this growth in a short period of time (El Hakioui & Louitri, 2017:1). According to Martinez-Fierro, Biedma-Ferrer and Ruiz-Navarro (2019: 1099), the definition of a high growth business by the Organisation for Economic Co-operation and Development (OECD) has received increasing acceptance amongst scholars and business professionals. The OECD defines a high growth business as "all businesses with an average annulised growth greater than 20% per annum over a three-year period and with ten or more employees at the beginning of the observation period" (OECD, 2016). Hart (2012) simply defines a high growth business as a business that has grown rapidly. The author of the definition, however, does not provide measurement constructs. For the purpose of this study, when referring to JSE AltX related companies, the term "high growth potential" will be used. This term is consistent with the description used by the JSE AltX to refer to companies related to the alternative stock exchange. As an alternative index, the JSE AltX is promoted as a catalyst for high growth potential small businesses, allowing them to attract investment from the public that they would not have had access to under normal financing options (Makhabeni, 2015:4). Since its inception, the listing exchange has had its fair share of successes and failures. Although the listing exchange is still being criticised for its poor liquidity, and also suffers from investors' negative perceptions (Kruger 2014; Peters, 2014; Van Heerden, 2015; Semenya & Dhliwayo, 2020:11), 25% of companies to date have migrated to the JSE Main Board, indicative of the achievement of the aim of the JSE AltX (Kruger, 2014:141; JSE, 2016b; Brougham-

Cook, 2016). Coutinho (2019) adds that 40% of high growth potential SMEs that migrated to the JSE Main Board find themselves trading in the red.

A trading platform, such as the JSE AltX, may be an indication that the financial industry is becoming open to supporting high growth potential entrepreneurial ventures. For this reason, the ability of the JSE AltX to serve as a catalyst for migration to the JSE Main Board may be indicative of the role stock exchanges play in creating sustainability and growth for high-potential SMEs. Given the limited research in this field, the current study aimed to develop a framework to evaluate the role of the JSE AltX in the sustainability and growth of high growth potential SMEs.

The remainder of the chapter details the objectives of the study, background to the study, problem definition, lists the research questions that the study strove to answer, and presents a literature review containing a conceptual framework of the topic, and the methodology selected for the study. The next section presents the background of the study.

## 1.2 BACKGROUND TO THE STUDY

In South Africa, SMMEs (small, medium and micro enterprises) comprise a broad range of businesses, some of which include formally registered, non-VAT registered and informal businesses. These small businesses range from medium-sized businesses, such as established traditional family businesses employing over a hundred people, to informal micro enterprises (SEDA, 2016:50). Although the majority of small businesses are survivalist businesses, small businesses typically face the challenge of limited access to finance (SEDA, 2016:7). Therefore, companies with high growth potential may have to consider other alternatives to obtain funding, such as listing on an alternative exchange like the JSE AltX.

The JSE AltX index is described as an alternative stock exchange that focuses on good quality, small and medium-sized, high growth potential companies (JSE, 2016b). It is aimed to appeal to family-owned businesses, black economic empowerment companies, junior mining companies, and fast-growing young businesses, inclusive of start-ups. The JSE AltX is geared towards attracting new businesses that want to raise funding, obtain acquisitions and grow in a way that facilitates migration to the JSE Main Board (Scholtz & Smit, 2012:31). The JSE AltX replaced the failed venture capital

and development boards established in the 1980s as an attempt by the JSE to accommodate small cap companies in an exchange format (Van Heerden, 2015:11).

Due to the relative newness of the JSE AltX (established in 2003), limited empirical research has been done on it (Kruger, 2014:141; Makhabeni, 2015:41; Dyer, 2020). A study by Kruger (2014:141) found that the only previous study on the benefits of migrating to the JSE AltX did not deliver encouraging results, as the companies surveyed had only recently migrated to the JSE Main Board, and there was little data pertaining to the reasons for the migration of companies. The data available at the time comprised largely of the graphical analysis of the differences in share prices and trading volumes for shares traded prior to, and post migration. The findings were not encouraging, as there was no discernible change in the long-term price of liquidity in the companies that had participated in the study. This made the findings of this study inconclusive, as it could not be established whether the companies had migrated for changes in share price or for reasons of liquidity. Therefore, it could be concluded that the motive for migrating was driven by other factors such as status, avoidance of the high-risk tag associated with being listed on the JSE AltX, or as a natural progression for organisational reasons (Kruger, 2014:141-142). This study responds to the lack of research that evaluates the role of the JSE AltX as a platform for sustainability and growth for SMEs.

Emerging economies are finding it challenging to develop alternative exchanges due to the small size of SMEs. Developed countries that have been successful in this regard include the London Alternative Investment Market (AIM) in the United Kingdom (UK), TSX Venture Exchange (TSXV) in Canada, and the Australian Securities Exchange (ASX) in Australia (Harwood & Konidaris, 2015:5). The AIM is the most successful alternative exchange in the world. Since its launch in 1995, this exchange has gone on to list over 3 800 companies and raise £118 billion (London Stock Exchange, 2020). The JSE AltX is based on the AIM model (Harwood & Konidaris, 2015:10).

The JSE is considered to be the best stock exchange in Africa (PWC, 2015, Mutiso, 2016). This is based on indicators such as number of companies listed on the exchange, market capitalisation and turnover ratio. The rest of the African countries are characterised by slower market development (Allen, Carletti, Cull, Qian, Senbet & Valenzuela, 2014). This being said, South Africa's integration into the Brazil, Russia,

India, China and South Africa (BRICS) economies has led to relatively more developed capital markets that maintain international standards. For example, South African companies such as MTN, Vodacom, Absa and Pick n Pay have operations in many African countries.

In the past Ramjee and Gwatidzo (2012) speculated that South Africa's more developed position on the continent implied that its African counterparts would follow its growth trajectory as they progressively catch up. For example, Mauritius launched the Development and Enterprise Market in 2006. However, Malawi's Stock Exchange (MSE) launched the Alternative Capital Market in 2010, which in 2016 had still not listed an entry (Chinamulungu, 2016). Egypt's Nilex was launched in 2010. In Uganda, the listing of SMEs on alternative stock exchanges happened in 2012. Many African countries, such as Ghana, Kenya, Nigeria and Tanzania launched alternative exchanges for SMEs in 2013. While approximately 200 SMEs are listed on SME exchanges across Africa, approximately 123 of these are on the JSE's AltX (Minney, 2016).

Table 1.1 provides a description of the 13 SME exchanges in Africa, with two under development in Tunisia and Zimbabwe.

**Table 1.1: Stock exchanges for SMEs in Africa**

| Country | SME Stock Exchange | Target |
|---------|--------------------|--------|
| Botswana | Botswana Stock Exchange (BSE) Venture Capital Market | BSE Venture Capital Market. |
| Egypt | Nile Stock exchange (NILEX) | Growing SMEs in the Middle East and North Africa. |
| Ghana | Ghana Alternative Market (GAX) | Start-ups and existing businesses. |
| Kenya | Growth Enterprise Market Segment (GEMS) | Divided into the Main and Alternative Investment Segments, accommodating SMEs with revenue of up to 500 000 Kenyan shillings and fewer than 10 employees, and those with revenue between Ksh 500 000 and Ksh10 million and 10 to 50 employees. |
| Malawi | MSE JSE AltX | Smaller, younger limited liability companies. |
| Mauritius | Development & Enterprise Market (SEMDEM) | SMEs and newly set-up companies with a sound business plan and demonstrated good growth potential. |

| Country | SME Stock Exchange | Target |
|---|---|---|
| Morocco | Casablanca Stock Exchange (BVC) | Local and West African SMEs can list on the main stock exchange, BVC. |
| Nigeria | Alternative Securities Market (ASeM | Specifically designed for emerging businesses. |
| Rwanda | Rwanda Stock Exchange (RSE) | Waives capital requirements for SMEs wishing to list on the main bourse. RSE SMEs are simply required to make disclosures in a prospectus. |
| South Africa | JSE AltX | Africa's first alternative stock exchange for SMEs. |
| Tanzania | Enterprise Growth Market (EGM) | A nine-month public awareness campaign began in 2013 to entice SMEs to the EGM. A few companies, mainly in telecoms and banking, have shown interest to date. |
| Tunisia | Tunis Stock Exchange Alternative Market | Efforts are under way to address obstacles preventing SMEs from listing on the Alternative Market. |
| Uganda | Growth Enterprise Market Segment (GEMS) | More suitable for SMEs than the unsuccessful Alternative Investment Market Segment (AIMS). |
| Zambia | Lusaka Stock Exchange (LuSE) | A SME tier exists on the main bourse. |
| Zimbabwe | | Zimbabwe Stock Exchange (ZSE) is currently working on the operating rules for a secondary SME bourse. |

Source: Africa Strictly Business (2017)

The JSE AltX was started with the purpose of enabling companies to raise capital without having to endure and pay for the onerous qualification process and regulatory requirements of the JSE Main Board. While SMEs may list on stock exchanges to obtain funding for their businesses, the benefits of listing include the increased visibility and increased credibility which are often associated with good governance. However, the level of increased finance is not always a good barometer of the SME's success.

More benefits that may arise from listing include greater product sales that support economic and employment growth. The SMEs may find that this increase in sales may translate into additional equity financing over time (Harwood & Konidaris, 2015:14).

Table 1.2 summarises the differences in the admission criteria of the JSE AltX and the JSE Main Board.

**Table 1.2: Differences in the admission requirements of the JSE Main Board and JSE AltX**

| Listing requirements | JSE Main Board | JSE AltX |
|---|---|---|
| **Share capital** | R25 million | R2 million |
| **Profit history** | 3 Years | None |
| **Pre-tax profit** | R15 million | N/A |
| **Shareholder spread** | 20% | 10% |
| **Number of shareholders** | 300 | 100 |
| **Sponsor/DA** | Sponsor | Designated Adviser |
| **Publication in the press** | Compulsory | Voluntary |
| **Number of transaction categories** | 2 | 2 |
| **Special requirements** | N/A | Appoint Financial Directors |
| **Annual listing fee** | 0.04% of average market capitalisation with a minimum of R26 334 and a maximum of R121 700 (including VAT) | R22 000 (including VAT) |
| **Education requirements** | N/A | All directors to attend Director's Induction Programme |

Source: JSE (2016b)

Table 1.2 shows that the listing requirements for the JSE Main Board are more stringent than those of listing on the JSE AltX (Peters, 2014). Companies may list on the JSE AltX without a profit history, whereas listing on the JSE Main Board requires a three-year profit history. In addition, listing fees on the JSE AltX are much lower than on the JSE Main Board. Van Heerden (2015:18) argues that based on these requirements, the JSE AltX is indeed a catalyst for SMEs to attract capital and migrate to the JSE Main Board.

## 1.3    PROBLEM DEFINITION

In 2018, 49 companies with a total market capitalisation of R48.9 billion were listed on the JSE AltX (JSE, 2018). As previously stated, the main reason for the existence of the JSE AltX is that it acts as a growth catalyst for high growth potential SMEs in South Africa by providing access to finance (Sebastian & Kransdorff, 2017:683). In addition,

the JSE AltX aims to become the catalyst that enables these listed SMEs to migrate to the JSE Main Board, creating sustainability for listed companies. While over 40 companies have migrated to the JSE Main Board, 59 have delisted from the bourse. Considering that stock exchanges ideally provide the liquidity needed for growth and to improve sustainability, an analysis of the role of the JSE AltX should enhance the understanding of its role as an alternative exchange that creates sustainability and growth for SMEs.

As previously stated, much of the research on SMEs in South Africa focuses on the successes, failures, and economic contribution of SMEs, often in the survivalist and skills development phases (Olawale & Garwe, 2010; Smit & Watkins, 2012; 2013; Fatoki, 2014; Lose & Tengeh, 2015; Wiid, Cant & Le Roux, 2016, Maziriri & Chivandi, 2020). Research on listed companies often focuses on companies listed on the JSE Main Board (Reyneke, 1997; Van Rensburg, 2000; Sartorius & Botha, 2008; Oberholzer & Theunissen, 2012; Chipeta & McClelland, 2018). Evaluating whether the JSE AltX is serving its mandate to improve liquidity, growth and create sustainability for SMEs can serve as guide to understand the role of the JSE AltX as a catalyst for migration to the JSE Main Board. Therefore, the purpose of this study is to evaluate the role of the JSE AltX as a platform for sustainability and growth for high growth potential SMEs.

## 1.4    RESEARCH OBJECTIVES

This research study aims to evaluate the role of the JSE AltX as a platform for sustainability and growth. The research will be guided by the following objectives.

### 1.4.1    Primary objective

The primary objective of this research is to evaluate the role of the JSE AltX as a platform for sustainability and growth for high growth potential SMEs.

### 1.4.2    Secondary research objectives

To support the primary objective of this study, the following secondary research objectives were formulated for the study:

- To develop a theoretical framework to investigate the role of the JSE AltX as a platform for sustainability and growth for high growth potential SMEs.

- To empirically test the theoretical framework to investigate the role of the JSE AltX as a platform for sustainability and growth for high growth potential SMEs.

- To evaluate if the JSE AltX is a catalyst for growth in high growth potential SMEs.

- To establish whether the JSE AltX is beneficial for the sustainability of high growth potential SMEs.

- To compare differences in the sustainability and growth between JSE AltX-delisted, listed and migrated companies.

- To propose an empirically tested framework to investigate the role of the JSE AltX as a platform for sustainability and growth for high growth potential SMEs.

### 1.4.3   Research questions

Using a quantitative research approach, the study aimed to address the following research questions:

- What does the theory propose regarding sustainability and growth of high growth potential SMEs in stock exchanges?

- What do the empirical results say about the theoretical framework developed in the study?

- Is the JSE AltX a catalyst for growth for high growth potential SMEs?

- Is it beneficial in terms of sustainability for high growth potential SMEs to list on the JSE AltX?

- What differences in sustainability and growth can be observed between JSE AltX-delisted, listed and migrated companies?

- What is the role of the JSE AltX as a platform for sustainability and growth for high growth potential SMEs?

Table 1.3 outlines the matrix showing the consistency between the research questions and objectives.

**Table 1.3: Consistency between the research questions and objectives**

| Research objective | Research question | Chapter |
|---|---|---|
| To develop a theoretical framework to investigate the role of the JSE AltX as a platform for sustainability and growth for high growth potential SMEs. | What does theory propose regarding sustainability and growth of high growth potential SMEs in stock exchanges? | Chapters 2, 3 and 4 |
| To empirically test the theoretical framework to investigate the role of the JSE AltX as a platform for sustainability and growth for high growth potential SMEs | What do the empirical results say about the theoretical framework developed in the study? | Chapters 5 and 6 |
| To evaluate if the JSE AltX is a catalyst for growth for high growth potential SMEs. | Is the JSE AltX a catalyst for growth for high growth potential SMEs? | Chapter 6 |
| To establish whether the JSE AltX is beneficial for the sustainability of for high growth potential SMEs. | Is it beneficial in terms of sustainability for high growth potential SMEs to list on the JSE AltX? | Chapter 6 |
| To compare differences in sustainability and growth between JSE AltX-delisted, listed and migrated companies. | What differences in sustainability and growth can be observed between JSE AltX-delisted, listed and migrated companies? | Chapter 6 |
| To propose an empirically tested framework to investigate the role of the JSE AltX as a platform for sustainability and growth for high growth potential SMEs | What is the role of the JSE AltX as a platform for sustainability and growth for high growth potential SMEs? | Chapter 6 |

Source: Researcher's own compilation

Table 1.3 highlights the consistency between the research objectives and questions formulated for this study. Additionally, the chapters in which these research questions and objectives are addressed are also included. The final chapter of this study will provide the summaries, conclusions and recommendations of the study based on the research questions and objectives of this study.

## 1.5    IMPORTANCE AND CONTRIBUTION OF THE RESEARCH

Much of the research on alternative stock exchange patterns has mainly focused on developed countries. These reported successes in developed countries of alternative stock exchanges include the Alternative Investment Market (AIM) in the UK and the TSX Venture Exchange (TSXV) in Canada. The AIM's stocks representation in funds have continued to grow and this has seen the average offer size and market

capitalisation at Initial Public Offering (IPO) grow and market liquidity follow an upward trend (London Stock Exchange 2019). In 2020, trading on the TSXV amounted to 52.1 billion shares with a value of Candadia $23.3 billion (Keupper, 2021). However, it is proving to be more challenging to develop alternative exchanges in developing economies, often as a result of the small size of the businesses (Harwood & Konidaris, 2015:5; Megersa, 2020:2). The JSE AltX aims to be a stock exchange that ultimately serves as a catalyst from which to migrate to the JSE Main Board (JSE, 2016b). A study that evaluates the performance and ability of the stock exchange as a platform for growth and sustainability could inform a framework for listing on the stock exchange and assist in the development of guidelines for measuring the performance of the JSE AltX.

Companies listed on the stock exchange are mandated to provide annual performance results. The integrity of the financial information of listed companies on the JSE is considered a vital contributor to a sound and transparent South African financial market. The JSE has imposed personal sign-off obligations on both the Chief Executive Officer, as well as the financial director, confirming that the information contained in the annual reports presents all material aspects related to the financial position of the company (JSE(a), 2021). These reports represent the financial performance of the company, which if studied over a period of time may be indicative of the company's financial growth. Specific ratios that measure sustainability could be utilised to inform the evaluation of whether or not the JSE AltX does what it is supposed to do, namely, be a catalyst to JSE the Main Board by providing businesses with the opportunities to enhance growth and sustainability.

While the JSE (2018) explains sustainability as the requirements of the company to balance business operations by taking cognisance of its social, economic and planetary environment, sustainability in this study, refers to sustained business continuity as a result of being listed on the JSE AltX. The current research strives to make a contribution to the field of businesses in South Africa that participate in the JSE's trading platforms and the JSE AltX as a trading platform developed especially for high growth potential SMEs. Much of the existing research on SMEs does not engage with the sub-area of SMEs participating on stock exchanges. South African studies focus on the JSE Main Board, an already established stock exchange. This study could also align or disjoin intentions of high growth potential SMEs may want to

list on the platform, provide evaluative techniques for listed companies, inform the investor decision to participate on the alternative stock exchange, provide an evaluative starting point for the JSE AltX to measure its success or failure as well as inform policy and decision makers on support initiviates that may be beneficial for high growth potential SMEs.

## 1.6 RESEARCH DESIGN AND METHODOLOGY

This section provides a summary of the aspects that were taken into consideration in the research design of this study.

### 1.6.1 Research design

Research design may be thought of as the overall strategy used to conduct a research study (Bloomfield & Fisher, 2019:27).

The research design of this study was quantitative. Quantitative research may be described as numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect (Sukamolson, 2007).

Quantitative research design can be classified as 1) descriptive research 2) correlational research 3) quasi-experimental research and 4) experimental research. Table 1.4 describes the types and features of quantitative research design.

**Table 1.4: Types and features of quantitative research design**

| Type of quantitative design | Features |
|---|---|
| Descriptive | Is used to describe a phenomenon in a real-life setting. |
| | Quantifies characteristics of identified individuals, groups or situations. |
| | Is typically conducted with large numbers. |
| | Does not involve manipulation of variables. |
| Correlational | Investigates the relationship between or among selected variables in a sample by using correlational statistics. |
| | Determines the degree, strength and type of the relationship between variables. |
| | Does not determine cause and effect. |

| Type of quantitative design | Features |
| --- | --- |
| Quasi-experimental | Examines causal relationships or determines the effect of one variable on another. |
| | Lacks the level of control achieved in experimental studies. |
| Experimental | Examines causal relationships between dependent and independent variables under highly controlled conditions. |
| | Involves the manipulation of independent variable/s, random assignment of subjects to the experimental or control group, and exposure of the experimental group to at least one intervention and the control group to none. |

Source: Adapted from Bloomfield and Fisher, 2019

Table 1.4 describes the different types of quantitative designs. Selecting an appropriate type of design should be informed by the objectives of the study. The purpose of the study was to evaluate the role of the JSE AltX as a platform for sustainability and growth for high growth potential SMEs. Therefore, a correlational research design was followed in this study. Correlational research aims to determine whether two or more variables are related, and if so, to discover the nature of the relationship. Correlational studies can be used to describe or predict or to test theoretical models of relationships (Shields & Smith, 2016).

### 1.6.2 Sampling

This section discusses the population, the sample, data collection and analysis techniques that were selected for the current study.

Mugo (2002:1) defines the population as the groups of individuals, persons, objects, or items from which samples are taken. The population of this study consisted of all the companies that had ever been listed on the JSE AltX. This included companies that are currently listed, have migrated to the JSE Main Board and those that have since delisted from the JSE AltX.

A sample may be described as a subset or some part of a larger population (Zikmund & Babin, 2007:266). The sample should be representative of the characteristics of a known number of units in the population (Latham, 2007:2). The sample selected for this study included the following JSE AltX delisted, listed and migrated companies for the period 2008 to 2018:

- 55 delisted companies were selected to evaluate aspects of the growth and sustainability they derived while listed on the JSE AltX.

- 38 currently listed companies were selected as they would be able to inform whether or not being listed on the platform provides growth and sustainability benefits.

- 37 companies that had migrated to the JSE Main Board of the JSE were selected as they would best inform whether the JSE AltX had indeed been a catalyst for migration.

Figure 1.1 shows the sample that was selected in this study.
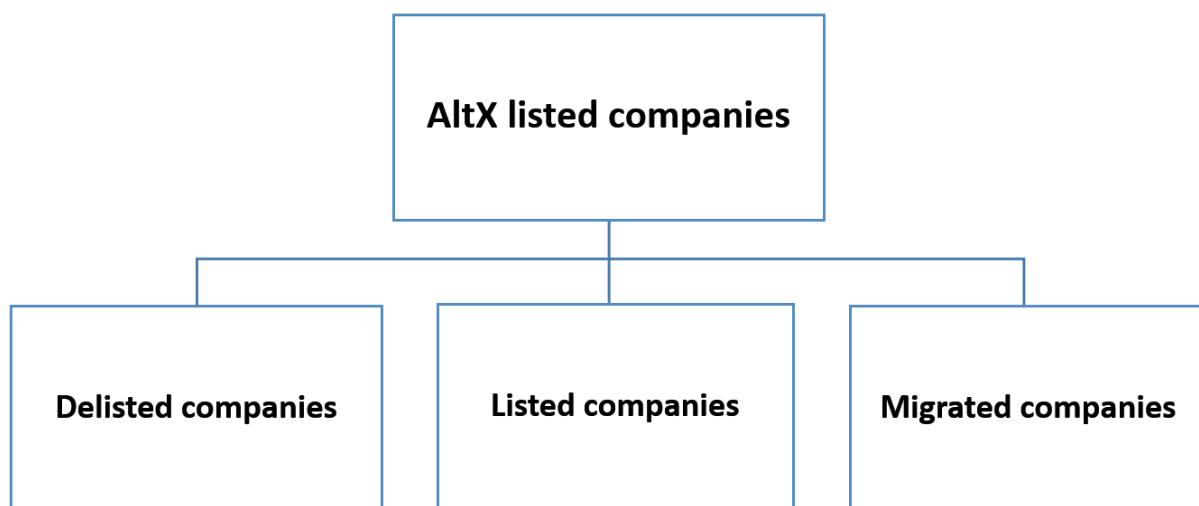


Source: Researcher's own compilation
**Figure 1.1: Sample selection of the study**

Figure 1.1 shows three groups that were included in the sample. In sourcing the sample for the study, permission was sought from the JSE AltX to access the names of companies for the period of investigation. A list of companies that had delisted from the JSE AltX, were listed on the JSE AltX and those that had migrated to the JSE Main Board from 2008 until 2018 was provided. In total, the sample consisted of 55 delisted companies, 38 listed companies and 37 companies that had migrated to the JSE Main Board.

### 1.6.3    Unit of analysis

The unit of analysis specifies the object of the research, and about which empirical inquiry intends providing more insight (Akremi, 2020). According to Salkind (2010), one of the fundamental considerations that researchers should observe is to determine

the unit that will be subjected to statistical analysis. However, this should be determined by the data to be collected rather than sound theoretical justifications.

The unit of analysis for the research was the financial data of the predetermined ratios for JSE AltX-delisted, listed and migrated companies from 2008 to 2018.

Companies that list on the JSE AltX, like other public companies listed on the JSE Main Board, are by law required to make their financial results publicly available. The list of companies that have delisted, were listed on the JSE AltX, and those that had migrated to the JSE Main Board were obtained from the JSE. Using Identification of Requirements for Enterprise Social Software (IRESS), specific financial ratios that are specified in Chapter 4 of the study, were calculated for all companies in the groups of JSE AltX delisted, listed, and migrated companies.

### 1.6.4   Measuring instruments

The data-collection instruments should be carefully chosen to fulfil the objectives of the study. Salkind (2010), describes a measuring instrument as a tool or means by which researchers attempt to measure variables or items of interest in the data collection process. Quantitative data is collected using factual information in the form of numbers, from various sources such as census data, attendance reports and progress summaries (Creswell, 2006:115). According to Hagan (2014:431), quantitative measures allow the researcher to perform statistical tests, analyse differences between groups and determine the effectiveness of measures. In quantitative research if something is not measurable it cannot be tested. Furthermore, developing and designing a research study requires time to define the research questions, refine theoretical frameworks and delineate the study's procedures. The properties of a good instrument are defined by reliability and validity in a quantitative study. Validity refers to the consistency of reported results. Validity on the other hand refers to the accuracy of score interpretations (Hagan, 2014:431).

The IRESS platform is a financial services and information platform that provides financial market and trading data. This platform was used to calculate financial ratios used in this study. The selection of ratios tested was informed by theory, previous research as well as various finance professionals. Simple regression analysis was conducted on the data obtained through IRESS to test the specific hypotheses

developed for this study. The measurement instrument process followed in this study is discussed in greater detail in chapter 5.

### 1.6.5 Data collection

Cooper and Schindler (2008:92) describe data as the facts presented to the researcher. Data collection is the process embarked upon to gather or collect information (Zikmund & Babin, 2007:55).

A proposed theoretical framework was created to allow for the selection of ratios that would be used to evaluate the role of the JSE AltX as a platform for sustainability and growth. From this, hypotheses were developed for quantitative testing.

Brannen and Halcomb (2009:75) add that it is important to balance the strengths and limitations of the selected data-collection methods. Quantitative data can be analysed more quickly, and numerical data obtained through this method allows for the comparison of different groups. Disadvantages of quantitative data are that it does not provide room for human perceptions and beliefs and does not make room for in-depth descriptions (Choy, 2014:101).

### 1.6.6 Data analysis

Once the selected ratios were collected and captured for the listed, delisted and migrated companies, it was recorded and tested statistically. Quantitative data analysis often requires the researcher to transform raw numbers into meaningful data through the application of rational and critical thinking (Saunders, Lewis & Thornhill, 2009). Table 1.5 depicts the research process that was followed in this study.

**Table 1.5: The research process**

| Research step | Research method |
|---|---|
| **Step 1**<br>Review and study literature to understand the context of SME stock exchanges and high potential companies. | Literature study |
| **Step 2**<br>Develop a conceptual framework for the study and measuring constructs to be empirically tested. Determine convergence of ratios from different sources to allow validation and maintain rigour in the study.<br>Prepare ethical clearance application to allow study to proceed to the next stage of the research. | Data planning |

| Research step | Research method |
|---|---|
| **Step 3**<br><br>Collect data related to the growth and sustainability of delisted, listed and migrated companies on the IRESS platform from the pre-determined ratios determined in the previous step. This is from the period 2008 to 2018. Ratios to be tested are predetermined in Step 3.<br><br>Permission is sought to access the names of JSE AltX companies. | Data collection |
| **Step 4**<br><br>Compile all data collected in Step 3 for statistical analysis. | Data collection |
| **Step 5**<br><br>Report results obtained from statistical analysis. | Results submission |
| **Step 6**<br><br>Provide discussions, recommendations, and conclusions, and respond to the proposed framework. | |

Source: Researcher's own compilation

Table 1.5 provides a step-by-step approach that was followed in the research process of the study. The explanation of the research process highlights the logic that was followed to best achieve the objectives of the study.

## 1.7    SCOPE OF THE STUDY

The performance of the JSE Main Board is well documented and researched. The scope of this study was limited to JSE AltX companies, namely, delisted, listed and migrated companies. All companies in these three groups were sampled for the period of 2008 to 2018. Delisted, listed and migrated companies were selected as the three groups of JSE AltX companies as they would best respond to the objectives of this study. Other companies on the JSE, or other concepts not related to sustainability and growth, were not considered in the scope of this study.

This study was limited to JSE AltX-delisted, listed and migrated companies. The period of observation was from 2008 to 2018. The study was limited to these companies, as it was assumed that they would provide a manageable sample, and information pertaining to these companies would be more easily managed.

Statistical analysis was only done on the above-mentioned JSE AltX-related companies. The study did not consider other performance variables outside of growth

and sustainability. This study specifically aimed to evaluate the role of the JSE AltX in terms of sustainability and growth. Therefore, other measures and constructs did not fall within the scope of research.

## 1.8    ETHICAL CONSIDERATIONS

By law, publicly listed companies in South Africa have to publish their financial results, therefore, there was no need to obtain informed consent from JSE AltX companies. However, the researcher needed to obtain permission from the JSE to access the JSE database of all companies for the period of analysis. The researcher also ensured that the anonymity of the companies in the study was maintained. However, in accordance with the University of South Africa's (UNISA) Code of Ethics and Conduct, all research that is conducted needs to adhere to this policy. The research study was conducted in accordance with the UNISA Code of Ethics and Conduct, from which were derived the ethical and moral principles that governed and guided the researcher's thoughts and actions (UNISA Code of Ethics and Conduct, 2007:1). The Ethical Clearance Certificate for the study is attached as Appendix A.

## 1.9    CONCEPTUAL OUTLINE OF THE RESEARCH

The various concepts and theories used in this study are outlined in the sections below.

### 1.9.1    Social Network Theory

Social network theory is a social concept that describes the relationships and connections in a social structure. It is essential for SMEs to build reputation-enhancing external relationships with outside sources that can provide information, and also provide access to technology and finance (Jaafar, Abdul-Aziz & Sahari 2009:103; Surin & Ab Wahab 2013:55). Alternative exchanges, such as the JSE AltX, strive to provide increased funding, widen the investor base of SMEs, and provide a platform for SMEs to trade their shares on a regulated market (JSE, 2017). Harwood and Kondaris (2015) posit that while many SMEs list on stock exchanges to obtain financing, many others list to increase their visibility, advertise their products, and/or gain the credibility often associated with good governance. For example, the JSE AltX,

the Warsaw Stock Exchange's NewConnect, and the GreTai (Taipei's Stock Exchange) highlight these as drivers for listings by SMEs on their exchanges.

Organisations engage in networking to produce profits. The benefits of networking include, for example, the increased flow of information about opportunities that would not otherwise be available. Secondly, networking exerts influence in decision-making. In addition, social networking reinforces identity and recognition (Lin, 1999:31). These believed benefits align with the findings of Harwood and Kondaris (2015) as reasons why SMEs list on stock exchanges.

While the above may describe a linear process for joining a stock exchange, Rao, Davis and Ward (2000:268) argue that a company's choice of joining a stock exchange has consequential and material effects for the listed company. This choice of a stock market influences a company's share price and its ability to raise capital. If a company perceives divergent reputational, economic, social and symbolic goals, they might delist or move to another stock exchange that may be better aligned with the above-mentioned factors. The application of this theory to the companies listed on the JSE AltX is yet to be seen, as it may influence whether companies listed on this exchange view the stock exchange as a catalyst for growth.

## 1.9.2   Resource-Based Theory and Resource-Dependency Theory

The Resource-Based Theory (RBT) asserts that the competitive advantage of a company lies in its effective and efficient use of resources and capabilities (Penrose, 1959). Examples of these resources include assets, capabilities, organisational processes, information and knowledge. While this theory emphasises the importance of resources, it has mainly been used to analyse the existing resources in the company. Nonetheless, this theory is useful in exploring how small businesses can develop a competitive advantage and improve performance. This theory also acknowledges that SMEs do not always have these resources, an important factor to explain why SMEs with potential may join a stock exchange such as the JSE AltX. Noteworthy is that while platforms, such as alternative exchanges, may provide opportunities for external funding for high-potential SMEs, the growth of these companies would still be influenced by entrepreneurial behaviour, such as risk-taking, and the top management characteristics within the company (Colombelli, 2015:110).

In contrast with the RBT, the Resource Dependence Theory (RDT) posits that SMEs can access these necessary resources of growth by leveraging external trade relationships (Hessels & Parker, 2013:138-139). The RDT maintains that organisations enter coalitions to influence and control behaviour. Furthermore, the RDT holds that organisations do best when the resources that are used are owned by others in a way that allows for the maximisation of their independence and control. In a platform such as the JSE AltX, both theories may be relevant for all three groups of organisations, namely, those that have chosen to delist from the stock exchange and internalise growth, those that remain listed on the platform, and those that migrate to the Main Board.

### 1.9.3    Capital Structure Theory

Capital structure is at the core of contemporary corporate finance (Ramjee & Gwatidzo, 2012:52). The capital structure of a company relates to the mix of debt and equity a company uses to finance its operations (Abor, 2005, in Maina & Ishmail 2014:1). Equity is the difference between the total value of assets and the total value of liabilities. Debt capital, on the other hand, is credit available in the form of credit cards, leases, bank loans, government loans, trade credit, and direct debt capital market (Vance, 2005, in Makhabeni, 2015:9-11).

In their seminal work, Modigliani and Miller (1958:261) asked what the cost of capital might be in a world in which funds are used to acquire assets, where the returns are uncertain, and in which capital can be obtained through various media. The capital structure theory can be explained by mainly two theories: the trade-off theory and pecking order theory. The trade-off theory suggests that companies identify a leverage target that optimally balances various cost and benefits of debt. The pecking order theory asserts that there is no optimal level of debt-to-equity. In this theory, information asymmetry and financial distress discourage the issuance of common stock and other securities. The preferred financing of companies is in the form of internal funding, debt, hybrid debt-equity, and then equity, in that order (Bhattacharyya & Morrill, 2015:3).

According to the pecking order theory, SMEs prefer internal equity to debt, and debt to external equity, and they rarely use external equity. This is influenced by the owner's desire to maintain control, risk aversion, age, personal values, and their knowledge of the industry, competition and funding opportunities (Dwyer & Kotey, 2015:115).

Owners of SMEs who are optimistic about the future of their businesses prefer to accrue future benefits for themselves, rather than to share them with external investors in exchange for their capital contributions (Sibanda, 2012:25)

A study by Ramjee and Gwatidzo (2012:62) found that in South Africa, companies generally consider the trade-off between costs and the benefits of debt when making finance decisions. More so, firms prefer internal sources of funding to external sources of finance. Therefore, in South Africa, it can be said that firms follow the pecking order and the trade-offs of the capital structure.

The manager of a company has a responsibility to determine the optimal mix of debt and equity that will ensure the maximisation of shareholder wealth (Maina & Ishmail, 2014:2). Previous studies that have sought to determine this have mainly focused on developed countries, while the studies in Africa have primarily focused on examining the link between capital structure and the financial performance of companies listed on various stock exchanges, as well as the determinants of the capital structure of listed companies (Maina & Ishmail, 2014; Ramjee & Gwatidzo, 2012).

## 1.10   CHAPTER OUTLINE

This study consists of the following seven chapters, as presented in Table 1.6.

**Table 1.6: Outline of chapters**

| Chapter | Title of chapter |
|---|---|
| **Chapter 1** | Introduction and background to the study |
| **Chapter 2** | An overview of stock exchanges and capital structure theories |
| **Chapter 3** | An overview of growth and sustainability |
| **Chapter 4** | The theoretical framework of the study |
| **Chapter 5** | Research design and methodology |
| **Chapter 6** | Results |
| **Chapter 7** | Summary, conclusions and recommendations |

Source: Researcher's own compilation

This thesis is structured in seven chapters, beginning with the introduction and background of the study. The thesis concludes with Chapter 7, where the summary, conclusions and recommendations discussed are based on the research conducted throughout the study.

## 1.11   SUMMARY

This chapter detailed the problem statement and described the objectives and aims of the study. This study aims to analyse the role of the JSE AltX in the growth and sustainability of delisted, listed and migrated companies. This knowledge should aid other high growth potential SMEs when evaluating the JSE AltX as a source of funding. This chapter, furthermore, highlighted the importance of the study in a field where the majority of the research on SMES has overemphasised survivalist businesses, and where the extant research on stock exchanges is often focused on large corporations participating in the JSE Main Board. Furthermore, this chapter included a discussion of the quantitative research design adopted for the study. This approach was adopted as it would best fulfil the objectives of the study. The various strategies, sampling methods and the unit(s) of analysis of the study which provide insight on the selected research design were discussed. Ethical considerations made in the study were explained. This included explaining mandatory requirements of JSE companies to make financial performance results publicly available. However, anonymity would be held in the highest regard so as to not bring any company into disrepute. The following chapter presents an overview of the JSE AltX.

# CHAPTER 2

# OVERVIEW OF THE

# JOHANNESBURG STOCK EXCHANGE ALTX

## 2.1    INTRODUCTION

The primary objective of this research is to analyse the role of the JSE AltX as a platform for creating sustainability and growth for high growth potential SMEs. It is thus important that the role of the JSE AltX as a platform should be clarified. This chapter provides a literature overview of the JSE AltX as a platform for high growth potential SMEs to generate funding, sustainability, and eventually, to migrate to the JSE Main Board.

A stock exchange is a trading facility where people can buy or sell stocks, bonds and securities through brokers and traders (Wee, 2017). SME participation in stock exchanges in developed countries has been able to provide much needed liquidity, creating sustainability for their high growth potential SMEs. However, African stock markets with alternative exchanges for SMEs are often characterised by illiquidity and are seen as high-risk investments by potential investors.

Limited financing options are available to SMEs and high growth potential companies. SMEs that opt to list on the JSE AltX need to carefully consider their capital structure. This chapter will thus first discuss the considerations that high growth potential SMEs need to make regarding their capital structure.

Secondly, this chapter will provide an overview of global stock exchanges and SME exchanges to create a foundation for understanding the JSE AltX as a platform for improving sustainability and providing growth for high growth potential SMEs.

When an SME lists on the JSE AltX, it becomes a public entity, necessitating the application of governance structures in the SME. To conclude, this chapter discusses the importance and role of executive directors in listed companies, as well as the composition of the board. The key positions that steer the corporate governance of publicly listed companies are also considered.

## 2.2    CAPITAL STRUCTURE OF A BUSINESS

Fatoki (2014:749) describes the term 'capital structure' as the mix of debt and equity that a business uses to finance its operations. Capital enables a business to grow, acquire assets, and fund its activities to generate profit. Modigliani and Miller (1958) questioned the cost of capital by referring to how funds can be acquired using either debt instruments or equity instruments, or both. The two criteria for rational decision-making that are used in this process are:

- the maximisation of profit; and

- the maximisation of market value.

Based on these criteria, an asset is worth accumulating when it increases net profit for the business, and if it adds more value to the market value of the business than the cost of acquisition. This rationale provides the foundation upon which the capital structure of a company is built where management are responsible for optimal mix of debt and equity that ensures maximations of shareholder wealth (Maina & Ishmail, 2014:2).

However, much of the existing theory does not explore the capital structure of SMEs, even more so, SMEs listed on SME stock exchanges. Abor and Biekpe (2009:85) provide three capital structure approaches that are based on the life cycle approach, costs deriving from asymmetric information, and agency costs that could be considered applicable to SMEs. According to Abor and Biekpe (2009), the following business characteristics are important in determining the capital structure of an SME:

- **Age of the business:** This is considered a standard measure of reputation in capital structure models. From this perspective, the business is established as a continuing business, which increases its capacity to take on more debt. This perspective, however, does not consider the position of the SMEs in raising equity.

- **Business size:** It is posited that there is a positive relationship between the size and capital structure of an SME. The argument is that small businesses are more likely to depend on equity, while larger firms are more likely to use debt. This might be contrary to the reasons for high growth potential SMEs listing on an alternative exchange, such as the JSE AltX.

- **Asset structure:** In simple terms, businesses with more assets exhibit greater liquidation value. These SMEs are able to borrow more, as they are able to provide collateral.

- **Profitability:** As explained by the pecking order theory, companies tend to prefer internal sources of finance to external ones. This is the one characteristic which considers that this might not be applicable to listed who will not make use of internal funds as a first resort.

- **Business growth:** The growth of a company is believed to place more pressure on internal funds.

- **Business risk:** This is considered to be the primary determinant of capital structure. This is also related to debt and not equity financing.

The limitation of the above business characteristics is that it focuses on raising debt to finance the structures of the business, and not equity. This is demonstrated older studies of Sogorb-Mira (2005), Hall, Hutchinson and Michaelas (2004), Esperança, Ana and Mohamed (2003), Cassar and Holmes (2003), Fu, Ke and Huang (2002), Michaelas, Chittenden and Poutziouris (1999), and Chittenden, Hall and Hutchinson (1996). Matias and Serrasqueiro (2017) state that modern theory was not developed with SMEs in mind and argue that no financial theory will accurately explain the capital structure decisions of SMEs.

According to Bhaird and Lucey (2010), when internal sources of finance become inadequate, businesses prefer to raise finance from debt markets, rather than through the sale of equity. This is related to the pecking order theory, which states that internal managers are better informed regarding the true value of a business than external investors are. Additionally, SME owners prefer to retain control and maintain independence which is perceived as not being the case when listing on an alternative exchange. They add that high growth potential SMEs, as described by the JSE AltX, that have limited internal funding and assets that are not collateralised, are less averse to ceding control and may resort to external equity from new investors. Matias and Serrasqueiro (2017:31) add that determinants of size, age, asset tangibility, and profitability are reliable in explaining capital structure. However, a limitation of only using these determinants in understanding capital structure for SMEs is that factors such as structure and management in SMEs, or variables related to the personal

characteristics of SME are not considered. They may contribute to a deeper understanding of SME capital structure decisions.

Wieland, Kovács, Savchenk (2020: 51) define the financial market as a platform that brings together the needs of sellers and buyers for the trading of financial instruments, which facilitates one particular form of financing, helping investors and savers find each other. Pithadia (2006) explains that the financial market is divided into a money market and a capital market. A stock market is an important organised capital market through which capital transactions are facilitated using securities as a financing commodity. Stock markets can be divided into a primary and secondary market. A primary market refers to the process where the public acquires stock by investing (supplying capital) to companies (issuers of stock). In the primary market, shares are traded for the first time from the company to the public investor. A secondary market, however, is an ongoing, organised market where stock exchanges are executed in accordance with the rules and regulations set out by the stock exchange.

Nagy and Végh (2017) premise that the SMEs listing on stock exchanges want to derive the benefits of listing and strive to lay the foundation for main market transactions. Ultimately, they add, the SME that wants to grow needs to increase their capital, and the stock exchange should be regarded as the most suitable platform for acquiring long-term financing. Stock exchange funding, however, should be supplementary, not replacing loans or private sources of funding. Financing through loans and other private sources is found in the money market that is high in liquidity for a short-term period, which is usually no more than one year.

Derivatives are defined as financial instruments, where the payoffs are derived from other more important variables, for example, a stock price, a commodity price, an exchange rate, an interest rate, or an index (Gupta, 2017:4). Derivatives are contracts whose values are linked to the future value of an underlying instrument which they represent. Forex (foreign exchange market) represents the market where global currencies are traded over the counter. The financial market is summarised graphically in Figure 2.1.
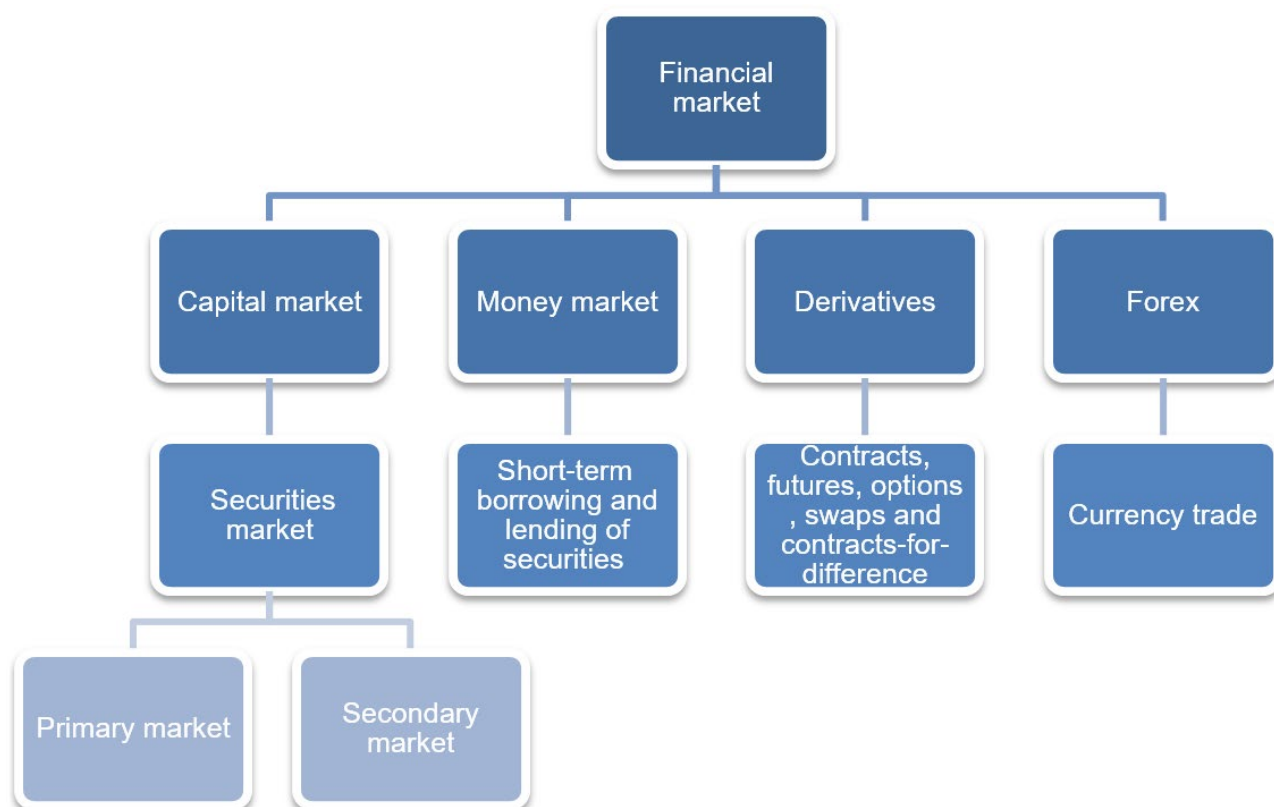
Source: Researcher's own compilation
**Figure 2.1: Graphic illustration of the financial market**

Figure 2.1 shows that the financial markets consist of four subdivisions, namely, the capital market, money market, derivatives, and Forex.

## 2.3   STOCK EXCHANGES

This section discusses stock exchanges as they are found all over the world, and specifically, in Africa and South Africa.

Stock exchanges are organised marketplaces, licensed by a relevant regulatory body, where ownership shares in companies are listed and traded. Companies use what is known as an initial public offering (IPO) to make a portion of the company's shares available to the public. This is known as the primary market that is used to raise equity funds for the company. Investors may then buy and sell these stocks in the secondary market (World Federation of Stock Exchanges, 2017:5).

As a country grows, stock exchanges serve as tools in the mobilisation and allocation of the funds that are critical for the growth and efficiency of a country (Olweny & Kimani, 2011:179). Cooray (2010:450) states that stock markets can influence the

development in a developing country by enabling companies to raise capital for long-term investment, which in turn, can promote economic growth (Khalikov, 2017:172). In addition, they also create risk diversification by allowing investors to hold shares in a number of companies, which in turn, contributes to economic growth.

According to Enisan and Olufisayo (2009:164), the rate at which stock exchanges grow might more accurately be affected by factors such as the size, liquidity and efficiency of the market, as well as the quality of the environment. However, Hearn and Piesse (2010:1019) hold an opposing view, stating that developing countries have highly skewed income and wealth distribution, which results in political distortions. Unfortunately, this creates a situation where the wealth benefits of a stock market are usually attributed to a social and political elite, rather than the general population. Stock markets can, however, reduce the cost of capital for listed companies by pooling the investments from a wide base of investors (Hearn & Piesse, 2010:1020). This may be indicative of why SMEs with high growth potential list on exchanges such as the JSE AltX.

### 2.3.1 Global stock exchanges

The stock exchange provides a source of funding for the national and international projects necessary for the economic development of many developing countries. Globally, stock exchanges in more developed countries offer the major support to the country's economy (Wee, 2017). The scholar, Hur (2019), links the first stock market systems to the cities of Bruges, Flanders and Ghent in Belgium, and Rotterdam in the Netherlands in the 1400s and 1500s. The East India Company is recognised as the world's first company to publicly trade shares in the 1600s. Established for voyages of exchange from Europe to Asia, The East India Company became one of the first multinational companies to control trade over half the world (King, 2003).

The London Stock Exchange, formed in 1801, was not allowed to trade shares until 1825, which prevented it from becoming the superpower stock exchange that the New York Stock Exchange (NYSE) is at the present moment (Hur, 2019). The NYSE, formed in 1825, traded stocks from the first day of inception, and its market capitalisation as at March 2018 was US $23.12 trillion. Market capitalisation is defined as price per share of stock multiplied by the number of shares outstanding. It is the

total market value of equity (Lee & Lee, 2006). The NYSE holds approximately 40% of the world's stock market value (IG Group, 2018).

Figure 2.2 below illustrates the top 10 stock exchanges in the world, based on market capitalisation. Their rankings and market capitalisation are further explained in Table 2.1.



Source: IG Group (2018)
**Figure 2.2: Top 10 exchanges in the world by market capitalisation**

The actual figures of the top 10 stock exchanges according to market capitalisation, as illustrated in Figure 2.2, are outlined in Table 2.1.

**Table 2.1: Top 10 stock exchanges and market capitalisation as at 1 March 2018**

| Position | Name of stock exchange | Market capitalisation (1 March 2018) US $ |
|---|---|---|
| 1 | New York Stock Exchange | 23.12 trillion |
| 2 | NASDAQ | 10.93 trillion |
| 3 | Tokyo Stock Exchange | 6.22 trillion |
| 4 | Shanghai Stock Exchange | 5.01 trillion |
| 5 | Hong Kong Stock Exchange | 4.46 trillion |
| 6 | London Stock Exchange | 4.38 trillion |
| 7 | Euronext | 4.36 trillion |
| 8 | Shenzhen Stock Exchange | 3.49 trillion |

| Position | Name of stock exchange | Market capitalisation (1 March 2018) US $ |
|---|---|---|
| 9 | Toronto Stock Exchange | 2.29 trillion |
| 10 | Deutsche Boerse | 2.22 trillion |

Source: Adapted from IG Group (2018)

Table 2.1 shows that South Africa is not among the top 10 stock exchanges according to market capitalisation. The World Federation of Exchanges (2017:9) states that, while stock exchanges in developed countries have experienced significant growth, developing nations experience challenges in supporting their SME exchanges. This can be attributed to a lack of foreign investment, a lack of investment in domestic industries, low availability of domestic savings, as well as the low availability of liquid capital.

The following section discusses the development of stock markets in Africa, debating the importance and contribution of stock exchanges in the development of countries on the continent.

### 2.3.2    Stock exchanges in Africa

The establishment of stock markets in Africa dates back to the 19th century. The past two decades have seen many stock markets being established as a result of financial industry reforms, as well as the financial market development on the continent. Compared to other global stock exchanges, African stock exchanges remain relatively small in terms of market capitalisation (PWC, 2017), traded value, and turnover ratio. This is largely attributed to poor transparency, the relatively small size of the markets, lack of access to information, and settlement arrangements. The exception in this case is South Africa, where the JSE is well established (Sugimoto, Matsuki & Yoshida, 2014:202; JSE, 2021).

Formed in 1887, the Johannesburg Stock Exchange (JSE) was established on the mining and gold trade in the Witwatersrand and is the largest in Africa, based on market capitalisation. The Namibian Stock Exchange was founded in 1900, as the Luderitz Stock Exchange, where the diamond trade was key in its establishment. The Casablanca Exchange, formed in 1929, is the third largest stock exchange in Africa, after South Africa and Nigeria. The Nigeria Stock Exchange was started in 1960 trading as the Lagos Stock Exchange. The name was changed in 1977, and the

exchange currently lists over 200 companies. The Tunis Stock Exchange, founded in 1969, trades under the Tunisian Dinar. The Ghana Stock Exchange, established in 1989, started off as a private company that was changed to a public company in 1994.

Figure 2.3 depicts the top stock exchanges in Africa, based on market capitalisation.
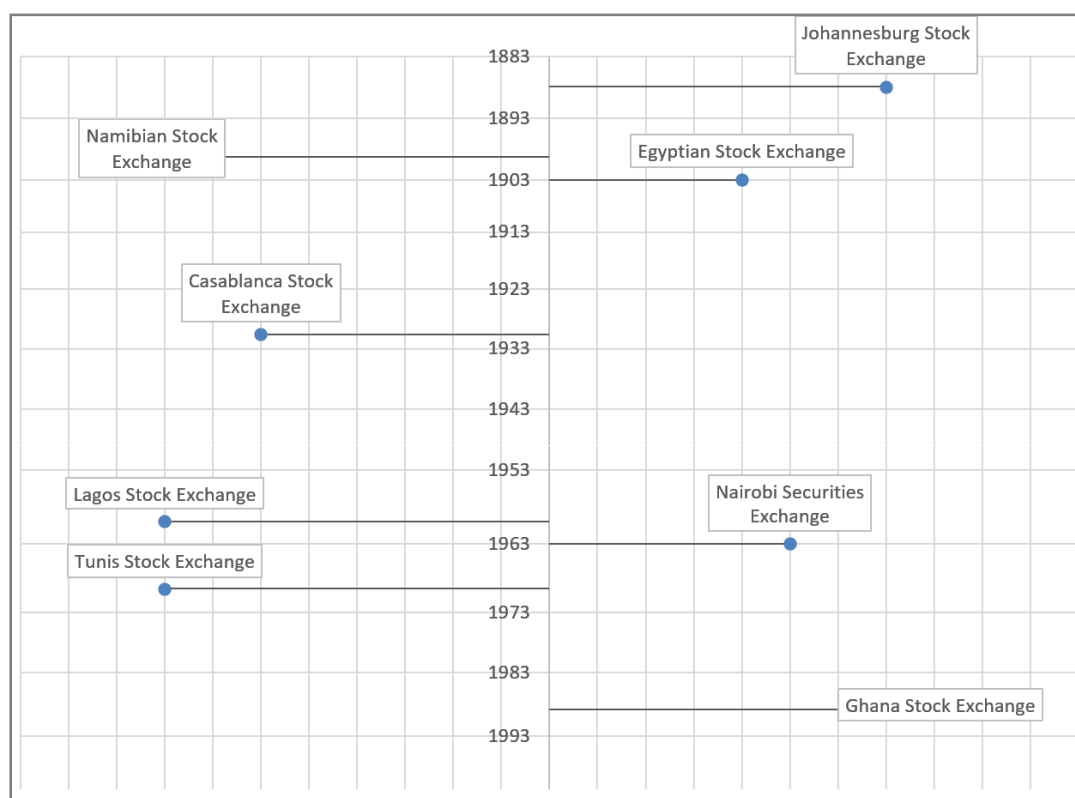


Source: Adapted from Mutiso (2016)
**Figure 2.3: Establishment dates of top 8 largest stock exchanges in Africa**

Figure 2.3 shows that the JSE is the oldest stock exchange in Africa, while the Ghana Stock Exchange is the most recent stock exchange.

It has been debated in literature whether the prevalence of stock markets improves economic development in developing/emerging markets (Adjasi & Biekpe, 2006; Cooray, 2010; Ngare, Nyamongo & Misati, 2014; Nyasha & Odhiambo, 2015). Theoretically, a well-developed stock market is believed to encourage savings, lower transaction costs and improve overall resource location (Enisan & Olufisayo, 2009:164; Cooray, 2010:449).

Enisan and Olufisayo (2009:162-164) provide the following three arguments to support the view that financial development is a necessary condition for the achievement of a high economic growth rate:

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- The existence of a well-functioning financial industry assists in the mobilisation of limited resources from surplus units to the needed areas. This, in turn, promotes the efficient allocation of resources, therefore, leading to growth in other economic industries.

- The demand argument follows that high economic growth creates a demand for certain financial instruments. Therefore, financial markets are responding effectively to these demands and changes. This is contrary to the above view.

- The third view suggests that financial development and economic growth are interdependent. A country with a well-developed financial system can promote high expansion through technological changes, and product and service innovation. Therefore, this said economic expansion would create a higher demand for financial arrangements that caters to these developments.

According to Cooray (2010), market capitalisation, market liquidity and turnover ratio are used as indicators to measure stock market development, which suggests that stock markets are important for economic growth. These results are in line with the findings of Adjasi and Biekpe (2006) and Nurudeen (2009) that echo that stock market development has a significant and positive long-run impact on economic growth.

Nyasha and Odhiambo (2014:105) clarify that specifically in South Africa, it is bank-based financial development and not market-based financial development that plays a significant role in economic development, both in the short and long run. However, as noted in many studies, SMEs tend to experience problems in accessing funding from banks, as they generally do not meet the criteria (Chisasa & Makina, 2012; Zairani & Zaimah, 2013; Eniola, 2014).

Furthermore, there are additional barriers that prohibit the development of successful capital markets (Hearn & Piesse, 2009:1019; Hearn & Piesse, 2020:502). Many African countries are characterised by unstable macro-economic environments, and highly skewed income and wealth distributions. The effects of these instabilities, present information asymmetries for investors, and political and economic distortions. Any benefits that may result from a stock market are therefore limited to the elite few, rather than the general population because of the risk premiums faced by investors and the cost of equity for the issuing company.

PWC (2017) observed that African exchanges have a greater focus on their alternative exchanges that focus on SMEs. This could be indicative of the dire need to accelerate the economic growth of Africa's SMEs by providing a wider base of funding by extending it to public listings.

### 2.3.3    SME financing and SME exchanges

There are various names for SME exchanges, such as alternative markets, venture exchanges, growth markets, new markets, SME boards, SME venue listings, second-tier markets, lower-tier markets, and junior markets. These markets are often managed by a market operator, along with a Main Board exchange. They usually have their own separate trading platform, with its distinctive trading rules, listing and admission requirements (Šestanović, 2016:61)

SMEs face unique financing challenges. However, access to finance remains one of the major hindrances to the growth and development of SMEs. It is generally accepted that SMEs prefer banking finance to equity finance (Šestanović, 2016:61; ICSA, 2013:2). Over the years, the cost of funding has risen, forcing SMEs to alter their financing mix. Typically, SMEs use sources of short-term funding, such as overdrafts credit and bank loans. These sources of funding are more useful in the start-up phase of the SME, and do not provide the long-term financing needed by growing or mature companies (Wyman, 2014:4). Unfortunately, during financial crises, their over-reliance on banking finance makes SMEs especially vulnerable, as loans are then not extended to them. It is for this reason that SMEs need to consider equity as a useful source of financing, and this may be made possible by listing on a stock exchange specifically meant for SMEs. For example, a high growth SME has differing financing requirements during its various life cycles that need to be catered for.

Figure 2.4 depicts the model developed by Šestanović (2016:61) to explain how SMEs can finance their growth through SME exchanges.
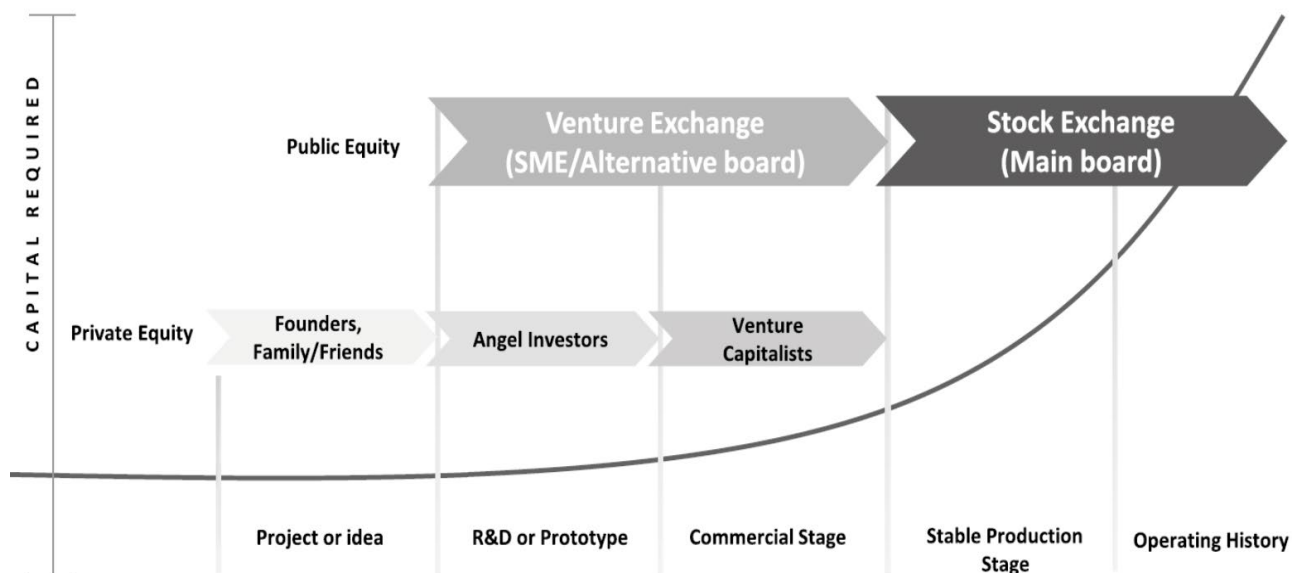
Source: Šestanović (2016:62)
**Figure 2.4: Financing growth companies through SME exchanges**

Figure 2.4 shows the capital requirements of a business at various stages of growth. The capital requirements of a business vary in accordance with the growth stage of the business. During the start-up phase of a business, the founders of the business usually finance the business through private equity or personal sources, such as family and friends. As the business progresses, during the Research and Development (R&D) phase, or prototype or commercialisation phase, the SME might consider alternatives, such as venture capital, or listing on an SME exchange. Migration to a Main Board happens when the business has reached a stable production stage and has a strong operations history.

Nassr and Wehinger (2015:52) add that equity funding should not be seen as a way to disengage SMEs from banking finance but rather as a way of complementing banking finance and other financing alternatives. In addition, it should be kept in mind that equity financing is not suitable for all SMEs, as they are typically characterised by low survival rates.

Table 2.2 summarises the views of various authors on the benefits of a well-functioning SME exchange.

**Table 2.2: Benefits of well-functioning SME exchanges**

| Yoo (2007) | Myers (2014) | Wehinger and Nassr (2015) |
|---|---|---|
| Greater access to growth capital for innovative SMEs. | Issuing equity and debt security can provide SMEs with stable, long-term finance that bank lending cannot do. | Initial access to capital through IPOs, and longer-term repeat access to funding (secondary listings). |
| New jobs through entrepreneurship. | Tradable securities provide information about the performance of SMEs. This transparency, combined with ease of exit created by tradable securities, makes SMEs more attractive to venture capitalists. | Increased creditworthiness, transparency, visibility and credibility by association to a dedicated ecosystem and advisor community. |
| More investment opportunities for domestic portfolio investors and local venture capitalists. | Creates discipline on the part of SME management, improving their internal governance and external communication. | Public accountability, increased transparency and reporting encourage better management practices, governance and performance monitoring. |
| Expanded mechanisms for recycling public funds to promote SMEs. | Broadened access to a set of diverse investment opportunities within a regulated and transparent environment. | Extended investor base and efficient risk distribution. |
| | SME exchanges earn new revenue streams by playing an intermediary role between SMEs and investors, while also helping companies migrate to the Main Board. | SME owners can realise their capital gains, while enhancing the capital structure of the company and managing their cost of capital. |
| | SME capital markets stimulate economic growth and job creation. | |

Source: Researcher's own compilation

Table 2.2 depicts the benefits of well-functioning SME exchanges. These include greater access to long-term funding through IPOs, as well as greater governance for SMEs, as they have to implement internal governance structures and improved communication with stakeholders. The stated benefits extend to the greater economy, where that well-functioning SME exchanges stimulate the economy and create job opportunities.

However, various factors hinder the development of SME exchanges. Nassr and Wehinger (2015:63) summarise them as:

- SMEs seeking public finance are burdened with high admission costs, advisor fees and broker commissions. In addition, the rules and regulations, and onerous reporting requirements are also considered as high indirect costs of listing.

- SMEs have their own structural limitations, such as lack of transparency and standardised information, financial sophistication and reporting capabilities, communication and visibility.

- The unwillingness of entrepreneurs to relinquish shares or ownership, or to accept potential lock-in periods upon listing.

Šestanović (2016:65) states that, in essence, for SME exchanges to flourish, the benefits for SMEs accessing capital markets must outweigh the costs, and there should be a fair balance between investor protection and more affordable costs for SMEs to access capital markets. However, if the conditions in which SME exchanges can flourish have not been established, these above-mentioned benefits cannot be attained. Yoo (2007:3) suggests the following best practices for establishing strong-performing SME exchanges:

- **Lower costs for listed companies:** Establish flexible entry requirements, less onerous corporate governance rules, and reduce financial fees for listing and maintenance.

- **Assurance of market integrity:** Add institutional arrangements for mentoring, make lock-up periods a requirement for major shareholders, and impose strict delisting rules. The timely delisting of companies that no longer qualify helps to preserve investor confidence, upholds high market integrity and establishes discipline in listed firms.

- **Support services for issuers:** Stock exchanges and the government need to encourage institutional investment, boost the visibility of listed companies and raise public awareness of SME exchanges,

- **Policies linked to market development:** To ensure the flow of new equity to SME exchanges, government should link policies for promoting innovation and entrepreneurship with market development.

The following section discusses SME exchanges in African market economies.

### 2.3.4   SME exchanges in African market economies

African stock markets are challenged by liquidity, access to capital markets and low capitalisation. These are major inefficiencies which require more effort in deepening financial instruments (Bundoo, 2017:65). Much of the research on stock exchanges in Africa (; Nyasha & Odhiambo, 2014; Mensah & Alagidede, 2017; Klagge & Zademach, 2018) focus on the Main Boards, neglecting the alternative stock exchanges that were established to increase SME access to capital markets.

The Milken Institute (2017) estimates that there are 30 segments in stock exchanges segments dedicated to SMEs, of which a large majority were established in the past 15 years. In the European Union, SMEs raising funds through stock exchanges is a prominent and promising source of external long-term equity funding. Equity financing provides stability and may prove resistant to external financial shocks (Šestanović, 2016:61). However, in developing nations, many SME-targeted exchanges have failed to take off due to illiquidity, the rarity of IPOs, and poor daily turnover, if compared to global markets (Šestanović, 2016:61).

Yoo (2007) states that in order to overcome the challenges that arise from developing SME exchanges, policy needs to focus on the following three areas:

i.   Run the new exchange within an existing one, and provide incentives to promote the SME exchange and ensure its commercial viability;

ii.  Support competition in the local capital market by introducing foreign venture capitalists to alleviate shortages of local venture experts; and

iii. Enhance the transparency and coordination in public support programmes that could match private venture capital with public funding.

It is clear from Yoo's (2007) suggestions that collaborative efforts from the stock exchanges, listed companies, investors, funding institutions, entrepreneurship experts and academics are required to overcome the challenges. The following section

provides a brief discussion of the history of the JSE as the leading stock exchange in Africa.

## 2.4    THE JOHANNESBURG STOCK EXCHANGE

The JSE is not South Africa's first stock exchange. After the discovery of diamonds in the Kimberley area, the Kimberley Royal Stock Exchange was established in the early 1880s, as the first market for formalised trade. This was followed by Barberton's Stock Exchange after rumoured gold discoveries in the area (Feinstein, 2005:5). What gave the JSE an immediate advantage over the Kimberley Royal Stock Exchange, the Barberton Stock Exchange, as well as the London Stock Exchange (then), was that the listing process was relatively easy and affordable (Lukasiewicz, 2017:725).

Established on 8 November 1887 during South Africa's gold rush, the JSE is the 20th largest stock exchange in the world. The stock exchange aims to provide secure, efficient capital markets across a wide range of instruments and cost-efficient services (JSE, 2019).

Companies wishing to list on the JSE need to meet the following requirements:

- Subscribed capital of at least R50 000 000;

- No less than 25 000 000 equity shares;

- Audited profit history for three years of at least R15 000 000 before tax; and

- Of each class of shares, 20% needs to be held by the public to ensure reasonable liquidity.

The JSE (2019) states that companies who list on the stock exchange may derive benefits such as increased funding, as it is easier to raise equity funding than to depend on loans alone to fund the expansion of a company. Furthermore, a JSE listing may better place a company in a position to obtain other sources of finance, as listing on the stock exchange enhances the status of a company. Moreover, listing on the JSE may enable existing shareholders to realise part of their shareholding, making their investment in the company more attractive. In addition, listing on the JSE increases the company's shareholder base and broadens its exposure.

An added advantage of the JSE is that the improved status of the company may enable the company to attract and maintain good employees. Listing may also make the

company's share incentives more attractive to employees as the company becomes more marketable. The performance of the company should likely improve the company's dealings with stakeholders, such as banks, suppliers, distributors and customers. This has an overall positive effect on the company's performance.

The JSE also notes the high cost of listing and additional annual listing fees as disadvantages. Additionally, the enhanced requirements to which a company is bound when they list on the JSE are expensive and time-consuming for management. However, companies that do not adhere to these requirements may be sanctioned.

In 2003, the JSE established the JSE AltX. The JSE AltX is a division of the JSE that is aimed at high-quality SMEs with high growth potential. Alternatively, the JSE AltX provides a platform for high growth potential SMEs to access public funding by listing on a platform that has less stringent criteria than banks and the JSE Main Board.

## 2.5    THE JSE ALTERNATIVE EXCHANGE (JSE ALTX)

Established as a platform for high growth potential SMEs, shares on the JSE AltX are traded the same way as on the JSE, except that the listing requirements for JSE AltX-listed companies are less onerous. Unlike JSE Main Board-listed companies that are required to have at least R25 million share capital, three-year profit history and a minimum pre-tax profit of R15 million; companies wishing to list on the JSE AltX require R2 million share capital, no profit history and have no pre-tax limits (Brownlee, 2016).

The primary purpose of the JSE AltX is to provide high growth potential SMES the opportunity to publicly raise funds and later migrate to the Main Board of the JSE. However, the bourse is regularly challenged with a lack of liquidity, which is often attributed to the perceived additional risk carried by shares on the JSE AltX (Van Heerden, 2015:11).

The 2008 global financial crises adversely affected the JSE AltX and it lost 60% of its initial market capitalisation (Van Heerden, 2015:14). Before that period, the JSE AltX had grown substantially in terms of listings and market capitalisation (Harwood & Konidaris, 2015:10).

In 2017 and in 2019, the JSE AltX started facing competition from other alternative exchanges, when the Financial Services Board (FSB) granted four exchange licenses to ZARX, 4AX, Equity Express Securities Exchange, and A2X (JSE, 2017:8). More

competition for the JSE AltX could provide start-up companies with eased investment and trading, increased liquidity, market exposure, and a lower cost alternative to the JSE AltX (Skade, 2015). However, it may take a while for the other alternative exchanges to truly become competition for the JSE with its 134-year trading history.

The next part of this chapter discusses executive director insights for listed companies with global comparisons, board composition and structures, and concludes with key positions in a board.

## 2.6    EXECUTIVE DIRECTOR INSIGHTS

The JSE requires that all publicly listed companies have specific governance structures such as stipulated in the King IV Report on Corporate Governance. While these measures are put in place to ensure efficient governance, they may create what is known as the agency problem. The agency problem is premised on the foundation that at some point, the goals of the principal (shareholders) and agent (managers) may be in conflict, and it may be hard to verify what the agent is doing (Eisenhard, 1989:58). From this point of view, the role of the board of directors is to protect the interests of shareholders (principals) by monitoring the actions of managers (agents/executives) (ACCA, 2012:2; Munisi, Hermes & Randøy, 2014; Muchemwa, Padia & Callaghan, 2016:498). Boards occupy key positions in companies, implying that decisions and activities can be related to the company's outcomes such as financial performance (Munisi *et al.*, 2014:785).

Since the beginning of the 21st century, corporate governance has come under much scrutiny, specifically because major companies, such as Enron, WorldCom, Tyco and many others, reported substantially huge losses to shareholders and lenders. During this period, boards were accused of not fulfilling their fiduciary responsibility and operating irresponsibly. In South Africa, financial scandals, such as that of Fidentia, Saambou, and more recently, Steinhoff, have once again thrust the role of the board to the fore. Locally, these companies had reported stable returns with an impressive line-up of board directors. Therefore, when such corporate governance scandals erupt, the question arises: where was the board? (Naudé, Hamilton, Ungerer, Malan & De Klerk, 2018).

### 2.6.1 Board composition and structures

The term 'board composition' refers to the combination of executive directors and non-executive directors on the board of a company. Legally, there is no distinction between executive directors and non-executive directors, as both executive and non-executive directors have the same legal responsibilities and liabilities (PWC, 2018). When non-executive directors from the outside with no material interest in the company are appointed, they are appointed as non-independent directors (Rashid, 2011:7).

In South Africa, the classification of directors is done according to executive directors, non-executive directors and independent non-executive directors (Deloitte, 2017). Deloitte (2014) characterises them as follows:

- **Executive directors:** Involved in the day-to-day management of the company and may be salaried full-time employees (or its subsidiaries) or both. In addition, executive directors are entrusted with ensuring that information presented to the board is a true reflection of their understanding of a company's affairs.

- **Non-executive directors:** A non-executive director is independent of management issues, including strategy, performance, sustainability, resources, transformation, diversity, employment equity, standard of conduct and evaluation of performance. Non-executive directors are important in providing objective judgement on issues facing the company, such as:

  - An independent non-executive director is not a representative of the shareholders who control or influence management of the board; they have no direct or indirect interest in the company, including parent companies or any subsidiaries exceeding 5% of the group's total number of shares.

  - An independent non-executive director has not been employed by the company, or group company, as the designated auditor or partner in the audit group's external audit firm or acted as senior legal advisor for the preceding three financial years.

  - An independent non-executive director is not a member of the immediate family or an individual who in the preceding three years has been employed by the company or the group in any executive capacity.

- An independent non-executive director is not a professional advisor to the company or group other than as director.

- An independent non-executive director is free from any business or other relationship which could be seen as subjective.

- An independent non-executive director does not receive remuneration dependent upon the performance of the company.

While directors are differentiated, their overarching duty is to act in the best interest of the company and to not unjustly use their position in the company to gain an advantage for themselves or any persons related to the company. This requires an independent mindset and objectivity (Deloitte, 2014).

Unlike companies in developing countries such as the UK and the United States of America (USA), companies in developing nations are often characterised by concentrated ownership. Developing nations cannot afford to maintain structures that perpetuate the expropriation of minority shareholders by major shareholders (Sandra, Garba & Mikailu, 2011:1). They therefore support the inclusion of non-independent board members to company structures, which they opine, strengthens board independence and governance and may lead to improved company performance. However, Muchemwa *et al.* (2016:505), in their study of JSE-listed companies between 2006 and 2012, found that there was no evidence that a higher proportion of independent non-executive directors provided resource advantages that could contribute to company performance.

In the UK, boards tend to have more executive directors, if compared to the USA, where the only executive is the Chief Executive Officer (CEO). Other countries, such as Germany, Holland, Finland and Austria, have two-tiered board structures (Rashid, 2011:10). This means that there would be a board of non-executive directors who would play a supervisory role in the governance of a company and an executive board of members (Davies, 2006:7). In South Africa, like the UK, the USA and Australia, the board structure is unitary, where the majority of board directors should be non-executive and independent. Having a unitary board structure means the company's directors serve together on one board comprising both executive and non-executive directors (ACCA, 2012:5).

The King IV Principle 7 states that boards should be composed of appropriately balanced knowledge, skills, expertise, diversity and independence to effectively allow the execution of governance responsibilities effectively and objectively (PWC, 2018). However, executive managers often complain that non-executive directors do not always know enough about the company to discharge an effective governance role (Brennan, Kirwan & Redmond, 2016). While executive directors are mainly tasked with executing the strategy of the company, non-executive directors (board of directors) and the board are the custodians of the strategy. Therefore, it is crucial for the success of the company for the two parties to have a collaborative working relationship. This, in part, also requires non-executive board members to have the necessary business acumen, knowledge and leadership to add value (PWC, 2018).

### 2.6.2 Key positions in a company

The King IV Report (2016) does not prescribe the number of members that should form a board of directors. However, when electing a board of directors, the appropriate mix of knowledge, skills, and experience in business and industry are deemed necessary to govern the company. It further prescribes that a majority of board members should be non-executive, most of whom should be independent (King IV, 2016:50).

According to the King IV Report (2016), the following persons and committees should hold key positions:

### (a) The chairperson of the board

An independent non-executive member should be elected as chairperson to lead the governing body. The chairperson's responsibility is to ensure the board operates efficiently and effectively (ACCA, 2012:6). The chairperson of the board and CEO positions cannot be held by the same person. A retired CEO cannot be the chairperson of a company until three financial years have passed.

### (b) The CEO

The CEO is appointed as the leader of the executive team. A Chief Financial Officer (CFO) should also be appointed, other than the CEO, to ensure multiple points of interaction with the company, other than the CEO.

The following committees are recommended. The structuring of the committees is mainly guided by what is most appropriate for the company and its objectives.

### (c)   Audit committee

Public companies that issue audited financial statements should establish an audit committee. This audit committee is ultimately responsible for the approval of the annual financial statements. Ultimately, the board of directors are accountable for the delegated responsibilities of committees.

### (d)   Committee responsible for nominations of members to the governing body

The process of nominating, electing and appointing members of the governing body, succession planning of the board, as well as the evaluation of the board's performance should be allocated to a dedicated committee, or its responsibilities delegated to an appropriate committee in the company.

### (e)   Committee of risk governance

The board of directors should consider allocating risk governance to a dedicated committee or adding the responsibilities of this company to an appropriate committee in the company.

### (f)   Social and ethics committee

The board of directors, not obliged, should consider reporting and oversight of organisational ethics, responsible corporate citizenship, sustainable development and stakeholder relationships to a dedicated committee, or adding its responsibilities to an appropriate committee. All members of this committee should be non-executive members of the board, with the majority being independent.

### (g)   Committee responsible for remuneration

A dedicated committee that is allocated oversight of remuneration should be set up, or its responsibilities added to an appropriate committee in the company. All members of this committee should be non-executive members of the governing body, with the majority being independent non-executive members of the board.

However, not much mention is made in terms of the structure of smaller companies, except that smaller companies need not establish formal committees to perform these functions, and they should ensure that these functions are appropriately addressed by the board.

## 2.7    SUMMARY

This chapter first outlined the concept of capital structure and showed that it is helpful in understanding the financing decisions of SMEs that choose to list on SME exchanges, such as the JSE AltX. Thereafter, stock exchanges in the world, Africa and South Africa were outlined. More specifically, SME financing in SME exchanges and the benefits businesses may derive from well-functioning SME exchanges were attended to. However, it was highlighted that to date, in Africa, stock exchanges are not well functioning and are characterised by barriers such as illiquidity. These barriers need to be effectively addressed as stock markets contribute in the creation of well functioning financial systems.

A discussion of the JSE and the JSE AltX was presented. It was pointed out that stock exchanges serve as tools in the mobilisation and allocation of the funds that are critical for the growth and efficiency of a country. The need for the existence of the JSE AltX was also explained. This was followed by a clarification of board compositions and structures in South Africa and key positions within these boards.

In Chapter 3, high-potential SMEs, liquidity, sustainability and growth are defined. The role of the JSE AltX as a catalyst for growth is explained. Previous research on the sustainability and growth of high-potential SMEs will also be reviewed.

# CHAPTER 3

# OVERVIEW OF GROWTH AND SUSTAINABILITY OF HIGH GROWTH POTENTIAL SMES

## 3.1    INTRODUCTION

Chapter 2 provided an overview of the JSE, and more specifically, discussed SME financing in SME exchanges, as well as the benefits that businesses may derive from well-functioning SME exchanges. A brief discussion of the JSE AltX as a high growth potential SME exchange was also presented.

This chapter provides a general overview of SMEs, where the definition of an SME in South Africa is explained. While academics, businesspeople and policymakers constantly advocate the importance of high growth businesses, the importance of high growth businesses from various perspectives is explained. A high growth business can be easily distinguished from other types of businesses, as it has its own set of unique characteristics. These characteristics are then contextualised for the South African business environment. This is followed by a discussion of the challenges encountered by SMEs in South Africa. An important aspect of this study is the role of the JSE AltX in creating sustainability and growth. To conclude, the measurement variables used in this study are discussed.

## 3.2    SMES IN SOUTH AFRICA

South Africa, like many developing nations, suffers from high levels of unemployment. The official unemployment rate in South Africa is 32.6% (Statistics SA, 2021). The unemployment problem can be improved by promoting and supporting small medium-sized business enterprises (SME). In South Africa, high growth SMEs and new SMEs are more likely to create employment. For example, high growth SMEs created close to 86% of new jobs through businesses less than four years old (FinFind, 2018:11).

In 2015, the South African Reserve Bank (SARB) estimated that 91% of formal SMEs in the country were responsible for between 52-57% of the country's Gross Domestic Product (GDP), while contributing close to 60% of employment. However, South African SMEs experience high failure rates. It is estimated that 75% of SMEs fail within

the first five years (Fatoki, 2018:2). The failure of SMEs in South Africa result from a variety of reasons, such as obtaining the right talent mix and skill set level, and the inability to secure external finance to fund expansion and growth strategies from traditional sources such as commercial banks (Leboea, 2017:46-47).

There are various definitions of what an SME is. Dalberg (2011:5) and Douglas, Douglas, Muturi and Ochieng (2017:2) assert that different organisations and countries set their own guidelines for defining SMEs. This is often based on the number of employees, sales or assets. For example, in Nigeria, an SME is broadly defined as a business with a turnover of less than 100 million Naira and less than 300 employees (Oyelaran-Oyeyinka, 2019). The European Union (EU, 2009) similarly uses the staff count and turnover or balance sheet total to define an SME. Table 3.1 provides the EU's quantitative definition of an SME.

**Table 3.1: EU definition of an SME**

| Company category | Staff headcount | Turnover | or | Balance sheet total |
|---|---|---|---|---|
| Medium | < 250 | ≤ € 50 m | | ≤ € 43 m |
| Small | < 50 | ≤ € 10 m | | ≤ € 10 m |
| Micro | < 10 | ≤ € 2 m | | ≤ € 2 m |

Source: European Union (2009)

SMEs in the EU are defined as businesses with 10 to 250 employees and a turnover of no more than €50 million, or a balance sheet total of €43 million.

In South Africa, according to the Revised Schedule 1 of the National Definition of Small Enterprise (South Africa, 2019), an SME is defined as "*a separate and distinct business entity, together with its branches or subsidiaries, if any, including cooperative enterprises, managed by one owner or more predominantly carried on in any sector or subsector of the economy*…".

Table 3.2 explains the quantitative definitions of SMEs in the country:

**Table 3.2: Quantitative definitions of SMEs in South Africa**

| Sectors or sub-sectors in accordance with the Standard Industrial Classification | Size of the business | Total full-time equivalent of paid employees | Total annual turnover (R) |
|---|---|---|---|
| Agriculture | Medium | 51-250 | ≤35 million |
| | Small | 11-50 | ≤17 million |
| | Micro | 0-10 | ≤7 million |
| Mining and quarrying | Medium | 51-250 | ≤210 million |
| | Small | 11-50 | ≤ 50 million |
| | Micro | 0-10 | ≤15 million |
| Manufacturing | Medium | 51-250 | ≤170 million |
| | Small | 11-50 | ≤50 million |
| | Micro | 0-10 | ≤10 million |
| Electricity, water and gas | Medium | 51-250 | ≤180 million |
| | Small | 11-50 | ≤60 million |
| | Micro | 0-10 | ≤10 million |
| Construction | Medium | 51-250 | ≤ 170 million |
| | Small | 11-50 | ≤75 million |
| | Micro | 0-10 | ≤10 million |
| Retail, motor trade and repair services | Medium | 51-250 | ≤80 million |
| | Small | 11-50 | ≤25 million |
| | Micro | 0-10 | ≤7.5 million |
| Wholesale | Medium | 51-250 | ≤220 million |
| | Small | 11-50 | ≤80 million |
| | Micro | 0-10 | ≤20 million |
| Catering, accommodation and other trade | Medium | 51-250 | ≤40 million |
| | Small | 11-50 | ≤15 million |
| | Micro | 0-10 | ≤5 million |
| Transport, storage and communications | Medium | 51-250 | ≤140 million |
| | Small | 11-50 | ≤45 million |
| | Micro | 0-10 | ≤7.5 million |

| Sectors or sub-sectors in accordance with the Standard Industrial Classification | Size of the business | Total full-time equivalent of paid employees | Total annual turnover (R) |
|---|---|---|---|
| Finance and Business Services | Medium | 51-250 | ≤85 million |
| | Small | 11-50 | ≤35 million |
| | Micro | 0-10 | ≤7.5 million |
| Community, social and personal services | Medium | 51-250 | ≤70 million |
| | Small | 11-50 | ≤22 million |
| | Micro | 0-10 | ≤5 million |

Source: South Africa (2019)

Table 3.2 presents the classification of businesses in terms of their number of employees and annual turnover for various industries in the economy. For the purpose of this research, the South African quantitative definition of an SME will be used. This definition is broader and is most suitable for the context of the study.

This definition of SMEs in 2019, as outlined in Table 3.2, has not been adjusted since 2003. The adjustments include new turnover threshold values to account for inflation, and the new schedule defines a small business using two proxies, namely, total fulltime equivalent of paid employees and total annual turnover. Asset value is no longer included as it is difficult to understand and measure. Lastly, the use of the term "*very small enterprise*" has been collapsed into "*micro enterprise*". This is because many users of the definition found this class unhelpful and not in line with international standards (South Africa, 2019).

The following section narrows the discussion to high growth SMEs, highlighting the importance and challenges faced by these types of businesses.

## 3.3    HIGH GROWTH SMES

The Organisation for Economic Co-operation and Development (OECD, 2016) defines a high growth SME as a business with an average annualised growth of 20% per annum over a three-year period, and with ten or more employees at the beginning of the observation period. This definition does not take into account the different growth rates that can occur in the different industries. Various other definitions by Siegel, Siegel and Macmillan (1993), and Sims and O'Reagan (2006) include an increase in

sales in defining a high growth business, while Stam and Wennberg (2009) use increases in employment to define high growth SMEs. Florin, Lubatkin and Schulze's (2003:374) point of departure is that social capital contributes directly to an SME's capital base, allowing it to attract better financial resources and improve its productivity. While they do not provide a clear definition of a high growth business, their study of 275 companies that went public with less than 800 employees and assets of less than $500 million, showed that human capital and leadership capabilities are drivers of high growth SMEs.

Growth is, however, commonly defined as the increase in sales or employment. Other measures include asset, equity, profit, value added and productivity (Mogos, Davis & Baptista, 2015:3). Navarro, Casillas and Barringer (2012:82) note that much of the existing research focuses on explaining the differences in growth across different SMEs without noting the qualitative differences related to how SMEs achieve growth.

While their aim is not to define what a high growth SME is, Moreno and Casillas (2007) provide a clear explanation of a high growth SME. They explain that a business's high growth period is a period of extraordinary growth in comparison with the average growth of other businesses in the same industry. From their explanation they state that high growth can be considered irrespective of the life cycle of the industry to which the SME belongs.

The following section describes the indicators and markers of high growth SMEs.

### 3.3.1 Indicators and markers of high growth SMEs

As previously discussed, the term 'high growth' is a broad concept with no single, generally accepted definition. Before growth can be measured, it is important to understand the performance indicators that help distinguish high growth businesses.

Figure 3.1 depicts the characteristics of high growth SMEs in terms of the three components of growth described by Dwyer and Kotey (2016:457), as first identified by Storey (1994). These are the psychology of the owner(s), operating strategies and organisational characteristics.
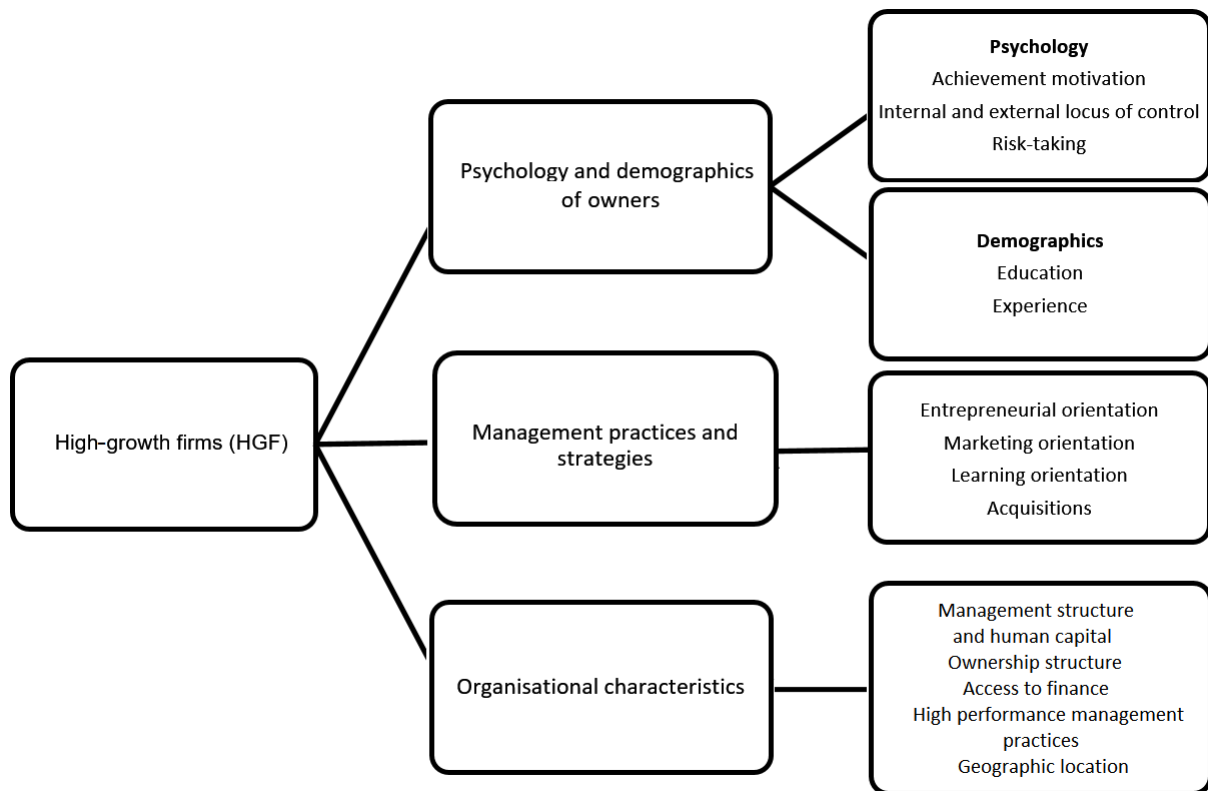
Source: Dwyer & Kotey (2016:457)
**Figure 3.1: Characteristics of high growth SMEs**

Figure 3.1 shows that high growth SMEs revolve around:

- **The psychology of the entrepreneur**

  There is no consensus on the enduring traits of entrepreneurs. In order to extend the characteristics of high growth businesses, Dwyer and Kotey (2016:460) premise the management practices and business outcomes associating entrepreneurs with proactive strategies which differentiate them from small business owners who are often conservative and reactive. Additionally, their study considers gender, for which previous research has provided inconclusive findings. They also consider the experience and education of the entrepreneur as factors over which the entrepreneur has control.

- **Strategies of high growth businesses**

  Strategic orientation refers to the pattern within the collection of business-related activities that defines the competitive position of the firm in its industry or market. The strategic direction of high growth businesses may be classified

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into entrepreneurial orientation, marketing or brand orientation and learning orientation. Strategies that are entrepreneurially orientated encompass innovativeness, risk-taking, autonomy, proactiveness and competitive aggressiveness.

- **Organisational characteristics**

  Organisational characteristics that differentiate high growth businesses from poor-performing SMEs include human capital, corporate structure and the use of resources, including finance and external advice. The authors, Cooper, Gimeno-Gascon, Javier and Woo (1994) explain that high growth businesses benefit from high levels of capitalisation which allow their owners sufficient time to implement strategic objectives and targets. Contrary to this view, Agarwal and Chatterjee (2007) argue that there are low levels of such entrepreneurial activity where there are enough resources. Dwyer and Kotey (2016:465) conclude this argument stating that access to network opportunities and resources are relevant for high growth businesses. More importantly, it is the management of resources for maximum productivity that creates an enduring competitive advantage.

Ngek and Van Aardt Smit (2013:3046) note that while various markers may be used to identify high growth business, South African SMEs and policymakers should take cognisance of the following in characterising South African high growth SMEs.

- **Innovation:** This is a driving force in high growth businesses. Previous research (Neneh, 2011; Neneh & Smit, 2012) found that 50% of South African SMEs have innovative practices, and as little as 36.7% of SMEs are innovative. Lack of innovativeness in South African SMEs has been identified as an impediment to the growth and survival of SMEs.

- **Human capital:** The OECD (in Ngek and Van Aardt Smit, 2013) define human capital as the knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being. The lack of skilled labour in South Africa is concerning, as high growth businesses create employment. The authors suggest that due to the high number of unskilled or semi-skilled people in South Africa, it is would be more sensible to improve education and training levels before employing people in

the SME sector. This could possibly result in the increased survival of high growth SMEs and improved competitiveness.

- **Growth and ambition:** High growth businesses account for a large majority of job creation. Socio-demographic factors, such as age, gender and education, personality characteristics of the entrepreneur, and the motivation for starting a business are important in how businesses pursue growth. A major impediment in South Africa is that businesses often do not move past the start-up phase. Dwyer and Kotey (2016) suggest that measures should be put in place to enable entrepreneurs to create sustainable ways to alleviate poverty and unemployment. However, they do not propose how this should be done.

- **Market orientation:** Market orientation is a prerequisite for business success, as it results in a sustainable competitive advantage. Market orientation provides norms for behaviour in the business that focus on assessing and acting on customer needs and responding to competitor actions.

The following section discusses the importance of high growth businesses.

## 3.4   IMPORTANCE OF HIGH GROWTH SMES

The continued research interest in SMEs can mainly be attributed to their meaningful contribution to the economy and job creation. As previously stated, SME are regarded as major agents for job creation in all types of economies. However, Navarro *et al.* (2012:82) state that not all SMEs contribute equally to job creation and economic growth, and that high-potential SMEs produce greater macroeconomic benefits.

High growth SMEs are important for economic growth, increasing innovation and productivity, as well as increasing competition (Satterthwaite & Hamilton, 2017:247). Considering that a small number of SMEs create the total number of net jobs, it is important to consider how to create environments that enable these SMEs to achieve sustainable growth. Policymakers need to create conditions that allow high growth SMEs to achieve their full potential by addressing the challenges these SMEs encounter in their expansion (Lee, 2014:183). The JSE AltX was primarily designed to provide high growth potential SMEs with access to capital, while also providing investors with exposure to these high growth companies (Van Heerden, 2015:10; JSE, 2014). The main objective of the JSE AltX is to mentor high growth potential SMEs,

provide them with support and management capacity that will grow them into large companies that eventually list on the JSE Main Board (Chikeya, 2019: ii). In this study, JSE AltX related companies are referred to as high growth potential SMEs which exhibit characteristics of high growth companies. Less onerous listing requirements for JSE AltX companies indicate that the JSE AltX is indeed aimed at fast growing companies but not all of the JSE AltX companies fit this description (Chikeya, 2019:3).

While it is acknowledged that a large majority of SMEs in South Africa fail, the Small Business Project (SBP) (2013) states that not only does South Africa need entrepreneurs, it needs entrepreneurs who are not just capable of starting businesses but are capable of sustaining and growing them. In their study of 500 SMEs which employ less than 50 people in the manufacturing, business services and tourism industriesr, they found that business growth was the most frequently cited reason for increasing employee numbers (SBP, 2013).

The following section discusses the challenges experienced by high growth businesses.

### 3.4.1   Financial challenges experienced by high growth businesses

Research into SME growth considers access to finance to be either an accelerator for or a constraint to growth. Ultimately, high growth SMEs are characterised by their ability to raise capital to finance their growth decisions (Moreno & Casillas, 2007:75). However, while many efforts are made to encourage the establishment of SMEs, their sustainability is constrained by financing. Access to financing is a major constraint for an SME's survival (Fatoki, 2014:748).

A business's funding needs are dependent on where in their life cycle the business finds itself. In addition, the pace at which a business grows determines its financing decisions. High growth businesses with greater requirements for expansion capital may source external funding in the form of equity capital or loans. Fraser, Bhaumik and Wright (2015) state that the entrepreneur's cognitive abilities affect the funding gap. For example, they argue that entrepreneurs may overestimate their abilities, while underestimating the risks, thus potentially leading to over-investment. However, the above-mentioned authors state that limited research has been conducted to determine the relationship between finance and the growth of a business. They advise that it is

necessary to disentangle cognitive constraints from financial constraints to better understand the role of finance in enabling the growth in a business.

Xavier Rolet (London Stock Exchange, 2017) former CEO of the London Stock Exchange which hosts the AIM, the most successful SME exchange, states (as AIM posits) that funding is often biased against SMEs and that equity funding is not the most suitable form of funding for SMEs. More so, debt funding is more unsuitable for high growth SMEs because it would mean prioritising the management of the received debt instead of using financial or human capital to innovate and grow high-potential SMEs. Capital should flow directly from investors to SMEs (London Stock Exchange, 2017:7).

Bhaird and Lucey (2010:359) postulate that when SMEs' internal sources of finance cannot meet their investment needs, they prefer to raise finance through debt markets before resorting to equity markets. This could be attributed to the SME owners' desire to remain in control of their ventures and maintain managerial control. However, they add that owners willing to recede some of their ownership control may attract external funding from venture capitalists, especially if they are high growth SMEs. Satterthwaite and Hamilton (2017:246) position this differently, stating that it is business owners who try to force growth, for example, by acquiring assets at a higher rate than the possible return on such assets, and which will eventually require external investment. This will, in turn, increase the debt levels, and owners will have to dilute ownership by enlisting external equity partners.

Smallbone, Leigh and North (1995:48) provide an alternative view that has not often been considered in literature. They state that the motivation of owners and managers is an important factor to consider when analysing the variation in SMEs' performance. They hold that wanting to grow is not a sufficient condition for achieving growth.

In order to enhance the creation and sustainability of high growth businesses in South Africa, Ngek and Van Aardt Smit (2013:3048) provide the following suggestions:

- The focus should be on subsidising high growth potential businesses and not start-ups. If efforts are made to finance high growth potential businesses instead of start-ups, then policy efforts may see more than slightly positive growth.

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- SME policy should be designed in a way that rewards entrepreneurs with growth ambitions. The effect of this should result in fewer businesses with little or no ambition receiving subsidies that instead could benefit high growth business where the effects are more real and visible.

- Policy should be geared towards encouraging more business angels and venture capitals, since this has great potential to create sustainable businesses, and where more jobs can be created. This will yield greater benefits than nurturing individual SMEs.

- Policy in South Africa should focus on developing a programme that can be used by high growth businesses to diagnose their financial health and financing options and provide guidance on loan applications at each stage of the business life cycle.

- The regulatory, business and operating environment should be constantly monitored to detect and remove constraints that might affect the growth of high-potential SMEs.

### 3.4.2 Challenges experienced by JSE AltX-listed companies

The JSE AltX is an alternative stock exchange with the primary purpose of increasing high growth potential SMEs' access to funding, and eventually facilitating their migration to the Main Board.

Since 2016, over 160 companies have listed on the JSE AltX, raising a total of R48.5 billion. As at December 2016, about 60 companies were listed on the JSE AltX, with a combined market capitalisation of R32.6 billion. However, the delisting of 24% of the companies that were registered on the JSE AltX, and the migration of 26% of listed companies to the JSE Main Board (Egu & Chiloane-Tsoka, 2018) motivated the researcher in the current study to probe the impact that listing on the JSE AltX may have on business performance. Van Heerden (2015) premised that the JSE AltX has achieved its mandate of providing SMEs with the opportunity to raise capital and migrate to the JSE Main Board. This conclusion stems from the premise that during the period of analysis, the JSE Main Board experienced more de-listings than the JSE AltX.

Contrary to the above, McNeil (2017) argues that the JSE AltX has not achieved its mandate, specifically when judging by the number of companies that have remained listed on the alternative exchange, and the poor growth in market capitalisation. He asserts that, while practitioners may suggest a relaxing of the listing requirements to improve transitioning to the JSE Main Board, this practice would not adequately prepare companies for the rigorous operating environment required of the JSE Main Board. Additionally, the JSE's listing requirements focus solely on the provision of financial statements and corporate governance, and do not take into account organisational design and management composition. The exclusion of these factors could provide insight into that which prevents JSE AltX-listed companies from migrating to the JSE Main Board.

Makhabeni (2015) states that it is not clear if the less onerous listing requirements of the JSE AltX have an impact of the stock performance of listed companies. Consequently, it is also not clear whether the market has the same attitude toward companies listed on the JSE AltX when making investment decisions. In addition, while the JSE AltX is intended for high growth SMEs, some of the companies listed on the exchange do not meet the definition as outlined in the Small Business Act (Makhabeni, 2015).

Egu and Chiloane-Tsoka (2018) add that although there is a great amount of research on the impact of stock exchanges on economic growth, little is known about the contribution of the JSE AltX to a listed company's performance and the level of entrepreneurship development in South Africa.

## 3.5    SMES AND SUSTAINABILITY

Over the years, the concept of sustainability has evolved to incorporate the triple bottom line of the environment, society and profits. This is often referred to as corporate sustainability. Morioka, Evans and De Carvalho (2016:659) define corporate sustainability as the capacity of businesses to contribute to global sustainable development, while aligning all the challenges related to economic, social and environmental interconnections together with their short, medium and long-term goals.

However, such definitions related to sustainability are beyond the scope of this study. The purpose of this study is to investigate the role of the JSE AltX as a platform for

creating sustainability and growth for high growth potential SMEs. The outcome of this study will provide guidance to high growth potential SMEs when considering and evaluating the JSE AltX as a source of seeking equity finance, and a platform to create sustainability and promote growth.

In terms of sustainability, this research study aimed to determine whether listing on the JSE AltX yielded improved profit, return on investment, financial resilience, long-term viability, as well as the creation of business stability. In essence, to determine whether the JSE AltX as platform has helped to create or improve the economic value of businesses. For this reason, the current study focused on the business sustainability of JSE AltX companies.

The authors, Darcy, Hill, McCabe and McGovern (2014:399), observe that corporate sustainability is often examined from the viewpoint of large multinationals, excluding SMEs. They premise that SMEs require the existing organisational sustainability models to be revisited, and that a resource-based view of the SME should be adopted to highlight the link between the internal human resources and capabilities as a potential source of competitive advantage for SMEs and to ensure their long-term sustainability. Considering that entrepreneurship can lead to job creation, poverty alleviation and improved standards of living, all of which are critically important issues in developing nations, sustainable businesses are of critical importance (Neneh & Van Zyl, 2012:8238).

For the purpose of this study, the term 'business sustainability' refers the ability of the business to operate as a self-sustaining entity that can effectively achieve profitability and attract resources, and is tailored to its operating environment (Chrisman, Bauerschmidt & Hofer, 1998). Unfortunately, the rate of SME failure in South Africa is among the highest in the world (Ngek & Van Aardt Smit, 2013:3044; Mokwena, 2021), and the high failure rate negatively affects the country's sustainable development. However, research (Fatoki, 2018:3) has shown that there are internal and external challenges affecting the sustainability of the business. Internal factors include lack of business planning, a lack of entrepreneurial skills and entrepreneurial mind-set, lack of creativity and innovation, and high levels of stress and burnout. External factors include high levels of competition, difficulty in accessing markets, and a lack of external finance. SMEs often find themselves disproportionately affected by these internal and external shocks (Fatoki, 2018:3).

The business sustainability of an SME is closely related to its business success. According to Lau and Lim (1996), business success is defined as the continuation of a business, making a profit, and suffering no losses. Business failure, on the other hand, is defined as the discontinuation of a business, with losses to creditors and stakeholders. Sandberg (2003) posits that the term 'SME performance' refers to the ability to survive, grow and contribute to employment creation and poverty alleviation. The term 'business sustainability' takes this a step further to include the sustained existence of a business. To better understand business sustainability, it is important to capture how businesses perform on stock exchanges, such as the JSE AltX.

Saunila (2016:166) adds that businesses use performance measurement for a variety of reasons, for example, performance measurement helps the business to set goals and evaluate these goals, which in turn, helps provide feedback to the management structures in the organisation. She distinguishes between two areas of performance, namely, financial performance and operational performance. Financial performance is concerned with the areas related to the finances of the business, while operational performance focuses on how results are achieved, and includes quality, resource utilisation and innovation.

## 3.6 MEASUREMENT VARIABLES AND CONSTRUCTS OF THE STUDY

This section discusses the measurement variables used in the study. Various perspectives on the measurements of growth and sustainability are presented. The shortcomings of the measurement variables are also considered. This section also discusses the choice of growth and sustainability measurement variables that were used in the study.

### 3.6.1 Growth measurement

Penrose, (1914-1996) best known for her seminal work, "*The theory of the growth of the firm*" (1959), is considered a major contributor in economic theory. She explains the growth phenomenon as follows:

> *"The term growth is used in ordinary discourse with two different connotations. It sometimes denotes merely increase in amount e.g. when one speaks of 'growth' in output, export, sales. At other times, however, it is used in its primary meaning implying an increase in size or improvement in quality as a result of a process of development…in which an interacting series of internal changes leads to increase in size accompanied by changes in the characteristics of the growing object"* (Achtenhagen, Naldi & Melin, 2010:290).

Achtenhagen *et al.* (2010:290) observe that Penrose makes a distinction between growth as an "increase in amount" as well as a "process of internal development". Operationally, size is an absolute measure, whereas growth is a relative measure of size over a period of time. They also note that when empirically measuring growth, measurement is still confined to "an increase in amount".

Navarro *et al.* (2012:81) assert that much of the literature on growth focuses on factors of growth and rates of growth. Growth factors identify components such as size, age, resources, the capabilities of managers and their characteristics. Rates of growth identify specific characteristics of high growth SMEs. They argue that the vast majority of research is mainly engaged in explaining the differences in growth across the different SMEs, without acknowledging the qualitative differences related to *how* SMEs go about achieving growth. High growth SMEs are considered a homogenous group, despite the fact that there are several ways of measuring growth.

According to Demir, Wennberg and McKelvie (2017:432), the choice of how to measure growth has implications for the research design of a study. For example, the use of relative growth, which can be explained as growth related to size, tends to over-sample smaller SMEs, whereas the use of absolute growth tends to sample larger SMEs. They add that an acceptable procedure for combining relative and absolute growth is to use the OECDs definition of high growth SMEs which excludes the over-representation of smaller SMEs.

Demir *et al.* (2017:432) measure three types of growth, namely, growth in turnover, growth in the number of employees, and growth in productivity. However, the shortcoming of this definition is that it is generic, not taking into account the influence of a capital injection that can be attributed to listing on a stock exchange platform such as the JSE AltX.

Delmar and Davidsson (1998) emphasise four issues, as listed and explained in Table 3.3, that need to be considered when measuring business growth.

**Table 3.3: Considerations for measuring business growth**

| Concept | Explanation |
|---------|-------------|
| **Business growth** | Refers to the variable over which growth is observed. Most commonly used indicators: sales and turnover. |
| **Indicator of growth** | Relative vs. absolute change.<br><br>Absolute growth refers to growth in a given time period, whereas relative growth refers to growth in relation to a common basis. Relative growth, in essence, is growth in a given time.<br><br>Relative growth can be measured in many different ways: percentage change, taking log-differences, scaling down by initial size, or scaling down by average size. Absolute change, on the other hand, refers to raw changes in size between two time points. |
| **Measurement of growth** | Ability to distinguish between organic (internal) and acquired (external) growth, where organic growth refers to new employment that is internal to a business, while acquired growth refers to gains in employment that occur through external acquisitions or mergers. |
| **Period studied** | The length of the period covered by the data set. |

Source: Adapted from Coad, Daunfeldt, Hölzl, Johansson & Nightingale (2014)

Some researchers and practitioners maintain that high growth refers to employment growth (Chaganti, Cook & Smeltz, 2002; Davidsson & Henkerson, 2002), while others posit that high growth is related to increases in sales (Chandler & Baueus, 1996; Del Monte & Papagni, 2003; Kelley & Nakosteen, 2005) and turnover (Fischer & Reuber, 2003; OECD, 2007 ). The most commonly used definition of growth (Fischer & Reuber, 2003:3; OECD, 2007:16) is having growth in sales of at least 20% per annum for a minimum of three consecutive years.

The OECD definition of high growth adds that high growth businesses need to have a minimum of 10 employees in the first year of measurement. However, Daunfeldt and Halvarsson (2015:362) have criticised this measurement method, as it excludes almost all businesses and a large number of jobs that have been created. They instead, measure high growth using both the number of employees and total sales as growth indicators, as they consider business growth to be a multidimensional construct. They note that high growth businesses are unlikely to repeat growth in the period after measurement. They offer the explanation that high growth businesses are likely to pause in the next three-year period and then continue to grow after that. They

substantiate this with Penrose's (1959) finding that decline in growth rates might be because of the cost adjustments these businesses have to make.

Based on the literature, Shepherd and Wiklund (2009) identified the following five common growth indicators, namely, growth in (i) sales, (ii) employees, (iii) profit, (iv) assets, and (v) equity. From the company's annual reports, their study used size information such as sales, number of employees, profit after depreciation and financial expenses, total assets and total equity. They then used absolute growth and relative growth measures in their calculations. They note that most studies only calculate growth over a one to five-year time period and that studies rarely used two, time spans to calculate growth. They caution that business growth is not linear but varies over time, and results will vary, depending on the selected time span. They encourage researchers to explore various time spans.

Achtenhagen *et al.* (2010:309) add that more quantitative research is needed to better understand the growth phenomena. However, they appeal to researchers to ensure that the measurement of growth should be better designed and executed. They advise that researchers' choice for operationalising growth should:

- Be based on the theoretical reasoning behind the study;
- Carefully consider if the suggested outcome variable represents an outcome, and not an intermediary or independent variable;
- Be meaningful and relevant for practitioners; and
- Be critically reflected upon.

The measures provided by Shepherd and Wiklund (2009) are best aligned to the purpose of the current study to provide a measurement of growth for JSE AltX companies. In addition, their use of different measures of growth should allow the current research to evaluate the various dimensions of the growth construct for the population of the study. The measures used by the above authors may also be obtained in the target population's annual reports.

Table 3.4 presents a summary of the measurement of growth for the purposes of the current study.

**Table 3.4: Measuring growth for the purpose of the current study**

| Concept | Explanations |
|---|---|
| **Growth indicators** | Growth in (i) sales, (ii) employees, (iii) profit, (iv) assets, and (v) equity.<br><br>The following information can be sourced from a company's annual report: (i) sales, (ii) number of employees, (iii) profit after depreciation, (iv) financial expenses, (v) total assets and (vi) total equity |
| **Measurement** | **Absolute growth:**<br><br>The size at one year minus the size of the previous year, and for a relative measure, then divided the absolute measure of growth by the size at the initial year.<br><br>**Relative growth:**<br><br>Relative growth, as the percentage change in size, typically by dividing absolute growth by initial size. |
| **Time period** | Researchers are free to explore business growth by choosing one of many different time spans. In their specific study, Shepherd and Wiklund (2009:109) accessed annual reports for the first eight years of a business's existence. |

Source: Adapted from Shepherd & Wiklund (2009)

The following section discusses the measurement of sustainability as applied in the current study.

### 3.6.2   Measuring sustainability

According to Mogos *et al.* (2015:5), sustained growth refers to the achievement of long-term high growth with a low downside. In their view, sustainability can be operationalised through the following three measures:

- **Growth persistence** (correlation of growth rates over time): the annual growth rates interpreted as the autocorrelation of the coefficient are calculated by regressing growth on the previous period of growth.

- **Volatility** (measuring the uncertainty and risk associated with growth): is measured as the standard deviation of growth. Furthermore, the authors note that it is rarely used when calculating high growth.

- **Survival accounting for business closure**: businesses are unsustainable once they cease to exist. The entry period is characterised by the entry and exit phase.

Research is conflicted on the survival of high growth businesses. Some authors conclude that high growth businesses are isolated occurrences, and that growth phases are isolated and unlikely to occur again (Daunfeldt & Halvarsson, 2015). This view is challenged by Anyadike-Danes and Hart (2015:16) who followed businesses for 15 years, from their start in 1998 to 2013. The rationale for their study stems from the observation that little is known about the longer-term performance of high growth businesses outside the period that qualifies them as high growth businesses. Much of the research tends to have a shorter-term focus and often measures growth using a single time measure. This view is in line with Shepherd and Wiklund (2009) who also observed the tendency of researchers to use a short time (usually 1 to 5 years) to calculate growth. Satterthwaite and Hamilton (2017:246) state that the benefit of using a whole birth cohort is that businesses are more or less the same age and at similar stages of the life cycle.

In their study, Anyadike-Danes and Hart (2016) implemented the measurements by using the OECD definition of the three-year measurement of growth over the 15-year period. Their findings from the identified 3 331 high growth businesses suggest that the first growth spurt lasted longer than three years. However, the ability of a high growth business to produce subsequent growth declined. They interpret this as the various changes that may occur in the business, such as new management, finance and customer relationships.

Morioka *et al.* (2016:661) insist that a business's business model is a simplification of the reality they use to engage with their objectives, concepts, and the relationships that contribute to their sustained existence. They propose five performance dimensions with two layers, as illustrated in Figure 3.2.
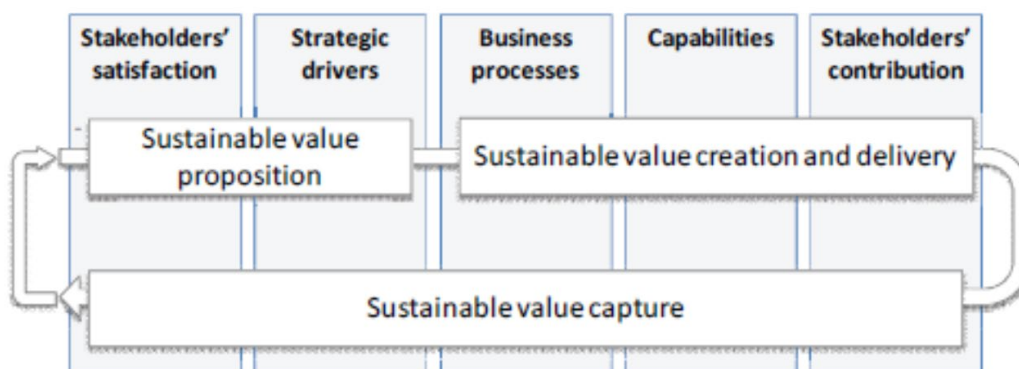


Source: Morioka *et al.* (2016)
**Figure 3.2: Dimensions of sustainability in SMEs**

The first layer, as illustrated in Figure 3.2, is a performance management approach which Morioka *et al.* (2016) label as the performance prism, with the second layer representing the elements of a sustainable business model, namely, sustainable value proposition, creation and delivery, and capture. These elements are represented cyclically, highlighting the importance of the constant need for businesses to innovate and critically evaluate their planning and execution.

Drawing from previous literature, Neneh and Van Zyl (2012:8333) posit that survival and growth precede business sustainability. To measure business sustainability, SMEs have to demonstrate the following:

- An increased number of employees since creation;

- An increase of 20% or more in profit since creation;

- An increase of 20% in customers from creation; and

- The assets of the business should have increased by at least 10% since its creation.

Neneh and Van Zyl (2012) add that business success is also dependent on entrepreneurial and managerial competencies, stating that an entrepreneurial mindset, entrepreneurial characteristics, and business practices provide a roadmap for business sustainability.

All the above-mentioned measures of sustainability have some merit, and it was important to consider their various advantages and disadvantages in how sustainability was measured in the current study. For the purpose of this study, sustainability was measured using the measurement proposed by Mogos *et al.* (2015), as this best served the purpose of the study. For example, it allowed measurement across the population groups of the study, namely, currently listed companies; companies that have migrated to the JSE Main Board, and delisted companies. Table 3.5 summarises the measurement of sustainability for the purposes of this study.

**Table 3.5: Measurement of sustainability for the purposes of this study**

| Measurement | Explanation |
|---|---|
| Growth persistence (correlation of growth rates over time) | The annual growth rates interpreted as the autocorrelation of the coefficient were calculated by regressing growth on the previous period of growth. |
| Volatility | Measuring the uncertainty and risk associated with growth: this was measured as the standard deviation of growth. Furthermore, the authors note that it is rarely used in calculating high growth. |
| Survival | Survival accounting for business closure: businesses are unsustainable once they cease to exist. The entry period is characterised by the entry and exit phase. |

Source: Adapted from Mogos *et al.* (2015)

## 3.7 OVERVIEW OF GROWTH AND SUSTAINABILITY VARIABLES

Black and Champion (1976:34) define the term 'variable' as the "rational units of analysis that can assume any one of a number of designated sets of values". This section provides a summary of the variables that were considered in this study.

Table 3.4 (earlier in this chapter) presented a summary of the growth measurement indicators that researchers have to make choices about, and that were applied in the present study. These growth indicators may be employees, revenue, profit, productivity, assets, and market share.

Five growth indicators were identified in the summary table. They are growth in (1) sales, (2) employees, (3) profit, (4) assets, and (5) equity. These indicators can be found in the company's annual reports, as JSE AltX companies are mandated to provide annual reports. Mogos *et al.* (2015:4) caution that absolute values tend to favour larger companies, which will result in substantial changes in the results, while percentages are biased against the smaller companies. They propose using the Birch Index which is a "*composite measure calculated by multiplying the absolute and relative values, and the log-difference, the change in consecutive period log values*" (Mogos *et al.*, 2015:4).

## 3.8    SUMMARY

This chapter first provided a general overview of SMEs, after which, the importance of SMEs was discussed. Not only are SMEs important for job creation, but they are known to increase innovation and productivity and competition.

The chapter continued by explaining the indicators of a high growth business which amongst other things includes strategies employed, innovation, human capital and market orientation. These characteristics were contextualised, to South Africa. Not only were the common challenges of businesses discussed, but challenges of JSE AltX companies. Different perspectives and views were presented of whether the JSE AltX is indeed a catalyst for high growth potential SMEs. The measurement variables of the study were discussed and choices for the study were substantiated. Much of the literature reviewed highlighted a weakness in previous studies to only review short period (usually 1 to 5 years) and highlighted the need to observe longer periods in order to determine more reliable trends. Lastly, a summary of the variables of the study was provided. These include growth indicators as well as measures of sustainability which served as guidelines for this study.

Chapter 4 presents the conceptual and theoretical frameworks of the study.

# CHAPTER 4

# THE THEORETICAL FRAMEWORK

## 4.1    INTRODUCTION

Chapter 3 provided a general overview of SMEs, where the generally accepted definition of an SME in South Africa was provided. Additionally, the importance of high growth businesses was discussed, and their unique set of characteristics described. The chapter concluded with a discussion of the measurement variables that were used in this study.

This chapter presents the theoretical framework for the study. Important theories pertaining to the study are discussed to help organise the evidence in this study. The chapter starts with an overview of capital structure theories, followed by a discussion of SME performance theories and financial ratios. A conceptual framework is presented, and a proposed theoretical framework produced.

## 4.2    CAPITAL STRUCTURE THEORIES

As explained in Section 2.2, the term 'capital structure' refers to how companies finance their assets (Renzetti, 2015:2796). Capital structure is an important management decision to determine how a company uses various sources of funding to finance its operations and growth. In the capital market, companies can obtain funding through debt and equity, and the capital structure is mainly concerned with the debt-to-equity mix in a company, also known as a company's debt-to-equity ratio. The main concept behind the capital structure of a company is whether optimum capital structure and maximum market value are possible or not, and how they can be achieved by a mix of equity and debt.

Abeywardhana (2017) explains that there are three financial decisions a company makes, namely, the investing decision, financing decision and dividend decision. Once an investing decision has been made by management to implement a project, the next step is to arrange for the required capital. This decision is related to the long-term financing instruments of debt or equity. Equity refers to the owner's stake in the business, and in a public company, this refers to the monetary value of the shareholders in the company. Equity includes equity share capital, preference share

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capital, and retained earnings. Debt, on the other hand, refers to the claims of fund providers, other than shareholders. These funds are provided for a fixed term at a fixed rate of interest.

The debt-to-equity mix can have implications for the value of the company, as well as the cost of capital (Abeywardhana, 2017:133). Both sources of funding have advantages and disadvantages. For example, companies may use debt funding, as it yields tax benefits, and debt payments are often interest deductible. Equity, on the other hand, may be considered costlier, as the owners of the company do not retain ownership and shareholders have a claim on the company's future earnings if it performs positively. There are trade-offs companies have to make in their decision to secure debt funding or raise equity funding. Management often has to strive to find the optimal capital structure. This is defined as the proportion of debt and equity that result in the lowest weighted average cost of capital (WACC) for the company (Corporate Finance Institution, 2019a).

According to Baral (2004:3), the capital structure is determined by internal and external factors. The external factors of capital structure are the macro variables of an economy, such as tax policies, inflation rates and capital market conditions. The internal factors, also known as micro factors, are the individual characteristics of a company, and include the size and growth rate of the company, business risk, profitability, dividend playout, debt service capacity and operating leverage.

Renzetti (2015:2796) states that a company's cost of capital is influenced by the following two points of view:

- View 1: Any change in the amount of debt and equity causes their weights vary in the total composition of capital structure.

- View 2: Depending on the form of finance that is chosen, the cost of capital will vary.

Debt charges are tax deductible, whereas dividends paid to shareholders are not. Therefore, an increase in debt will reduce the net cost of capital. However, it cannot be concluded that a company should be entirely debt-financed. The rationale provided for this is that the higher the debt of the company, the greater the financial distress. This financial distress is perceived as a higher risk by investors, leading to debtors and stakeholders asking for higher returns.

Figure 4.1 presents an illustration of the dynamics between debt and equity funding from the perspective of investors.



Source: Corporate Finance Institute (2019)
**Figure 4.1: Dynamics of equity and debt from the perspective of investors**

Figure 4.1 shows the dynamics of equity and debt from the perspective of investors. According to the figure, debt investors take on lower risk than equity investors. They have a first claim on assets in the case of bankruptcy, and it is for this reason that they accept lower interest rates. This, in turn, lowers debt capital when it is issued in comparison to equity capital. Equity investors, however, take on more risk since they receive residual value after debt has been paid. In exchange for this risk, equity investors expect higher returns. This leads to the implied higher cost of equity than that of debt capital.

As stated in the paragraph above, the debtors of a company have the first claim on assets in the event of bankruptcy. It is assumed that this is the reason they accept the lower rate of return. For this reason, debt capital has a lower cost, if compared to equity. Equity investors receive payment after debtors have been paid, but in exchange for this, equity investors expect higher returns.

The following sections discuss the theories that are important in the understanding of capital structure.

### 4.2.1 Capital structure irrelevance theory of Modigliani and Miller

Mainstream finance considers the theory of Modigliani and Miller (1958) as the cornerstone of the capital structure theories. The capital structure irrelevance theory of Modigliani and Miller (1958) is based on the assumptions that company value is unaffected by the capital structure of the company, shares are traded in a perfect market, no information asymmetry exists, and transaction, banking and bankruptcy costs do not exist. According to this theory, borrowing and lending is possible for companies and individual investors at the same interest rate, interest that is payable on the company's debt does not save the company taxes, and dividends are paid out 100%. In essence, according to the capital structure irrelevance theory of Modigliani and Miller (1958), there is no optimal debt-to-equity ratio, and the capital structure of a company is irrelevant to the shareholder's wealth (Abeywardhana, 2017:134).

Under the capital structure irrelevance theory of Modigliani and Miller (1958), there are two fundamental different irrelevance propositions. The first being the classic arbitrate irrelevance proposition, where arbitrage by investors keeps the value of the company independent of its leverage. The second proposition concludes that, depending on the company's investment policy, the dividend pay-out chosen by the company will not affect the current price of its shares, nor the total return to its shareholders. Ultimately, in a perfect market, neither capital structure choices nor dividend policy decisions matter (Luigi & Sorin, 2009:316). However, the capital structure irrelevance theory of Modigliani and Miller (1958) is criticised for its set of unrealistic assumptions (Ardalan, 2017:696; Abeywardhana, 2017:134). The theory fails under the various circumstances, as it does not take into consideration taxes, transaction costs, bankruptcy costs, agency conflicts, adverse selection, lack of separability between financing and operations, and clientele effects (Luigi & Sorin, 2009:316). A defence of the capital structure irrelevance theory of Modigliani and Miller (1958) is that even though it does not provide a realistic description of how companies are financed, it provides a structure for evaluating the reasons why financing is important (Luigi & Sorin, 2009:316).

### 4.2.2  Pecking order theory

The pecking order theory of Myers (1984:581) states that companies use a hierarchy in sourcing the funding for their assets. This hierarchy follows that companies prefer internal funding over other sources of funding. If internal funds are insufficient, companies would rather source the safest security, which is debt. Equity is often considered as a last resort of these companies. According to the pecking order theory of Myers (1984), there is no well-defined target for the debt-equity mix, as there are two kinds of equity, namely, internal and external equity. Internal equity is at the top of the pecking order theory and external equity at the bottom. The company's debt ratio reflects is aggregate requirements for external finance.

The pecking order theory is often used to explain the financing decisions of the company. According to Frank and Goyal (2009:5), a significant merit of the pecking order theory is that it is able to predict profitability correctly. However, problems associated with the theory are that it is not helpful in that it does not realistically organise the practical features of how companies finance themselves.

Frank and Goyal (2003:218) assert that, according to the pecking order theory, a company's financing behaviour is driven by adverse selection costs. They add that small high growth businesses are often thought to have large information asymmetries. Contrary to this; these small high growth businesses do not behave according to the pecking order theory. According to the above-mentioned authors, the pecking order theory works best in samples of large companies with long, uninterrupted trading records that are not often considered to have adversely selection costs. The pecking order theory predicts that high growth businesses with large financing needs will end up with high debt ratios due to their reluctance to issue equity. However, Khémiri and Noubbigh (2018:150) point out hat having access to external financing has some advantages such as the maximisation of the business wealth, growth opportunities and reinvestment. This can also lead to financial risk. Smith and Watts (1992) provide a contradictory view, stating that high growth businesses consistently use less debt in their capital structure.

### 4.2.3  Trade-off theory

The trade-off theory stems from debates around the Capital Structure Irrelevance Theory of Modigliani and Miller (1958). When the revised Capital Structure Irrelevance Theory added taxes, it made debt funding favourable as it shielded earnings from taxes due to the tax benefit of using debt. Company managers are therefore able to evaluate the various costs and benefits of several alternative leverage plans (Jahanzeb, Saif-Ur-Rehman, Bajuri, Karami & Ahmadimousaabad, 2013:11).

The trade-off theory premises that optimal capital structure is possible. According to this theory, companies identify a leverage target that optimally balances the costs and benefits of debt (Bhattacharyya & Morrill, 2015:3). The basic assumption of the trade-off theory is that companies trade off benefits and the cost of debt and equity to find an optimal capital structure, after taking into consideration market imperfections, such as taxes, bankruptcy costs and agency costs (Luigi & Sorin, 2009:315).

The trade-off theory can be modelled into a static and dynamic framework, as discussed below.

### (a)  Static trade-off theory

In the original models of the static trade-off theory conceptualised by Brennan and Schwartz (1978) and Leland (1994), companies balance the tax benefits of debt with the risk of bankruptcy. According to Dudley (2007:4), this implies that companies have a target leverage ratio that maximises company value. A disadvantage of using debt is the cost of potential financial distress, more so if the company is heavily reliant on debt. Another cost that the company should consider is the agency cost. Agency costs stem from a conflict of interest between different stakeholders of the company due to asymmetric information. Therefore, incorporating agency costs into the static trade-off theory means that a company determines its capital structure by trading off the advantages of using debt, against the costs of financial distress due to having too much debt, and the agency costs of debt against the agency costs of equity (Luigi & Sorin, 2009:317). Atiyet (2012:2) states that a benefit of debt financing is that it mitigates the manager-shareholder agency conflict. Debt financing limits free cash flow, which managers might waste in bonuses and bad investments, and which ultimately, helps control the agency problem.

*(b)   Dynamic trade-off theory*

In contrast to the static trade-off theory, the dynamic trade-off theory acknowledges that it is costly to issue and repurchase debt. Companies whose leverage ratios do not coincide with their leverage targets will only adjust their capital structures when the benefits of doing so outweigh the costs of an adjustment (Dudley 2007:4). The dynamic trade-off theory explicitly emphasises that companies have leverage targets that maximise its value, and any deviations from this target are costly. Therefore, deviations will be removed gradually over time to meet the long-run target leverage (Abdeljawad *et al*., 2013:104).

In the dynamic model, financing decisions are influenced by the financing the company expects in the next period. Some companies expect to make pay-outs of funds in the next period, while others expect to raise funds. If they expect to raise funds, debt or equity may be considered. Generally, a company uses a combination of both equity and debt (Frank & Goyal, 2009:145).

### 4.2.4   Market timing theory

Baker and Wurgler (2002:1) define equity market timing as the practice of issuing shares at a high price and then repurchasing them at a low price. The intention would be to exploit temporary fluctuations in the cost of equity relative to the cost of other forms of capital.

Frank and Goyal (2009:7) explain that in evaluating the financing needs of a company, managers assess the conditions of using both debt and equity. If financing is required, they will use the market, debt or equity, which is more favourable. If neither market is favourable, they will usually defer issuance. Interestingly, if market conditions appear favourable, funds may be raised, even if they are not required. The market timing theory suggests that stock returns and debt market conditions play an important role in the capital structure decisions of a company.

Burger and Wurgler (2002:1) find evidence of market timing in four studies, where:

- managers will issue shares over debt when market value is high;
- companies will issue equity when the cost of equity is low and repurchase when it is high;

- analyses of forecast earnings show that companies will issue shares when investors are enthusiastic about their earnings prospects; and

- Lastly, managers admitted to market timing in anonymous surveys.

A simplified interpretation of the market timing theory is that when equity in the company is overvalued, the company will issue shares. When equity is undervalued, companies may wait until the cost of equity is low enough to be outweighed by the benefits of raising finance (Miglo, 2014:19).

Mahajan and Tartaroglu (2008:755) state that the market timing theory has generated much controversy, as it is at odds with extant theories of capital structure. The impact of the market timing theory, as well as how it interprets the market-to-book ratio, are questioned. The market value is the current price of all outstanding stock; in other words, the price the market believes the company is worth. The book value is defined as the amount left over if the company paid all its debt and liquidated all its assets. The market-to-book ratio is typically used by investors to show the market's perception of a particular stock's value (Corporate Finance Institute, 2015). In Mahajan and Tartaroglu's (2007:755) interpretation, Burger and Wurgler's (2002) research is that the importance of the historical market-to-book ratio in explaining capital structure contradicts the trade-off theory.

Cheruyot and Wahome (2019:78) state that extensive research has been conducted to try and give an explanation on how the best level of debt finacing can be created taking into account the advantages and risks but there is not a single conclusive theory. The several theories presented are useful conditional theories that are not designed to be generally applicable. Each theory emphasises certain costs and benefits of debt and equity. He cautions that since these theories are not generally applicable, testing them on a broad heterogeneous sample of companies may be uninformative. However, these theories remain useful conditional theories.

The following sections discuss the net income approach and the net operating income approach.

### 4.2.5 Net income approach

Durand (1952, 1959) is considered the main representative of the Traditionalist perspective, which is premised on the assumption that there is a combination of debt and equity that maximises the value of a company. According to the Traditionalist perspective, capital structure interferes with a company's value because the cost of debt alters according to the risk it presents for a company. Risk is offset by the increased fee that is charged to borrow capital from third parties and is premised on the assumption that the value of a company can be increased by decreasing the overall cost of capital, which is measured in terms of Weighted Average Cost of Capital (WACC). This would be done by increasing debt levels and is considered to be a cheaper source of financing than equity.

Neto (2009) explains that a competitive company would prefer funding strategies that replace equity with debt capital. The benefits of interest rates lower than the return on investment and the tax benefits create a favourable financial leverage, which results in increased returns for the owners and an improved valuing on the market for the company's shares. The proposition of this theory states that the market value of shares is decided on the basis of the net income available for equity shareholders, hence it is called the net income approach. The market value of a company is calculated by adding the market value of debt to the market value of equity shares.

### 4.2.6 Net operating income approach

The net operating income approach is the converse of the net income approach. According to this approach, the value of the company and the cost of capital are independent of the capital structure. This means that a company cannot increase its value by a judicial mix of debt and equity capital (Ahmed, 2012:47).

Lawal (2014) explains the assumptions of the net operating income approach as follows:

- The overall cost of capital is constant: This assumption states that the overall cost of capital remains constant for all degrees of leverage in the company.

- Residual value of capital: The residual value of capital is determined by deducting the total value of debt from the total value of the company.

- Changes in the cost of capital: The cost of capital increases with the degree of leverage. The cost of equity increases with the degree of leverage. This increased proportion of debt leads to an increased financial risk which increases the shareholders' risk.

- Cost of debt: Debt can be divided into two parts, namely, explicit and implicit costs. Explicit costs are represented by the interest rate. According to the net operating income approach, irrespective of the degree of leverage, the company is assumed to be able to borrow at a given interest rate. This implies that increasing debt in the financial structure of the company does not affect the financial risk to lenders, and these lenders do not penalise the company by charging higher interest rates. However, an increase in the degree of leverage leads to an increase in the cost of equity. This increased cost of equity can be attributed to the increase in debt being an implicit part of the cost of debt. Therefore, the advantage associated with the use of debt funding is supposed to be an affordable source of funding in terms of the explicit cost, which is neutralised by the implicit cost represented by the increase in cost of equity. Therefore, the real cost of equity and the real cost of debt, according to the net operating income approach are the same and equal to the overall cost of capital.

Table 4.1 summarises the main differences between the net income approach and the net operating income approach.

**Table 4.1: Main differences between the net income approach and the net operating income approach**

| Basis | Net income approach | Net operating income approach |
|---|---|---|
| Role of capital structure | The capital structure of a company is relevant to its value. | The capital structure of a company is not relevant to its value. |
| Degree of leverage and cost of capital | Assumes that change in the degree of capital structure will affect the weighted average cost of capital. | Assumes that the degree of leverage is irrelevant to the cost of capital. |
| Assumptions | No taxes.<br><br>Cost of equity is greater than the cost of debt.<br><br>Debt does not change the perception of investors/shareholders. | The cost of capital is always constant.<br><br>The value of equity is residual.<br><br>An increase in debt raises the expectations of shareholders. |

Source: Borad (2019)

Namalathasan (2010:85) concludes that under the net income approach, the overall cost of capital declines and the total value of the company increases with the usage of more debt. Under the net operating income approach, the cost of equity increases, the WACC remains the same, and the total value of the company remains the same, even when debt levels change. The conclusion reached by Namalathasan (2010:85) is that if the net operating income approach is correct, then the company's management would not have to be concerned about the financial structures because they simply do not affect the value of the company. If the net income approach is correct, then debt is an important variable, and the company's debt policy decisions have an important influence on the value of a company.

Table 4.2 summarises the various capital structure theories.

**Table 4.2: Summary of the various capital structure theories**

| Capital structure theory | Brief description |
|---|---|
| **Capital structure irrelevance theory of Modigliani and Miller** | This theory suggests that the capital structure is irrelevant to the value of a company. The leverage of a company is irrelevant, and the value of a company is entirely dependent on its operating profits. |
| **Pecking order theory** | The pecking order theory premises that companies use a hierarchy when they source funding for assets. The hierarchy follows that companies prefer debt capital to equity capital. If internal funds are insufficient, companies first seek debt capital before equity capital, which is often considered as a last resort. |
| **Trade-off theory** | Unlike the irrelevancy theory of Modigliani and Miller, the trade-off theory posits that an optimal capital structure is possible. In the trade-off theory, companies identify a leverage target that best balances debt and equity capital. The assumption in the trade-off theory is that companies make trade-offs between the benefits and costs of debt and equity capital to find the optimal capital structure. |
| **Market timing theory** | According to this theory, companies issue shares when the selling price is high, and then repurchase them at a lower price. According to this theory, companies do this to exploit the fluctuations in the cost of equity in comparison to the cost of other forms of capital. |
| **Net income approach** | The net income approach suggests that by decreasing the overall capital, which is measured by Weighted Average Cost of Capital (WACC), a company can increase its value. This can be done by having higher proportions of debt, which is considered a cheaper source of finance than equity finance. |
| **Net operating income approach** | The net operating income approach, which is the opposite of the net income approach, states that the overall cost of capital is independent of a company's leverage. This means that a company's value cannot be increased by a mix of equity and debt capital. |

The following section presents an overview of SME growth and sustainability theories.

## 4.3    SME GROWTH MODELS

While it is acknowledged that SMEs are the backbone of economic growth in developed and developing economies, there is still a paucity of definite models that explain the process and the antecedents of growth of SMEs. Edinburg (2012) offers

an explanation by stating that this could be as a result of varied definitions and the complex multidimensional features of SMEs.

### 4.3.1 SME growth

There is no universal theory available that specifically explains SME growth and theory. Tairuddin, Wahab, Sazali, Osman, Nur Fadiah and Syed (2018) maintain that this has led to an incoherent body of knowledge on SME growth making up the existing theory. Le (2009) previously found that the literature related to SME growth is complicated due to the fact that the literature is highly fragmented, and there is minimal discussion related to the various theoretical perspectives. While Tairuddin *et al.* (2018) agree with the above, they provide a framework of various growth models that may be used to explain SME growth, as presented in Table 4.3.

**Table 4.3: Various growth models**

| Model | General characteristics |
|---|---|
| **Static Equilibrium Model** | This model focuses on economies of scale and reducing unit costs in the long run. In this model, businesses grow until they reach their optimal size. According to this theory of static equilibrium, the growth of the business is limited to its optimum size, where the long-run marginal costs equate price. |
| **Stochastic Model** | The Stochastic Model attempts to explain various factors affecting growth. These factors include market, structure and business growth. The firm's expected growth should be proportional to its current size. |
| **Stage Model** | The Stage Model simplifies business growth along a predictable path. This model assumes the stages that businesses go through from the setting up or birth stage, growing, and maturing, to ultimately the stage of decline, eventually disappearing or dying. |
| **Deterministic Model** | This model explains that business growth is the result of the interlocking of a stable set of explanatory internal and external variables, such as cause and effect relations, including age, size and location. |
| **Resource-based Model** | The growth of the business is the process of the continuous accumulation of resources and capabilities. Sok, Cass and Sok (2013:161) explain that a business's ability to better deploy resources explains performance. They define business capabilities as the bundle of interrelated processes for performing specific tasks important for businesses to develop superior capabilities that enable them to achieve superior performance in specific markets. |
| **Strategic Management Model** | This model focuses on the company strategy to achieve sustained growth through creating a sustainable competitive advantage. |

Source: Adapted from Tairuddin *et al.* (2018)

Table 4.3 shows that attempts are needed to understand business growth, and that unified knowledge on the subject has still not been achieved. Le (2009) simplifies SME growth through the lens of three theories, as discussed below. This is premised on their relative simplicity and their ability to capture the essential elements of other models.

*(a)    Stochastic Model*

The Stochastic Model is closely related to the Law of Proportionate Effects which states that the growth rate of a business is independent of its size at the beginning of the examined period. Business growth is unrelated either to size, its prior growth or its age. The Stochastic Model of business growth suggests that there are various factors that affect growth. However, there is no dominant theory in stochastic models. It can be used to provide a framework for examining business growth.

*(b)    Human Capital Model*

The Human Capital Model assumes that entrepreneurs have certain business or management skills that influence the success of the business. In this model, it is also assumed that these skills vary across workers, and the size of a business is based on the relative endowment of entrepreneurial and management skills. Factors such as the owner's age, attitudes to growth, occupational background, personal objectives, management style, level of owner's education and training, and personal values and attitudes are heavily emphasised, as they are believed to have an influence on business growth.

*(c)    Learning Model*

The Learning Model, developed by Jovanovic (1982), assumes that a business's true efficiency can only be learnt after it enters production. Thereafter, the business will adjust its behaviour. Businesses choose output levels to maximise profits on the basis of imperfect information related to their efficiency levels in each period. The expectations are also updated based on efficiency levels. Ultimately, those who revise their abilities upwards will expand, while those who contract downwards will exit.

Orser, Hargath-Scott and Riding (2000) explain SME growth by categorising it into four approaches. These approaches are summarised in Table 4.4.

**Table 4.4: Four theoretical approaches to SME growth**

| Theoretical approach | Brief explanation |
|---|---|
| **Biological growth** | This model describes small business growth as a staged process. The following generic stage sequence is identified:<br><br>– Conception and development, during which resources are acquired and technology is developed;<br><br>– Commercialisation, which involves production related to start-ups;<br><br>– Growth, which is marked by increased sales and market share; and.<br><br>– Stability, which is marked by profitability, internal control and the establishment of a future growth base. |
| **Growth and decision-making** | This approach relates growth to an understanding of managerial decision-making, the relationship between business planning and performance, as well as the type of decisions associated with high-performing businesses. According to these models, SME performance is correlated to high-level management skills, lean and sophisticated management and innovation. |
| **Social psychology of business owners** | This approach views business growth research from the lens of the behavioural, social and psychological sciences. Entrepreneurial initiative is deemed to stem from internal (psychological) and external (sociological) factors. |
| **Integrative studies** | In this fourth approach, growth is integrative. This suggests that there are interrelationships between planning, marketing and the characteristics of the owner that influence performance. Factors considered in this approach include marketing policies, strategic and operational planning, productivity of staff and size of the business. |

Source: Adapted from Orser et al., (2000)

Table 4.4 shows that while various models and approaches may be used to understand, explain and predict business growth, researchers seek unified measures that will allow generalisation in SME studies. However, different contexts and objectives should be considered. Therefore, theory may be useful in organising the evidence presented through research, as SME growth theories provide an understanding of growth strategies, the resources required, and the intentions and limitations in the SME context.

The following section discusses the various factors related to SME sustainability.

### 4.3.2 Factors related to SME sustainability

Business failure is an inevitable reality for many SMEs. Bush (2016) encourages SMEs to consider sustainability as a strategy in which to invest. Entrepreneurial strategy, according to Bush (2016), consists of efforts by SMEs to establish profitable businesses in a competitive environment. Entrepreneurial strategy is also an important tool for business sustainability. Ultimately, business sustainability depends on business performance.

Cao (2012:3835) provides four determinants for SME survival, as taken from Brüderl, Preisendörfer and Ziegler's (1992) research, and described below:

*(a)  Entrepreneur-specific determinants*

The entrepreneur's personal characteristics, such as their age, gender, professional background and education are deemed to have an impact on SME survival, as well as post-entry performance.

*(b)  Enterprise-specific determinants*

Factors related to enterprise-specific determinants include the enterprise's age, initial size, financial strength and ownership type.

*(c)  Industry determinants*

The survival prospects of different businesses in different sectors vary. It is imperative for businesses to constantly adjust their strategies to adapt to the ever-changing business conditions. This may also, however, pose a risk to the sustained survival of the business.

*(d)  Other environmental determinants*

SMEs participate in varying systems and cultures, and also have varying resource requirements. Survival for different SMEs will exhibit different characteristics. Some of these environmental conditions are beyond the SME's control, for example, the economic cycle plays an important role in the survival of a business.

Turner and Endres (2017:39) assert that in order to maintain a sustainable business, SMEs need to develop operational plans that implement key business strategies that are robust and are able to adapt to changing market conditions. The development and

implementation of strategic planning allows SMEs to positon their businesses to outperform their competition when faced with challenges and limited resources.

Ifekwem and Adedamola (2016:110) consider SMEs to be sustainable when they are able to overcome challenges in their internal and external environments (Turner & Endres, 2017:39). For example, SMEs will encounter various challenges such as financing, the effective application of marketing plans, and strategic and operational planning. These challenges can ultimately be explained as the challenge of SME sustainability related to how to develop and integrate innovation strategies to sustain long-term growth (Adams, Kauffman, Khoja & Coy, 2016).

The following section discusses the financial ratios which may be used as a foundation for the empirical measurement of whether or not the JSE AltX has been a platform for growth and sustainability

## 4.4    CONCEPTUAL FRAMEWORK

Imenda (2014: 189) defines a conceptual framework as the end result of bringing together a number of related concepts to explain or predict a given event or give a broader understanding of the phenomenon of interest. A conceptual framework may be described as the logical conceptualization of a research project (Kivunja, 2018: 47). Imenda (2014:189) adds that the process of arriving at a conceptual framework is similar to an inductive process whereby concepts are joined together to tell a bigger story of possible relationships.

As previously discussed, SMEs face challenges in terms of their continued growth and sustainability. Chapters 3 and 4 presented and explained various SME growth theories and models of growth. The factors leading to the increased sustainability of SMEs were also described. The growth and sustainability ambitions of SMEs can potentially influence the capital structure of their business. Abeywardhana (2017) suggests that a company needs to make three financial decisions, namely, the investing decision, financing decision and dividend decision. However, after making the investing decision, management needs to take the next step, which is to arrange for the required capital. The capital structure theories discussed in this chapter suggest that a company's financing decision involves choosing between issuing equity or taking on

more debt. Both options have advantages and disadvantages which need to be considered.

Figure 4.2 outlines the conceptual framework for this study

**THE HIGH GROWTH POTENTIAL SME**

**Financing decision**
1. Investing
2. Financing
3. Dividend

**Capital structure theories:**
- Irrelevance Theory of Modigliani and Miller
- Pecking Order Theory
- Trade-off theory
- Market Timing Theory
- Net Income Approach
- Net Operatiing Income Approach

**Capital structure**

Debt | Equity

Assets

JSE AltX

SME theories of growth and sustainability

Growth | Sustainability

Financial ratios to determine the role of the AltX in creating sustainability and growth

**MACROECONOMIC FACTORS**

**Figure 4.2: Conceptual framework for high growth potential SME capital structure decision, growth and sustainability**

Figure 4.2 shows the conceptual framework of the study. It outlines the components that made up the investigation into the role of the JSE AltX as a platform for creating sustainability and growth for high growth potential SMEs.

In their pursuit of growth and sustainability, SMEs need to consider their capital structure. The decisions related to how company growth will be financed, often involve a choice between debt and equity. Various theories that were discussed in this chapter try to explain the financing decision from the perspective of how the choice between equity and debt, or the mixture of both, influences the value of the company.

Various considerations with regard to optimal capital structure, leverage, risk, tax, distress, and the cost of capital play and important role in the financing decision. There are advantages and disadvantages related to both equity and debt that the company needs to consider in their choice of financing. SME growth models suggest that there is no singular path in the pursuit of growth. However, SME growth theories provide an understanding of the growth path SMEs may choose to follow, the resources required, as well as the context in which high-potential SMEs operate. These models and theories also help to gain an understanding of the limitations and challenges that SMEs may encounter in their endeavours towards growth.

The literature on sustainability suggests that SMEs need to be robust and able to adapt to the changes in their market conditions to be able to move beyond survival and towards being sustainable. High growth potential SMEs, in pursuit of sustainability and growth, list on the JSE AltX to improve their liquidity, gain access to funding, become more visible to investors and to enhance their reputation.

The theories discussed in this conceptual framework assist in gaining an understanding of the financing decision process and context in which high growth potential SMEs that list on the JSE AltX may pursue sustainability and growth. High growth potential SMEs do not operate in isolation and macro-economic factors also have to be considered in determining the role of the JSE AltX in creating sustainability and growth.

## 4.5 FINANCIAL RATIOS

Financial ratios are used for a variety of reasons. Ratios measure efficiency, liquidity, stability and profitability. Ratios provide various stakeholders with a more detailed but summarised view of a business' financial position (Bhebhe, 2018:9). Arkan (2016:15) defines financial ratios as the numerical value created from two or more values taken from a business' financial statements, namely, its balance sheet, income statement or statement of cash flow. Typically, financial ratios are presented as a quantified metric in the form of a percentage, multiple, or a ratio which aims to evaluate the financial, operational performance and competitiveness of the business. According to the Corporate Finance Institute (CFI) (2019), financial ratios may be grouped in the following categories, as detailed in Table 4.5.

**Table 4.5: Categories of financial ratios**

| Ratio category | Explanation |
|---|---|
| Liquidity ratios | Liquidity ratios measure the ability of a business to repay its short and long-term debt. |
| Leverage ratios | Leverage ratios evaluate a business' debt levels. They determine the amount of capital that is debt funded. |
| Efficiency ratios | Efficiency ratios are also known as activity ratios and are used to measure how well a business is using its assets and ratios. |
| Profitability ratios | Profitability ratios measure the ability of a business to generate profit in relation to revenue, assets in the balance sheet, as well as operating costs and equity. |
| Market value ratios | Market value ratios are used to evaluate the share price of a business' stock. |

Source: adapted from Corporate Finance Institute (2019)

Table 4.5 briefly describes the common categories of financial ratios. These ratios are used to evaluate factors such as a company's liquidity, leverage growth margins, its profitability, and rates of returns. Financial ratios may allow management to improve the efficiency and operations of a company. The implicit assumption in the use of financial ratios is that the information provided by the ratio analysis, especially the trend analysis, will allow management to foresee and avoid business failure (Thomas & Evanson, 1987:555).

### 4.5.1    Measures to determine growth

Beaver (1966) states that the usefulness of financial ratios can only be tested against a specific purpose. The following section presents the ratios that may be deemed useful in determining whether or not the JSE AltX is a platform for growth for high growth potential SMEs.

### *(a)    Market capitalisation*

Market capitalisation is defined as the total market value of a company's outstanding shares. Market capitalisation is calculated by multiplying a company's shares outstanding by the current market price of one share. The market capitalisation figure is used to determine size, as opposed to sales or total asset figures (Deo, 2018).

The formula for the calculation of market capitalisation is denoted as follows:

*Stock Market Capitalisation = Current Shares Outstanding x Current Stock Market Price.*

Market capitalisation represents the aggregate value of a company or stock. Prasad and Shrimal (2014:48) explain that market capitalisation represents the aggregate value of a company or stock. Market capitalisation is calculated by taking into account the current market price, which reflects the current value, and the total number of shares, which reflects the size. This gives a clear picture of the market value of a company.

### *(b)    Growth ratios*

Growth ratios represent the growth of a company. When evaluating the growth of a company, factors such as investment in fixed assets, profit margins and retention become important. Utami, Muthia and Thamrin (2018:820), assert that growth in business terms may be interpreted as the increase in economic or business capacity. Therefore, growth in a business is an indicator of success.

The section below discusses the internal growth rate and the sustainable growth rate.

- *Internal growth rate*

Khan and Jain (2018) define internal growth as the maximum rate at which a company can grow in terms of sales and assets without external finance. In order to determine internal growth, the following assumptions are made:

i.    There is an increase in the assets of the company in proportion to the sales;

ii.    The net profit margin after taxes (EAT) is in direct proportion to sales;

iii.   The company has a target dividend pay-out ratio (retention ratio) that it wants to maintain; and

iv.    The company does not want to raise external funds (by either equity or debt) to finance its assets.

The internal growth rate (IGR) may be denoted as follows:

$$IGR = \frac{ROA \quad x \quad b}{1 - (ROA \times b)}$$

Where:

ROA    =    Return on assets (measured by EAT/Total assets)b
       =    Retention ratio (1 - Dividend pay-out ratio)

The internal growth rate is simply the growth a company can generate by re-investing its earnings. The internal growth rate is indicative of how rapidly a company grows using its own financing. A company's internal growth rate displays the level at which a company can continue to grow without issuing of equity or debt.

The following section discusses the sustainability rate which describes the percentage of increase in sales that is consistent with the defined financial policy of the company.

### 4.5.2    Measures to determine sustainability

This section presents the ratios that may be deemed useful in determining whether or not the JSE AltX is a platform for sustainability for high growth potential SMEs.

### (a)    Liquidity

Liquidity may be defined as the ability to trade large quantities of assets at low costs, generating a small price impact (Liu, 2006). Damoran (2010:7) in Theart and Krige (2014) states that liquidity is important to investors, as it influences asset pricing and valuation. Moreover, liquidity is important because it impacts the investor's portfolio management process. For stock exchanges, liquidity is important as it translates into greater use of the market, increased confidence, and an improved ability to attract new stakeholders. These effects lead to increased direct and indirect revenue for the stock exchange (World Exchange Federation, 2016:6).

According to Mousa (2016:41), liquidity may be easy to define theoretically, but it is difficult to define empirically. Much of the measurement of stock market liquidity focuses on the dimensions of depth, width, immediacy, tightness and resilience, as these seem to be globally accepted. The World Federation of Exchanges (2016:7) explains that stock market liquidity is broadly understood as the ability to facilitate large volumes of trade without causing excessive price movements, while still reflecting a steady and fair market price. This concept of stock market liquidity encompasses the following dimensions:

- Breadth: the cost of reversing a position over a short period. Breadth is usually identified (and measured) by the bid/ask spread (the tighter the spread, the better).

- Depth: A market is considered as having good depth when it has large numbers of pending orders on both sides of the bid/ask spread. This limits the influence of orders on stock prices.

- Resilience: This is defined as the speed at which stock prices return to stability after experiencing shock.

- Immediacy: Speed at which trades can be conducted at a given cost.

However, there is no single measure of liquidity that captures all of the above-mentioned dimensions (Theart & Krige, 2014; Bouresli & Abdulsalam, 2019). A range of various metrics may be used to measure liquidity, such as turnover, and turnover velocity (World Federation of Exchanges, 2016:7), transaction costs, volume-based, price-based, market impact measures (Mousa, 2016:41), transaction cost measures, volume-based measures, price-based measures and market impact measures (Theart & Krige, 2014).

Table 4.6 presents liquidity as a multi-dimensional approach that can be captured in various ways.

**Table 4.6: Dimensions of liquidity**

| Dimensions of liquidity | Description | Measures |
|---|---|---|
| **Immediacy** | Immediacy typically refers to the time it takes to complete a transaction. Market makers are a constant source of immediacy. Under an agency trading system, finding a trading match/partner depends on the frequency of transactions and constant depth of trading interest in the security by investor. | – Number of market makers<br>– Number of market participants<br>– Availability of quotes<br>– Average frequency of transactions and transaction sizes<br>– Number of 'zero-trading days' |
| **Depth and resilience** | A market is deep when there is frequently a large flow of trading orders on both the buy and sell side, and there is a constant interest and willingness to trade. With large orders in both directions, trading volumes should be high and the price impact of larger trades should be lower, creating lower volatility and resiliency. Depth measures can also distinguish between aggregate trading volumes, and turnover-based measures, which capture the volume traded per security. | – Trading volumes<br>– Dealer inventory holdings<br>– Price impact of volume measures<br>– Turnover ratios<br>– Intra-day volatility |
| **Breadth** | Breadth typically refers to the consistency with which liquidity is distributed within asset classes, and the differences in liquidity characteristics across markets. This can be captured through the number and diversity of market participants, and by the segregation of assets into different liquidity strata, for example, by volume. | – Segmentation of liquidity, for example, share of volume accounted for by the most liquid securities<br>– On/off the run spread |
| **Tightness** | Tightness typically refers to the financial cost of completing a transaction | Bid-ask spreads |
| **Multidimensional** | Multi-dimensional measures incorporate a number of features of the above. They are typically grouped into price-based and market impact-based measures.<br>Price-based measures: inter-period volatility measures.<br>Market impact measures: residual liquidity risk premia, which reflect investors' perceptions of conditions in secondary markets and the probability of having to take a large price discount at the point of sale. | – Liquidity risk premia<br>– Liquidity score, which uses various metrics and indicators to create an overall liquidity score across fixed income asset classes. These scores are created by financial information providers (e.g. Bloomberg) and banks (e.g. UBS Delta) |

Source: PWC (2015)

Table 4.6 presents liquidity as multi-dimensional, with various options of ratios and measures that may be used to capture certain aspects of liquidity. There is no universally accepted measure that captures all of the above-mentioned dimensions. Ahmihud (2002:1) went further to introduce the concept of illiquidity that is calculated as "the average of the daily ratio of absolute stock return to its dollar volume" or the volume turnover divided by return volatility. Another measure of illiquidity is the bid-ask spread price (Bouresli & Abdulsalam, 2019:50).

### (b) Profitability ratios

Delen, Kuzey and Uyar (2013:3970) describe profitability ratios as examining the profit-generating ability based on sales, equity and assets. Profitability ratios show a company's efficiency and performance.

Barack and Modarres (2015), Delen *et al.* (2013) and Büyüksalvarci and Abdioglu (2010) describe various profitability ratios which are summarised in Table 4.7.

**Table 4.7: Profitability ratios**

| Ratio | Calculation |
|---|---|
| Gross Profit Margin | Gross Profit ÷ Sales |
| EBITDA (Earnings Before Interest Taxes Depreciation & Amortisation) Margin | Earnings Before Interest, Tax, Depreciation, and Amortisation ÷ Sales |
| Net Profit Margin | Net Income ÷ Sales |
| Earnings Before Tax-to-Equity Ratio | Earnings Before Tax ÷ Owner's Equity |
| Return on Equity | Net Income ÷ Owner's Equity |
| Return on Assets | Net Income ÷ Total Assets |
| Operating Expense-to-Net Sales Ratio | Operating Expense ÷ Net Sales |

Table 4.7 presents the profitability ratios which allow the assessment of whether or not stocks generate efficient profits.

The importance of profitability ratios may be explained in terms of their ability to provide users with a good understanding of how well a company has utilised its resources in the generation of profit and the creation of shareholder value. Sustained profitability is vital for the survival of the company as well as providing shareholder benefits (Arkan, 2016:18).

*(c)* **Sustainability rate**

Higgins (2001) in Ashta (2008) defines sustainability ratios as the rate of growth that allows the company to grow without having too much or too little idle cash. According to Higgins, the sustainability ratio is the product of four ratios, namely, the profit margin, the retention ratio, the asset turnover and the financial leverage ratio. According to Higgins (2001), a sustainable ratio with no increase in equity depends on the change of equity divided by the beginning of the period of equity. The sustainability theory, as simplified by Ashta (2008:208), is based on the following assumptions:

Retained earnings lead to an increase in equity, which leads to an increase in debt (assuming a constant debt policy), which leads to an increase in assets, which leads to an increase in sales (assuming a constant asset turnover), which leads to an increase in profits (assuming that in the long run all costs are variable and that these costs are a fixed percentage of sales), which leads to an increase in retained earnings (assuming a constant dividend pay-out rate policy).

Based on these assumptions, sustainable growth may be denoted as follows:

$$(g) = \frac{change\ in\ equity}{beginnning - of - period\ equity}$$

Akintoye (2008) asserts that the sustainable growth rate is the growth a company can sustain without increasing its financial leverage. Another assumption of sustainable growth models is that a business would want to maintain its target capital structure without issuing new equity, maintain its target dividend pay-out, and increase sales as rapidly as the market allows.

Alayemi and Ankintoye (2015) state that the sustainable growth model highlights conflicts among a company's competing objectives and add that the sustainable growth measure may be used for different purposes such as to evaluate a company's creditworthiness. If a company's growth in sales is greater than the sustainable growth model rate, this may prompt financial institutions to advance loans to the company or assist in the issuance of shares in order to provide capital. In contrast, if the growth rate of sales is consistently lower than sustainable growth rate, cumulative cash surpasses would have to be invested, and financial institutions may then offer investment products to the company.

Mubeen and Muhammed (2017:636) criticise the sustainable growth measure because it does not express the causal factors of profitability and growth. Additionally, they observe that it does not account for 'time' considerations, for example, the impact of policy changes and results to study the interrelationship of profitability and proxy, namely, the Earnings Per Share (for Investor Outlook) and Liquidity impact (to assess business health's impact on growth).

## (d)   *Optimal growth rate*

Optimal growth is a concept initially developed by Martin Handschuh, Hannes Lösch (2011). Their work is based on the assessment of the performance of more than 3 500 stock exchange-listed companies with revenue greater than €250 million across a 12-year period. The optimal growth rate assesses sustainable growth from a total shareholder return and profitability perspective. This is independent of a given strategy, business model or financial frame condition.

## (e)   *Leverage ratios*

Leverage ratios indicate the debt levels acquired by a company against other accounts contained in its financial statements. Leverage ratios indicate how the assets in a company are financed, whether through debt or equity (Corporate Finance Institute, 2019c). Capital structure models explain the asset financing decision of companies, often as a choice between the issuance of equity or the acquisition of debt. According to Krahé (2018), the factors influencing leverage include the company's size, profitability and growth opportunities.

According to the CFI (2019), the following are commonly used leverage ratios:

i.    Debt-to-Assets Ratio = Total debt ÷ Total assets

ii.   Debt-to-Equity Ratio = Total debt ÷ Total Equity

iii.  Debt-to-Capital Ratio = Today Debt ÷ (Total Debt + Total Equity)

iv.   Debt-to-EBITDA Ratio = Total Debt ÷ Earnings Before Interest Taxes Depreciation & Amortisation (EBITDA)

v.    Asset-to-Equity Ratio = Total Assets ÷ /Total Equity

### 4.5.3 The relationship between companies and ratios

Ratios are regarded as practical financial analysis tools. For example, ratios may be used to make economic decisions, including investments and the performance evaluation of a company's decisions (Kabajeh, Al Nu'aimat & Dahmash, 2012:115, Bhebhe, 2018:8). Barnes (1989:450) explains that the following are two primary reasons for using ratios: ratios are used to control the effect of size on the financial variables being examined, and ratios are used to control industry-wide factors. However, the use of ratios also assists in making comparisons between companies and their industries. Practically, ratios allow for the comparison of industry norms.

Kabajeh *et al.* (2012:115) caution that although financial ratios may be considered useful and practical in financial analysis, financial ratios need to be interpreted and analysed in a rational manner that takes into consideration their limitations in order to generate meaningful results from the data.

Table 4.8 describes studies that have similarly investigated the relationships between companies and financial ratios.

**Table 4.8: Previous studies examining relationships between variables and ratios**

| Study | Relationship investigated |
|---|---|
| Van Heerden (2015) | This study focused on investigating the history, status and performance of the JSE over time. The primary focus of the study was to compare the JSE AltX with the JSE Main Board, the JSE top 40, the JSE Small Cap Index and London's Alternative Investments Market (AIM). The study used company-specific data available on I-NET Bridge, such as share price, trading volumes and market capitalisation data. The results show that the decisions by companies, whether to remain listed on the JSE AltX or to delist, are based on individual action and are not the result of being listed on the JSE AltX. The study concludes that the JSE AltX has not done as well as one would hope. *Hypothesis 7* |
| Makhabeni (2015) | The purpose of this study was to investigate the efficiency and performance of SMEs and non-SMEs listed on the JSE AltX. In order to assess the liquidity subsequent to a company's listing, volume and turnover were used. Other data, such as market capitalisation and number of employees (obtained from Bloomberg Professional and company's websites), was also used to determine whether the company was an SME or not. *Hypothesis 1 and 3* |
| Theart and Krige (2014) | The study focused on the effect of liquidity in the South African equity market. The study provides an improved understanding of the return-generating processes in the South African equity market, shedding light on how liquidity bias can influence portfolio returns. *Hypothesis 3* |

| Study | Relationship investigated |
|-------|---------------------------|
| Malik (2011) | Life insurance companies have unique accounting systems in place, since their profitability is difficult to measure in comparison to other companies. Data in this study was analysed with one dependent variable (profitability) and five independent variables (age of companies, size of companies, leverage ratio, loss ratio and volume of capital). The results show that return on asset is affected positively by size, volume of capital, while it is negatively affected by leverage and loss ratio. *Hypothesis 4* |
| Pratheepkanth (2011) | To aid in the understanding of how companies finance their operations, this study examined the determinants of capital structure and/or decisions related to capital structure. Data was gathered from the financial statements of companies listed on the Colombo Stock Exchange, and average values for the role of equity, gross profit, net profit, return on assets and return on investment were computed for analysis. *Hypothesis 4* |
| Saleem and Rehman (2011) | This study investigated how a company should maintain liquidity and profitability to conduct its day-to-day operations. The results show a significant relationship between the liquidity ratio and Return on Assets, while there is no significant relationship between Return on Equity and Return on Investment (ROI). The results also show that Return on Equity is not significantly affected by the current ratio, quick ratio and liquid ratio, while ROI is greatly affected by current ratios, quick ratios and liquidity ratios. *Hypotheses 3 & 4* |
| Vanacker and Manigart (2010) | This study examined the incremental financial decisions of high growth businesses over an eight-year period. Growth concepts, such as sales, total assets, cash flow and added value, were used to provide richer information. The growth of all companies in the study's database were calculated, using five growth concepts (sales, employees, total assets, cash flow and added value) and two growth formulas (absolute and relative). Growth in each year was measured as a moving average of the growth rate in the previous three years. *Hypothesis 2* |
| Ashta (2008) | This research aimed to provide clarity and perform a financial analysis to calculate a company's sustainable growth rate. Ashta's point of departure was Higgins' (2001, 2007) sustainable growth rate with modifications to the constant target leverage ratio. Ashta (2008) deemed it more appropriate to take opening assets and opening equity to maintain consistency with the original sustainability ratio, which is related to a change in the retained earnings and opening equity. *Hypothesis 5* |

Arkan (2016:15-17) states that a comparison of ratios is used to assess the financial condition, operations and attractiveness of investments. Furthermore, individual financial ratios can then be compared with the appropriate standards to determine whether they are satisfactory or not.

## 4.6    THE THEORETICAL FRAMEWORK

Theory can be considered as the cornerstone of research. Gabriel (2013) defines the theoretical framework of a study as the structure that can hold or support the theory of the research study. The theoretical framework introduces and describes the theory that explains why the research problem under study exists. The importance of the theoretical framework lies in that it provides explicit statements about the assumptions of the field of research, allowing readers to critically evaluate the assumptions. The value of theory can be found in its ability to explain the meaning, nature and challenges associated with a phenomenon; often experienced but unexplained in the world, so that enhanced knowledge and understanding to act in more informed and effective ways are possible (University of South Carolina, 2019).

The theory applied in the theoretical framework of this chapter is derived from the financial theory of capital structure. This theory should be useful in understanding why high growth potential SMEs list on the JSE AltX, and whether listing on the platform is a catalyst for migration to the JSE Main Board. Relevant SME theories of growth and sustainability were also used to develop the theoretical framework that helped the researcher understand the research problem.

Figure 4.3 depicts the proposed theoretical framework for the study. The hypotheses contained in the theoretical framework were empirically tested through the application of statistics.
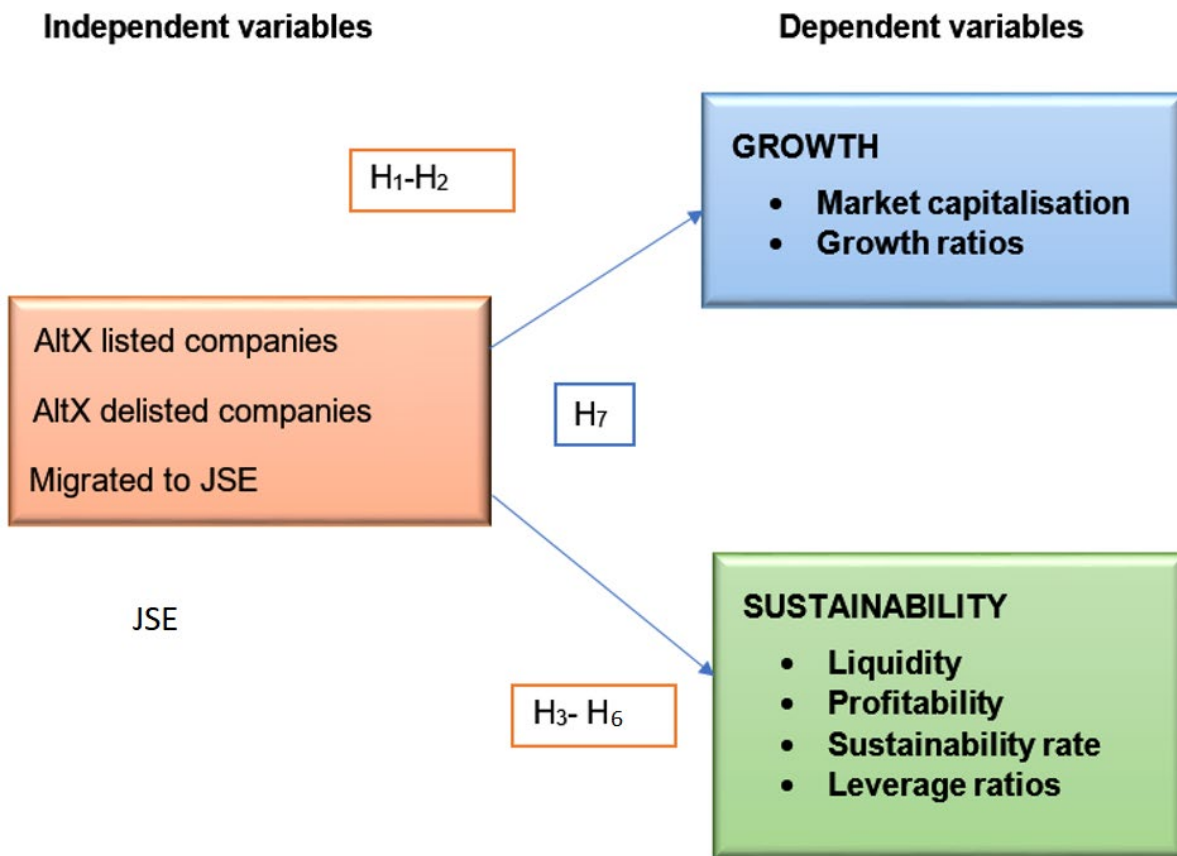
Source: Researcher's own compilation
**Figure 4.3: Proposed theoretical framework**

Figure 4.3 shows the relationships between the variables in this study.

**Market capitalisation** is a simple and important measure of company size and value of shares. Market capitalisation provides a good starting point for stock evaluation and risk. To determine the statistical significance of market capitalisation for the current study, the following hypotheses were tested:

H1: There is a statistically significant relationship between companies listed on the JSE AltX and their market capitalisation.

H1a: There is a statistically significant relationship between companies listed on the JSE AltX that have migrated to the JSE Main Board and their market capitalisation.

H1b: There is a statistically significant relationship between companies that have delisted from the JSE AltX and their market capitalisation.

**Growth ratios** measure the rate at which companies grow. Internal growth rate is an important measurement to calculate a company's ability to generate profits without

issuing more equity or taking on more debt. This measurement should allow the researcher to determine the significance of the JSE AltX in the financing operations of companies. To determine the statistical significance of internal growth, the following hypotheses were tested:

H2: There is a statistically significant relationship between companies listed on the JSE AltX and the internal growth of a company.

H2a: There is a statistically significant relationship between companies that were previously listed on the JSE AltX and the internal growth of a company.

H2b: There is a statistically significant relationship between companies that have delisted from the JSE AltX the internal growth of a company.

**Liquidity** is an essential part of a company's ability to generate funds to meet their obligations. Liquidity is an indication of a company's stability and whether the company has sufficient assets to survive difficult times. In Chapter 2, it is mentioned that high growth potential SMEs list on stock exchanges to improve their liquidity position, which in turn, aids their growth and sustainability. In a stock market context, liquidity measures the quantity of stocks that are traded that affects the market price of these stocks. In a liquid market, a large sale of stocks can be executed without a substantial change in the price of stocks (Choi, 2005:4). To determine the statistical significance of liquidity the following hypotheses were tested:

H3: There is a statistically significant relationship between companies listed on the JSE AltX and the liquidity of the companies.

H3a: There is a statistically significant relationship between companies that were first listed on the JSE AltX and that migrated to the JSE Main Board and the liquidity of the companies.

H3b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the liquidity of the companies.

**Profitability** is an indicator of a company's efficiency and performance. Profitability ratios can be used to assess a company's annual financial performance. Profitability ratios may be used to determine a year-on-year trend in the performance of various companies. To determine the statistical significance of profitability, the following hypotheses were tested:

H4: There is a statistically significant relationship between companies listed on the JSE AltX and the profitability of the companies.

H4a: There is a statistically significant relationship between companies that were first listed on the JSE AltX and that migrated to the JSE Main Board and the profitability of the companies.

H4b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the profitability of the companies.

**Sustainable growth** presents the maximum growth rate a company can sustain without requiring additional equity or capital. Achieving an acceptable sustainable growth rate protects a company from excessive leverage which may create financial strain. To determine the statistical significance of sustainable growth, the following hypotheses were tested:

H5: There is a statistically significant relationship between companies listed on the JSE AltX and the sustainable growth rate of the company.

H5a: There is a statistically significant relationship between companies previously listed on the JSE AltX and the sustainable growth rate of the company.

H5b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the sustainable growth rate of the company.

**Leverage ratios** indicate the extent to which companies use debt to finance their businesses. Many of the capital structures models that have been discussed maintain that companies consider debt funding a more affordable form of financing than issuing equity. Leverage ratios indicate the solvency of a company which may affect its risk and impact sustainability. To determine the statistical significance of leverage, the following hypotheses were tested:

H6: There is a statistically significant relationship between companies listed on the JSE AltX and the leverage of a company.

H6a: There is a statistically significant relationship between companies that migrated to the Main Board from the JSE AltX and the leverage of a company.

H6b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the leverage of a company.

H7: There are statistically significant differences between JSE AltX-listed companies, those that migrated to the Main Board, and those that delisted, and their sustainability and growth.

## 4.7    SUMMARY

This chapter first discussed the importance of a theoretical framework in an effort to organise evidence and explain context. This was followed by a discussion of the capital structure and the factors companies have to consider in their financing decisions. The capital structure was further expanded with a discussion of the various theories of capital structure, such as the irrelevancy theory of Modigliani and Miller (1958), the pecking order theory, trade-off theory, market timing theory, net income theory, and net operating income theory. The discussions in the chapter went on to describe theories that aim to explain SME growth, and the factors affecting sustainability. The ratios that would provide insight into the role of the JSE AltX as a platform for sustainability and growth were explained. This led to the development of the hypotheses the study aimed to test. A conceptual framework was developed to conceptualise the theory in line with the aims of the study. In conclusion a theoretical framework was proposed.

Chapter 5 discusses the methodology that was followed in this study to empirically test the theoretical framework developed in Chapter 4.

# CHAPTER 5

# RESEARCH DESIGN AND METHODOLOGY

## 5.1    INTRODUCTION

Chapter 4 concluded with a theoretical framework containing the hypotheses for the study that were empirically tested through the application of statistics.

The research design aims to achieve the objectives of the study by following several incremental steps. The current research study followed a quantitative approach. Quantitative research encompasses a range of methods concernd with the systematic investigation of social phenomena, using statistical or numerical data (Watson, 2015). A quantitative design presented the approach that would best fulfil the objectives of the study.

The research design and methodology chapter may be considered as the step-by-step guide used to implement and execute the study. This chapter presents how data was collected for statistical testing for the results presented in chapter 6 of the thesis.

This chapter first presents an overview of the research approach following in the current study, illustrating where Chapter 5 fits in in the structure of the research. This is followed by a discussion of the positivist research paradigm, which fits in with the quantitative approach of the study. The research design discussion of the chapter presents a description of the sampling technique, data collection and analysis. Important considerations such as how rigour was maintained as well as ethical considerations made are discussed in this chapter.

## 5.2    OVERVIEW OF THE RESEARCH PROCESS

In conducting quantitative research, Thompson (2017) propose the steps depicted in Figure 5.1. Figure 5.1 presents a diagrammatical depiction of the research process followed in the current study. This process ensured that the researcher maintained a sound scientific process that enabled the achievement of the objectives of the study.
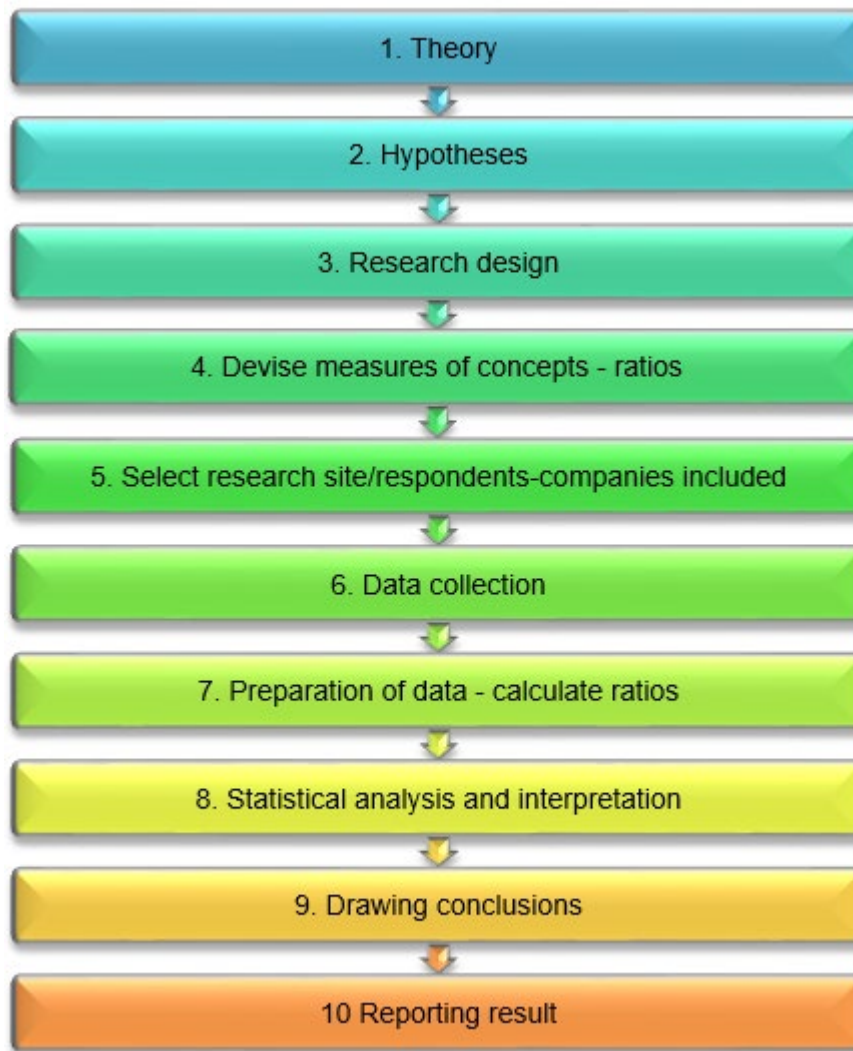
**Figure 5.1: Overview of the research process**

Figure 5.1 depicts the research process for a quantitative study. Figure 5.1 also depicts the step-by-step process followed in the current study. In chapters 2, 3 and 4, theory was used to understand the research topic and problem at hand. That formed step 1 of this study. From the theory, seven hypotheses were developed and presented in the theoretical framework of the study in chapter 4. A quantitative approach was selected to fulfil the objectives of this study. Step 3 of the study describes the research design followed by how measures and concepts will be measured in step 4. Step 5 is explained as the selecting a research site or respondents. In this study, that is interpreted as where data was sourced to execute the study. Step 6 is the data collection. When company names were sourced from the JSE, the various ratios determined in chapter had to be applied. Using Excel data was prepared for calculation on the IRESS platform. This constituted step 7 of the research

process followed in the study. Step 8 depicts analysis and interpretations. Data prepared in step 7 was statistically tested. Correlation analysis as well as regression analysis on the data set was conducted. From the results of the correlation and regression analysis conclusions were drawn. This constitutes step 9 of the research process. Chapters 6 and 7 where the results, summaries, conclusions and recommendations of the study are discussed, constitute step 10 of the research process depicted in Figure 5.1.

## 5.3     RESEARCH METHODOLOGY

Nayak and Singh (2021:1) define research methodology as a research strategy that translates ontological and epistemological principles into guidelines that show how research is to be conducted and principles, procedures, and practices that govern research. The term 'research methodology' may be explained as a systematic way to solve a problem. It is a science of studying how research is to be carried out (Goundar, 2013:9).

Research methods can either be quantitative, qualitative, or a combination of both, known as mixed methods. This study aimed to evaluate the role of the JSE AltX as a platform for creating sustainability and growth for high growth potential SMEs. In Figure 5.1, the research process followed in the study was described. A quantitative research approach was followed in the studies where hypotheses were developed and tested statistically. This section expounds on the research methodology by describing the research paradigm, as well as research design.

### 5.3.1   Research paradigm

A research paradigm is an accepted model or pattern. A research paradigm directs the research efforts and aims to affirm itself through the exclusion of other paradigms, and to articulate the theories established within that paradigm (Kuhn 1962:3-4, in Feilzer, 2010).

According to Feilzer (2010:6), the main paradigms of quantitative and qualitative research are fundamentally opposed as positivism/ post-positivism and constructivism/ interpretivism. There are four main paradigms which are positivism, interpretivism, advocacy and pragmatism. Rahi (2017) explains how these four paradigms are applied as follows:

- The positivist paradigm: Supporters of this paradigm believe true knowledge can be obtained through experiments and observations. Positivists select scientific methods to produce knowledge. Positivism is also called Scientific Method, Empirical Science, Post Positivism and Quantitative Research.

- The interpretive paradigm: Supporters of this paradigm believe in deep understanding of a concept which explores understanding of the world they live. In the interpretive paradigm meanings of experiences, objects and things is subjective.

- The advocacy paradigm: Supporters of advocacy paradigm claim knowledge through an advocacy paradigm. This paradigm is also known as critical paradigm. Researchers who adopt this paradigm believe that inquiry needs to be entagled with political and social issues.

- The pragmatism paradigm: This paradigm aims to find the weaknesses in a study to strengthen it by using mixed-method approaches. Supporters of this paradigm believe true knowledge can be obtained my mixing methods. They aim to find the best techniques and research procedures to solve the research problem.

The research method followed in this study was quantitative and therefore falls within the positivist paradigm. The characteristics of positivism are described in Table 5.1. Each characteristic is then applied to this specific study.

**Table 5.1: Application of defining characteristics of positivism**

| Characteristic | Positivism | Application to the study |
|---|---|---|
| Other names | Scientific | The research in this study was systematically collected, interpreted and evaluated in a planned manner. This sudy may therefore be deemed scientific. |
| Aim | Production of predictive, generalisable data | Rigour maintained in this study is discussed in detail in Section 5.5. The measures employed in this study are intended to be valid and reliable. While the findings cannot be deemed generalizable as they are only applicable to the JSE AltX, the research process may provide a guideline to follow by researchers wishing to conduct similar studies. |

| Characteristic | Positivism | Application to the study |
|---|---|---|
| Ontology | Single reality; real world driven by natural causes | The research conducted in this study followed a positivist approach in that through hypotheses and deductions data was analysed objectively. |
| Epistemology | Researcher objectivity and detached impartiality; control | In conducting the research, the researcher's role was limited to data collection and interpretation in an objective manner. The researcher was independent from the study and therefore made no provisions for human interest in the data collection, analysis, interpretation and reporting. |
| Research methods | Quantitative | This study is deemed quantitative as it collected and analysed numerical data. Ratios were calculated for JSE AltX delisted, listed and migrated companies and then statistically analysed. Correlation and regression analyses was conducted in this study. |
| Common designs/methodologies | Descriptive, cohort, cross-sectional, case control, experimental, randomised control trials | This current study may be described as correlational as it aimed to measure the relationship between two or more variables. Hypthoses developed in Chapter 4 aim to determine if there is a statistically significant relationship between variables. These variables are specified in Section 5.4.1. |
| Criticisms | Does not take into account individual experiences | This study does not take into account individual experiences. This is a criticism and limitation of the positivist paradigm. Limitations of the study are discussed in detail in Chapter 7 of this thesis. |

Source: Adapted from Davies & Fisher (2018:22)

Table 5.1 depicts the characteristics of a positivist paradigm. These characteristics are then defined for a positivist paradigm and applied to the study. This accuarely provides an explanation as to why the study is rooted in the positivist paradigm.

## 5.4    RESEARCH DESIGN

The research design may be defined as the procedures for collecting, analysing, interpreting, and reporting data in research studies. They represent the different models for doing research, and these models have distinct names and procedures associated with them (Creswell & Clark, 2011:53).

Ingram-Broomfield (2015) states that quantitative research design falls into four categories, namely, descriptive, correlational, experimental, and quasi-experimental. In chapter 1, Table 1.4 depicted the different types of research designs as well as the features of these different research designs. The research design followed in this study is correlational. Correlational research explores the interrelationship amongst variables of interest without any active intervention on the part of the researcher (Ingram-Broomfield, 2015).

The origins of linear regression and correlations can be traced back to Sir Francis Galton (1888). In conducting correlational research, these key considerations need to be made by the researcher: selection of variables, identification and selection of the sample and the use of reliable tools (Curtis, Comiskey & Dempsey, 2016: 4). These key considerations are discussed in the following sections.

### 5.4.1 Variables

According to Curtis et al., (2016:4) a variable is something that varies. Apuke (2017:43) elaborates further by explaining that a variable is a property or characteristic of things and people that vary in quality and quantity. Examples may include blood pressure, happiness, weight, height, and blood. An independent variable is a variable that is being manipulated in an experiment to observe the effect this has on an independent variable. The dependent variable on the other hand is a variable that is dependant on an independent variable. Figure 5.2 depicts the independent and dependent variables for this study.
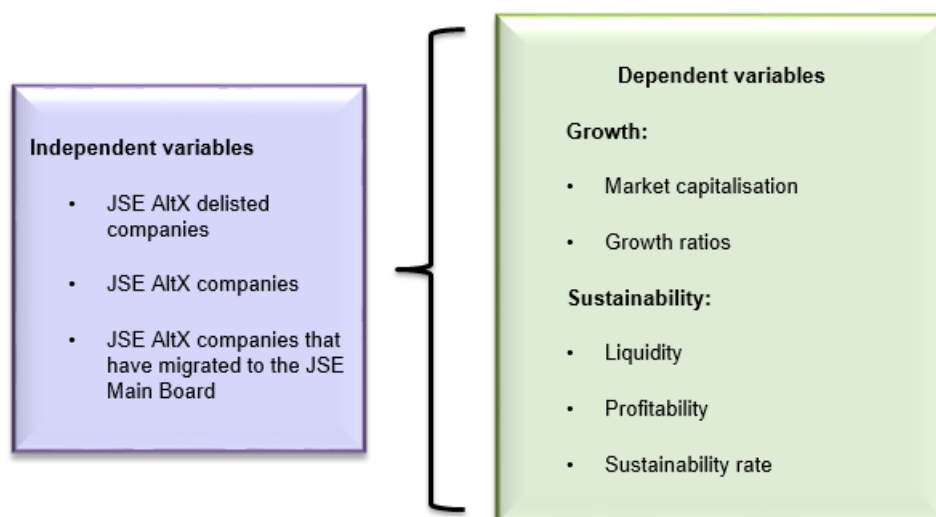


Source: Author's own compilation
**Figure 5.2: Independent and dependent variables of the study**

This study aims to evaluate the role of the JSE AltX as a catalyst for sustainability and growth of high growth potential SMEs. Figure 5.2 depicts the independent and dependent variables for this study. Two variables may co-exist but it is only through research that a relationship can be demonstrated or the direction and strength of that relationship be established. All correlational studies require a conceptual framework or a description of why the variables might be related to one another (Curtis et al., 2016:4). A conceptual and theoretical framework were provided in chapter 4 of the study.

### 5.4.2    Population and sampling

This section describes the target population of the study, and the sampling methods that were selected for the study.

A population is an entire set of cases from which researchers draw a sample for testing (Taherdoost, 2016:18). Ideally, a population should be studied to fully answer the research problems. However, this is not always possible due to constraints, such as time, finances, and the size of a population. Researchers will often select a sample from a population to represent and answer the research questions.

The population of this study includes all the JSE AltX-listed companies from the inception of the JSE AltX in 2003. This includes companies that have since delisted, are still currently listed, and all those that have migrated to the Main Board of the JSE.

A sample is a subset of the population, selected to be representative of the larger population (Acharya, Prakash, Saxena & Nigam 2013:330). Since it is not always possible to study an entire population, a representative sample is necessary for the study. Laher (2016:319) cautions about the complexities of sampling, stating that the researcher needs to consider three broad issues, namely, the composition of the sample, representativeness of the sample, and size of the sample. These issues have important consequences for external and internal validity, more so, when samples are further split into groups for comparison purposes.

There are two main sampling methods, namely, probability and non-probability sampling. Probability sampling includes the random selection of elements, where greater emphasis is placed on the representativeness of the sample. In probability sampling, each element of the population has an equal, independent chance of being

selected. Probability sampling implies that random selection has been applied, which eliminates subjectivity in the choice of the sample (Fink, 2003). The main types of probability sampling are a) random, b) stratified random, c) cluster, and d) systematic sampling.

Non-probability sampling, on the other hand, is when the sample is selected by non-random methods. Non-probability sampling is less likely than probability sampling to produce a representative sample (Landreneau & Creek, 2009). The main types of non-probability sampling are a) convenience sampling, b) purposive sampling, c) quota sampling, and d) snowball sampling.

Tables 5.2 and 5.3 provide definitions of the different types of probability and non-probability sampling methods, respectively.

**Table 5.2: Different types of probability sampling**

| Type of probability sampling method | Definition |
| --- | --- |
| **Simple random sampling** | Simple random sampling is a probability sampling procedure that gives every element in the target population, and each possible sample of a given size, an equal chance of being selected. As such, it is an equal probability selection method. |
| **Stratified random sampling** | Stratified sampling is a probability sampling procedure in which the target population is first separated into mutually exclusive, homogeneous segments (strata), after which, a simple random sample is selected from each segment (stratum). The samples selected from the various strata are then combined into a single sample. This sampling procedure is sometimes referred to as 'quota random sampling'. |
| **Systematic sampling** | Systematic sampling (or interval random sampling) is a probability sampling procedure in which a random selection is made of the first element for the sample, and then subsequent elements are selected using a fixed or systematic interval, until the desired sample size is reached. The random start distinguishes this sampling procedure from its non-probability counterpart, non-probability systematic sampling (discussed in Table 5.3). In some instances, a sampling frame is not used. The target population need not be numbered, and a sampling frame compiled if there is physical presentation, such as a continuous flow of population elements at specific locations. |

| Type of probability sampling method | Definition |
|---|---|
| **Cluster sampling** | Cluster sampling is a probability sampling procedure in which elements of the population are randomly selected in naturally occurring groupings (clusters). In the context of cluster sampling, a 'cluster' is an aggregate or intact grouping of population elements. Element sampling is the selection of population elements individually, one at a time. On the other hand, cluster sampling involves the selection of population elements not individually, but in aggregates. |

Source: Daniel (2012)

Table 5.3 outlines the different types of non-probability sampling methods.

**Table 5.3: Different types of non-probability sampling**

| Type of non-probability sampling technique | Definition |
|---|---|
| **Convenience sampling** | This is a non-probability sampling procedure in which elements are selected from the target population on the basis of their availability, convenience to the researcher, and/or their self-selection. |
| **Purposive sampling** | In this sampling procedure, elements are selected from the target population on the basis of their fit with the purposes of the study, and specific inclusion and exclusion criteria. |
| **Quota sampling** | Quota sampling is a non-probability sampling procedure in which the population is divided into mutually exclusive subcategories, and interviewers or other data collectors solicit participation in the study from members of the subcategories until a target number of elements to be sampled from the subcategories have been met. |
| **Snowball sampling** | This is a non-probability sampling procedure in which elements are selected from a target population with the assistance of previously selected population elements. |

Source: Daniel (2012)

Tables 5.2 and 5.3 provide definitions of the various types of sampling techniques. The selection of a sampling technique is an important aspect of a proper study, and several considerations, such as the objectives of the study, accessibility of the population, cost considerations and time are factors, need to be taken into account.

There are advantages and disadvantages of both probability and non-probability sampling techniques that need to be considered against the objectives of the study. For example, with probability sampling, greater confidence can be placed on the representativeness of the sample (Landreneau & Creek, 2009), while this is not the case with non-probability sampling. However, non-probability sampling is better suited for exploratory purposes. Non-probability sampling is also the better choice in situations where there is limited time and financial resources (Daniel, 2012).

Sampling should be representative of the population and accurately replicate key attributes of the population of interest. Probability sampling is the best way of doing this, as every member of the population has an equal chance of being selected in the sample (Williams, 2003). The sample of the current study included all the companies in the three groups of JSE AltX-related (delisted, listed and migrated) companies. The sample consisted of 55 delisted companies, 38 listed companies and 37 companies that had migrated to the JSE Main Board.

### 5.4.3  Sampling criteria

In understanding sampling criteria, it becomes important to understand which subjects best fulfil the objectives of the study. The target population pertains to subjects qualifying for the study. To best explain the sampling criteria for this study, the inclusion and exclusion criteria for the study are described in the following section:

- **Inclusion criteria**

The inclusion criteria may be defined as the type of subjects that fulfil the needs of the researcher for the study (Panacek & Thompson, 2007:75). The inclusion criteria for this study were JSE AltX companies that are listed, delisted and those that have migrated to the JSE Main Board since their initial listing on the JSE AltX. Data was analysed from 2008 to 2018.

- **Exclusion criteria**

The exclusion criteria for the study are all other categories of companies listed on the JSE. The study is specific to JSE AltX companies. All other categories of JSE-listed companies fall outside the scope of this study.

### 5.4.4  Data collection

Data is defined as the facts presented to the researcher in raw form (Cooper & Schindler, 2008:92). Furthermore, Zikmund and Babin (2007a:55) explain data collection as the process embarked upon to gather and collect information.

In order to obtain names of JSE AltX delisted, listed and companies that had migrated to the JSE Main Board, permission was sought and granted from the JSE. Since this approach was followed, the study used secondary data. Struwig and Stead (2001:4) explain that quantitative research is a type of conclusive research which often involves large representative samples, and that has a fairly structured data-collection process. They add that often the primary aim of quantitative research is to test hypotheses. The ratios for selected companies were calculated using IRESS. IRESS is considered a high quality source for financial analysis (Chikeya, 2019:31). The data was then transferred onto an error-free Excel sheet for statistical analysis. JSE AltX-delisted, listed and migrated companies were saved under different tabs with the ratios calculating their market capitalisation, growth, profitability, liquidity, sustainability, and leverage. These ratios will help present a holistic evaluation that should explain whether the JSE AltX is a platform for sustainability and growth.

An 11-year period ranging from 2008 until 2018 was chosen for the study. This period was selected as there was a need to undertake research over longer periods of time as previous research often covered a 1 to 5-year period (Section 3.6.1).

### 5.4.5  Data analysis

Data analysis refers to the computation of specific indices or measures, as well as searching for patterns of relationships that exist among the data groups. In quantitative methodology, it involves estimating the values of the unknown parameters of the population, and testing the hypotheses to draw inferences (Kothari, 2004:130).

In this study, once the data had been recorded it was statistically tested. Kothari (2004:131) explains that the role of statistics in research is to function as a tool in the design of the research, when analysing the data and drawing conclusions from the results. The researcher anticipated that the data collection in this study would result in a large volume of data which would be suitably analysed, allowing for conclusions to be drawn.

The statistical analysis included descriptive analysis, regression analysis and causal analyses, as well as Multivariate Analysis of Variance (MANOVA), amongst other statistics. These will be explained in detail in Chapter 6 of this study.

## 5.5    ASSESSING RIGOUR

Laher (2016:317) defines rigour as the processes followed to ensure the quality of the final research product. This can be thought of as quality mechanisms that demonstrate the legitimacy or soundness of the research.

Researchers follow the quantitative approach because it best aligned to the objectives of the study.

In a quantitative context, rigour specifically refers to how well the research has been developed, the concise and objective design and analytic techniques, and adherence to the rules of the paradigm (Krefting, 1991).

### a)    *Validity*

In quantitative research, validity is defined as the extent to which a concept is accurately measured in a quantitative study (Heale & Twycross, 2015:1). For example, a study that aims to evaluate whether the JSE AltX is a platform for sustainability and growth should measure those constructs and not anything else.

Heale and Twycross (2015) explain that there are three different types of validity. Table 5.4 denotes these three different types of validity.

**Table 5.4: Types of validity**

| Type of validity | Description |
|---|---|
| Content validity | The extent to which a research instrument accurately measures all aspects of a construct. |
| Construct validity | The extent to which a research instrument (or tool) measures the intended construct. |
| Criterion validity | The extent to which a research instrument is related to other instruments that measure the same variables. |

Source: Heale & Twycross (2015:66)

Table 5.4 describes the different types of validity. In order to achieve validity in this study, the researcher constructed ratios and derived hypotheses for empirical testing, as discussed in Chapter 4 of the study. From this, ratios were calculated using IRESS. In order to ascertain validity, the ratios calculated needed to indeed measure what they are intended to measure, which is:to evaluate whether the JSE AltX is a platform for sustainability and growth. Table 5.5 describes the specific ratios calculated to test each hypothesis.

**Table 5.5: Calculation of ratios to test hypotheses**

| Hypothesis | Ratios calculated |
|---|---|
| **Market capitalisation** | Market capitalisation |
| **Growth** | Return on capital |
| | Return on equity |
| | Return on assets |
| **Profitability** | Operating profit margin percentage |
| | Dividend per share |
| | Earnings per share |
| | Net profit percentage |
| | Price earnings |
| | Price/EBITDA |
| **Liquidity** | Current ratio |
| | Quick ratio |
| | Cash flow |
| **Sustainability** | Sustainable growth rate |
| | Price to earnings |
| **Leverage** | Debt-to-Assets |
| | Debt-to-Equity |
| | Price to EBITDA |
| | Leverage factor |

Source: Researcher's own compilation

Table 5.5 denotes the specific ratios calculated to fulfil the objectives of the study. A subset of content validity is face validity, where experts are asked to provide their opinion about whether an instrument measure the concept intended (Heale & Twycross, 2015:66). Therefore, for the purpose of this study, the researcher consulted two chartered accountants and a finance academic to determine content validity of ratios calculated to evaluate the role of the JSE AltX as a platform for sustainability and growth. The ratios mentioned also helped to ensure design validity. A full description of the ratios from IRESS data is attached as Appendix C. The ratios described in Table 5.5 can be ascribed to criterion-related validity, as ratios have a standard indicative of whether or not the performance of a company is acceptable. The researcher gathered data using an appropriate manner that allowed the evaluation of sustainability and growth by calculating ratios for market capitalisation, growth, profitability, liquidity, sustainability, and leverage. The researcher furthermore was able to relate the data collected and findings to the seven hypotheses of this study.

## b)    *Reliability*

Reliability refers to the extent to which the same or similar results would be obtained if the same study was conducted elsewhere (Andrew & Halcomb, 2009:319). Heale and Twycross (2015:66) add that it is not possible to give exact calculations of reliability, but estimates can be given that can be achieved through different measures.

Strong correlations indicate high reliability, while weak correlations indicate the instrument may not be reliable. The statistical analysis phase of this study considered these factors. Stability was tested using test-retest and parallel or alternate form reliability testing. This is generally assessed when an instrument is given to the same group under similar circumstances. For this study, this will be JSE AltX-delisted, listed and companies that have migrated to the JSE Main Board.

## c)    *Dependability*

In quantitative research, dependability refers to objectivity. Curry and Nunez-Smith (2015:8) explain dependability as the degree to which researchers can remain distanced from that which they are studying, so that the findings reflect the nature of what was studied rather than the researcher's bias, motivation or interest. In this study, the researcher's personal interests and biases were not considered. No room was made for researcher bias. Researchers should provide sufficient detail to allow the

reader to understand the rationale, key design aspects and analysis decisions. Transparency in reporting is key to addressing questions around research neutrality.

### d) *Generalisability*

Brown *et al.* (2015) define generalisability as the degree to which the results of a study can be generalised, or are meaningful, beyond the sample in a study to the population that the sample represents. Brown *et al.* (2015) further advise researchers to enhance the generalisability of their studies by narrowly defining the population from which the sample is drawn, by employing specific criteria to help improve the representativeness of the sample, and thus, the generalisability. In addition, the research study should limit self-selection and use the qualitative aspect of transferability by providing thick descriptions.

The population and sample of the current study were clearly described in Section 5.4.3. A representative sample was selected from JSE AltX-delisted, listed and migrated companies, and the researcher strove to provide thick descriptions of the research process and data collection to avoid as much ambiguity as possible.

## 5.6    ETHICAL CONSIDERATIONS

The scholars, Darley, Latane, Milgram, Webb, Campbell, Schwartz, Sechrest and Zimbardo (2009) state that ethics are intertwined with all the phases of the research process, beginning with the identification of a research topic, to the decisions regarding data collection and analysis. The consideration of the ethics related to research and acting on that concern should promote the integrity of research. However, much of the work that researchers do is done while no one is watching, creating room for unethical practices (Israel, 2014).

In addition to maintaining trustworthiness and rigour in this research study, the researcher upheld the highest level of ethical practice. While recording the data, the researcher did not manipulate any of the information generated from IRESS, as well as while reporting on the findings and results.

In addition, the researcher was guided by UNISA's policy on Research Ethics, which places a strong emphasis on the conduct of research that is based on moral correctness. All the actions pertaining to all the processes of the study were done in

adherence to this policy. (The Ethical Clearance Certificate for this research is attached as Appendix A.)

### 5.6.1 Confidentiality and anonymity

In this study, where the names of JSE AltX-related companies may be obtained upon request, confidentiality and anonymity had to be considered differently. As required by the Companies Act of 2008, publicly listed companies are required to make available their annual reports, which were used to calculate the ratios using IRESSdata. Therefore, the units of analysis used in this study are freely obtainable from the JSE. However, the aim of the study is not to cast any company in a bad light or to bring it into disrepute. The researcher strove to maintain the anonymity of the companies by making it impossible to link any aspects of the data collected to a specific company.

## 5.7 SUMMARY

Chapter 5 presented an overview of the research methodology and design followed in this study. A quantitative research methodology was chosen for the current study, as it was deemed to be most suitable to fulfil the research objectives. The study is therefore classified under the positivist paradigm.

Correlational research design was selected as hypotheses developed investigated the relationship between selected variables in a sample by using correlational statistics,

This chapter discussed other research design aspects such as population and sampling, the sampling criteria of the study, data collection and data analysis. Other aspects that are considered important in the research methodology chapter such as how rigour and trustworthiness were upheld, data analysis, and ethical considerations were also discussed in this chapter.

Chapter 6 provides a discussion of the results of the study.

# CHAPTER 6

# RESULTS OF THE STUDY

## 6.1   INTRODUCTION

Chapter 5 outlined the research design and methodology adopted for this study. This study used a mixed method research methodology to ensure that the objectives of the study were met.

This chapter provides an analysis of the research results for this study. This includes descriptive analysis, correlation analysis and regression tests. Each analysis will respond to the research questions of the study. The descriptive analysis presented in this chapter will provide a summary and characteristics of the data set. This includes the median, mode, variability, standard deviation, kurtosis and skewness. Correlation analysis and regression tests will be used to analyse the relationship between the variables of the study. The following section describes the data description process followed in this study.

## 6.2   DATA CAPTURING

Data capturing describes each phase of the data analysis process. In this section, the type of analysis that was conducted and the rationale for the specific type of analysis are described to best answer the research questions and hypotheses.

The data capturing process of this study is described below:

A. The descriptive statistics of the performance data were studied to determine the distribution of the data. As the data was highly skewed and had high kurtosis values, winsorisation at the 5% and 95% percentile was applied to the data. Winsorisation is defined as is the replacement of extreme values with alternative percentage values that represent each tail of the overall distribution (Allen, 2017). The winsorised performance variables were used in the statistical analysis.

B. Not all the data was available in terms of the performance variables for the years a company was not delisted/ listed/migrated. As such, the only solution was to look at the number of years a specific company was listed/delisted/migrated and to express it as a percentage of the total number of years under study.

C. Firstly, a correlation analysis was conducted to determine the relationship between the percentage delisted/listed/migrated companies and each of the performance variables. Very low (almost 0) to moderate correlation coefficient values were observed.

D. A decision was made to run the regression analysis in the following way:

   i.   By considering all performance variables that at least has a correlation value of above 0.1 with the percentage variable.

   ii.  By using the performance variable as dependent variable, thereby determining to what extent the percentage of years it has been listed/delisted/migrated had an influence on the performance variable.

## 6.3   DESCRIPTIVE STATISTICS

Descriptive statistics describe the basic features of data in a study and provide simplified summaries about the sample and measures (Trochim, 2002).

This study included all the ratios of JSE AltX-related companies from 2008 to 2018, namely, delisted, listed JSE AltX companies and those that have migrated to the Main Board of the JSE. Table 6.1 shows the descriptive statistics for delisted companies.

**Table 6.1: Descriptive statistics for JSE AltX-delisted companies**

| Variable | N | Mean | Median | Std Deviation | Skewness | Kurtosis | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| **Market capitalisation** | | | | | | | | |
| Market capitalisation | 254 | 142,450,856.3969 | 73,209,000.0000 | 212,873,267.56122 | 3.054 | 9.898 | 3,675,629.70 | 1,066,553,522.00 |
| **Growth** | | | | | | | | |
| Return on capital | 189 | -11.9165 | -0.6200 | 38.52879 | -1.837 | 3.280 | -131.97 | 37.08 |
| Return on equity | 189 | -15.4011 | -0.3200 | 58.44496 | -2.099 | 4.901 | -221.83 | 69.60 |
| Return on assets | 189 | -5.7952 | -0.2400 | 25.99490 | -1.040 | 0.837 | -72.42 | 32.18 |
| **Liquidity** | | | | | | | | |
| Current ratio | 190 | 4.1146 | 1.1950 | 17.00160 | 9.005 | 94.837 | 0.04 | 199.17 |
| Quick ratio | 190 | 3.7905 | 0.8650 | 17.04584 | 8.991 | 94.521 | 0.04 | 199.17 |
| Cash flow | 190 | 40.3828 | 1.0050 | 412.30667 | 13.245 | 179.912 | -226.05 | 5,618.30 |
| **Profitability** | | | | | | | | |
| Operating prof margin % | 160 | 54.2203 | 4.2950 | 1,595.19481 | 10.333 | 128.703 | -5,949.28 | 19,016.83 |
| Dividends per share | 33 | 2.2148 | 7.0000 | 55.96415 | -2.763 | 10.669 | -226.36 | 116.92 |
| Earnings p/s | 180 | 3.1174 | 0.5000 | 51.34705 | 1.362 | 13.503 | -189.54 | 327.60 |
| Net profit margin % | 160 | 340.4739 | 0.3850 | 3,638.31684 | 8.996 | 84.510 | -6,097.10 | 37,562.12 |
| Price earnings | 159 | 5.1617 | 2.0200 | 56.30190 | 4.439 | 44.954 | -275.00 | 502.50 |
| Price/EBITDA | 160 | -71.0044 | 1.8900 | 889.51130 | -12.624 | 159.575 | -11,244.91 | 192.59 |
| **Sustainability** | | | | | | | | |
| Sustainable growth | 52 | -89.0365 | 3.4700 | 575.36082 | -6.290 | 42.161 | -3,958.77 | 384.91 |
| **Leverage** | | | | | | | | |
| Debt to assets | 187 | 0.6909 | 0.4900 | 1.12783 | 7.886 | 73.415 | 0.01 | 12.43 |
| Debt to equity | 187 | 0.2306 | 0.6600 | 15.47717 | -11.851 | 156.430 | -201.09 | 46.27 |
| Price to EBITDA | 166 | -67.1096 | 1.8050 | 873.62702 | -12.848 | 165.379 | -11,244.91 | 258.22 |
| Leverage factor | 190 | -5.0454 | 1.0250 | 86.62547 | -13.396 | 183.147 | -1,182.08 | 125.94 |

Table 6.1 reflects the descriptive statistics for delisted companies and displays the mean, median, standard deviation, skewness and kurtosis values, as well as the minimum and maximum values of the independent and dependent variables. The results show:

- For **market capitalisation**, the median value is lower than the mean value. This indicates a potential for high outlier values. The skewness and kurtosis values range between 3.054 and 9.898, indicating non-normality of the market capitalisation variable.

- The median value is lower than the mean value for 3 of the 3 variables. This indicates a potential for high outlier values. The skewness and kurtosis values range between -2.099 and 4.901, indicating non-normality of the **growth** variables.

- The median value is lower than the mean value for 3 of the 3 variables. This indicates a potential for high outlier values. The skewness and kurtosis values range between 8.991 and 179.912, indicating non-normality of the **liquidity** variables.

- The median value is lower than the mean value for 2 of the 6 variables. This indicates a potential for high outlier values. The skewness and kurtosis values range between -12.624 and 159.575, indicating non-normality of the **profitability** variables.

- The median value is higher than the mean value. This indicates a potential for high outlier values. The skewness and kurtosis values range between -6.290 and 42.161, indicating non-normality of the **sustainability** variable.

- The median value is lower than the mean value for 1 of the 4 variables. This indicates a potential for high outlier values. The skewness and kurtosis values range between -13.396 and 183.147, indicating non-normality of the **leverage** variables.

It was therefore decided to winsorise the variables at the 5% and 95% percentile value. Table 6.2 shows the descriptive statistics for listed companies on the JSE AltX.

**Table 6.2: Descriptive statistics of JSE AltX-listed companies**

| Variable | N | Mean | Median | Std Dev | Skewness | Kurtosis | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| **Market capitalisation** | 137 | 422,183,589.4818 | 100,192,850.0000 | 641,524,898.99963 | 2.461 | 6.847 | 0.00 | 3,513,819,250.00 |
| **Growth** | | | | | | | | |
| Return on capital | 193 | -6.4076 | 0.4300 | 35.41349 | -3.620 | 20.257 | -262.21 | 61.70 |
| Return on equity | 193 | -91.0490 | 1.1200 | 834.21830 | -12.285 | 159.047 | -11,064.86 | 216.40 |
| Return on assets | 193 | -35.0414 | 2.3200 | 272.23699 | -6.776 | 60.908 | -2,702.97 | 1,039.46 |
| **Liquidity** | | | | | | | | |
| Current ratio | 193 | 16.1478 | 1.6300 | 95.45897 | 9.032 | 88.016 | 0.09 | 1,050.70 |
| Quick ratio | 193 | 15.8917 | 1.3500 | 95.45897 | 9.028 | 87.967 | 0.03 | 1,050.70 |
| Cash flow | 193 | 18.5998 | 5.5200 | 47.09515 | 3.030 | 17.939 | -166.76 | 363.32 |
| **Profitability** | | | | | | | | |
| Operating prof margin % | 162 | -603.5370 | 3.8900 | 7,099.84520 | -10.627 | 123.891 | -84,445.00 | 15,976.58 |
| Dividends per share | 41 | 37.3680 | 16.4000 | 41.94901 | 1.087 | 0.232 | 1.50 | 161.57 |
| Earnings p/s | 193 | 9.8528 | 0.6000 | 42.03299 | 1.131 | 12.754 | -186.68 | 274.63 |
| Net profit margin % | 162 | -534.7086 | 1.5800 | 6,602.16712 | -11.007 | 132.655 | -79,952.50 | 15,905.65 |
| Price earnings | 172 | 10.6264 | 2.2800 | 130.09058 | 10.990 | 134.923 | -256.44 | 1,607.35 |
| Price/EBITDA | 173 | -10.9540 | 2.2300 | 152.06405 | -12.758 | 166.071 | -1,979.60 | 134.76 |
| **Sustainability** | | | | | | | | |
| Sustainable growth | 44 | 51.1270 | 3.3000 | 250.12904 | 5.665 | 34.025 | -116.26 | 1,575.38 |
| **Leverage** | | | | | | | | |
| Debt to assets | 193 | 0.5256 | 0.5200 | 0.74087 | 10.453 | 130.321 | 0.00 | 9.82 |
| Debt to equity | 193 | 6.0627 | 0.6000 | 56.03686 | 12.998 | 174.311 | -2.24 | 760.94 |
| Price to EBITDA | 172 | -10.6827 | 2.3250 | 152.50055 | -12.729 | 165.247 | -1,979.60 | 134.76 |
| Leverage factor | 193 | 54.6663 | 5.1100 | 395.52967 | 11.036 | 184.406 | -99.64 | 4,578.07 |

Table 6.2 reflects the descriptive statistics for listed companies, and displays the mean, median, standard deviation, skewness, and kurtosis values, as well as the minimum and maximum values of the independent and dependent variables. The results show:

- For market capitalisation, the median value is lower than the mean value. This indicates potentially high outlier values. The skewness and kurtosis values are 2.461 and 6.847 respectively, indicating non-normality of the market capitalisation variable.

- The mean value for all variables is negative. This indicates a potential for high outlier values. The skewness and kurtosis values range between -12.285and 159.0474.901, indicating non-normality of the growth variables.

- The median value is lower than the mean value for 3 of the 3 variables. This indicates a potential for high outlier values. The skewness and kurtosis values range between 3.030 and 88.016, indicating non-normality of the liquidity variables.

- The median value is lower than the mean value for 3 of the 6 variables. This indicates a potential for high outlier values. The skewness and kurtosis values range between -12.758 and 166.071, indicating non-normality of the profitability variables.

- The median value is lower than the mean value. This indicates a potential for high outlier values. The skewness and kurtosis values are 5.665 and 34.025, respectively, indicating non-normality of the sustainability variable.

- The median value is lower than the mean value for 3 of the 4 variables. This indicates a potential for high outlier values. The skewness and kurtosis values range between -12.729 and 184.406, indicating non-normality of the leverage variables.

It was therefore decided to winsorise the variables at the 5% and 95% percentile value. Table 6.3 shows the descriptive statistics for JSE AltX migrated companies.

**Table 6.3: Descriptive statistics of JSE AltX migrated companies**

| Variable | N | Mean | Median | Std Dev | Skewness | Kurtosis | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| **Market capitalisation** | 282 | 1523356741.0333 | 442245352.5000 | 2676176514.81752 | 2.450 | 5.023 | 51024661.10 | 10500000000.00 |
| **Growth** | | | | | | | | |
| Return on capital | 272 | 6.28870 | 6.88000 | 10.077589 | -1.033 | 1.365 | -21.631 | 22.131 |
| Return on equity | 272 | 8.3843 | 10.0800 | 12.92147 | -1.265 | 1.705 | -21.631 | 26.03 |
| Return on assets | 272 | 8.6381 | 8.9100 | 10.90367 | -0.351 | 0.221 | -16.44 | 29.46 |
| **Liquidity** | | | | | | | | |
| Current ratio | 277 | 1.9690 | 1.5100 | 1.24422 | 1.499 | 1.524 | 0.60 | 5.44 |
| Quick ratio | 277 | 1.6008 | 1.1500 | 1.26690 | 1.876 | 2.751 | 0.36 | 5.42 |
| Cash flow | 277 | 50.7865 | 26.6300 | 63.12648 | 1.724 | 2.326 | -19.00 | 235.82 |
| **Profitability** | | | | | | | | |
| Operating prof margin % | 245 | 21.1324 | 8.8500 | 39.05673 | 2.278 | 4.008 | -13.71 | 140.51 |
| Dividends per share | 141 | 55.9379 | 8.5000 | 92.83794 | 2.030 | 3.227 | 1.71 | 343.55 |
| Earnings p/s | 271 | 38.7140 | 15.7000 | 65.73829 | 1.925 | 2.860 | -33.11 | 235.37 |
| Net profit margin % | 245 | 17.1996 | 5.7100 | 36.11407 | 2.287 | 4.211 | -18.03 | 133.14 |
| Price earnings | 263 | 12.9473 | 8.5900 | 18.46786 | 1.871 | 4.112 | -14.23 | 73.91 |
| Price/EBITDA | 263 | 6.5558 | 4.4700 | 6.70846 | 1.202 | 0.946 | -2.77 | 24.26 |

| Variable | N | Mean | Median | Std Dev | Skewness | Kurtosis | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| **Sustainability** | | | | | | | | |
| Sustainable growth | 129 | 23.7743 | 15.8100 | 79.76441 | -0.791 | 3.009 | -218.82 | 189.31 |
| **Leverage** | | | | | | | | |
| Debt to assets | 277 | 0.5168 | 0.5200 | 0.21050 | 0.039 | -0.120 | 0.00 | 1.13 |
| Debt to equity | 277 | 0.9624 | 0.8100 | 0.61507 | 0.974 | 0.258 | 0.17 | 2.46 |
| Price to EBITDA | 269 | 7.1830 | 4.6200 | 8.08720 | 1.845 | 3.530 | -2.73 | 33.75 |
| Leverage factor | 277 | 1.2848 | 1.0700 | 0.94393 | 1.142 | 1.605 | -0.36 | 3.89 |

Table 6.3 reflects the descriptive statistics for migrated companies and displays the mean, median, standard deviation, skewness and kurtosis values, as well as the minimum and maximum values of the independent and dependent variables. The results show:

- For market capitalisation, the median value is lower than the mean value. This indicates potentially high outlier values. The skewness and kurtosis values are 2.450 and 5.023 respectively indicating non-normality of the market capitalisation variable.

- There mean values and median values do not differ significantly. This indicates a potential for high outlier values. The skewness and kurtosis values range between -1.265 and 1.705 indicating non-normality of the growth variables.

- Two out of the 3 median and mean values do not differ significantly. This indicates a potential for high outlier values. The skewness and kurtosis values range between 1.499 and 2.751 indicating non-normality of the liquidity variables.

- The median value is lower than the mean value for 6 of the 6 variables. This indicates a potential for high outlier values. The skewness and kurtosis values range between -0.791and 4.211, indicating non-normality of the profitability variables.

- The median value is lower than the mean value. This indicates a potential for high outlier values. The skewness and kurtosis values are -0.791 and 3.009 respectively, indicating non-normality of the sustainability variable.

- The median value is lower than the mean value for 3 of the 4 variables. This indicates a potential for high outlier values. The skewness and kurtosis values range between -2.73and 3.530, indicating non-normality of the leverage variables.

It was therefore decided to winsorise the variables at the 5% and 95% percentile value. The following section discusses the validity and reliability of data in the study.

## 6.4    VALIDITY AND RELIABILITY OF DATA

Secondary data refers to data that has already been collected for some or other purpose. It is recommended that researchers conduct customised searches via a specific source. Sources, such as public statistical providers, specialised search engines and organisations related to specific research sources, are recommended (Allen, 2017). Saunders *et al.* (2009:273) suggest evaluating secondary research in three steps, as summarised in Figure 6.1.
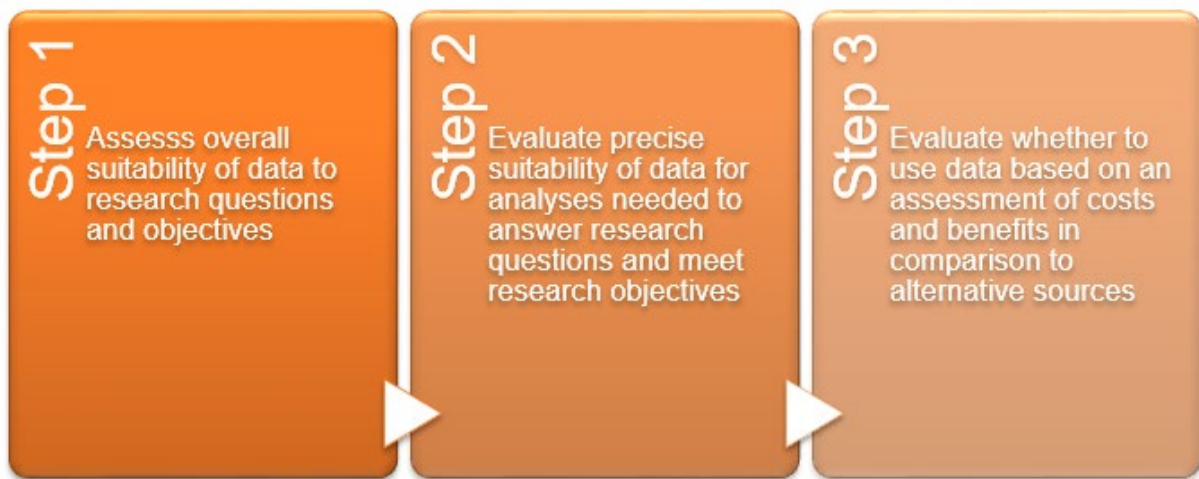


Source: Saunders et al. (2009:273)
**Figure 6.1: Evaluating secondary data sources**

The first step in evaluating secondary data sources is to assess the overall suitability of the collected data for the research questions and objectives. In terms of secondary sources, reliability and validity are accredited to the method through which the data was collected, and the reputation and authority of the source are critically important. The JSE is the largest stock exchange in Africa, and South Africa has been ranked as the best in the regulation of securities exchanges in the World Economic Forum's Global Competitiveness Survey. IRESS is an independent distribution services of market information.

The combination of both data sources was the most suitable to answer the research questions and objectives of the study. It is recommended that data be customised to best fulfil the research objectives and questions of a study. In Chapter 5, specific ratios were predetermined to answer the research questions and objectives. The content validity and design validity of the ratios were assessed before the empirical tests were

conducted. Thereafter, a customised calculation of ratios was done on the IRESS platform.

The second step involved the evaluation of the precise suitability of the data. In this step, it is important to assess the method in which the data was sourced. The researcher in the current study made contact with the JSE's dedicated Research and Insights Unit, where permission, as a PhD candidate, was sought and granted to access the data required for the study (Appendix D). Furthermore, UNISA subscribes to IRESS to allow students to access financial data from the platform. This platform provides real-time financial data, as well as historic data. The specific calculations of the ratios used in this study are available on the platform.

The alignment to the research questions and objectives was evaluated in line with the first phase of the study, which was a qualitative analysis of the relevant literature. The second phase of this study involved the calculation of predetermined ratios and data analysis, of which the results are presented in this chapter.

The third step in the evaluation of secondary data is to judge whether to use data based on an assessment of the costs and benefits in comparison to the use of alternative sources of data. The use of a technologically suitable platform, such as IRESS, to obtain data presented definite benefits in terms of time saved. No manual calculation of ratios was required, the calculations could be run for a company and the research did not have to input calculations manually or individually per company. The information provided by the JSE's research unit made information accessible at no cost, which also presented the benefit of reducing costs. As UNISA already subscribes to IRESS, there were no additional costs related to accessing information from the researcher's side. All these benefits made the choice of the selected secondary sources the best option.

The following section discusses the correlational analysis and results of this study.

## 6.5   CORRELATION ANALYSIS

Correlation refers to a number used to describe the strength of a relationship between two or more variables. The Pearson correlation coefficient best represents the strength of a relationship between two variables, with values ranging from 0 to 1. The larger the magnitude of the coefficient, the stronger the relationship between the variables

(Lewis-Beck, Bryman & Liao, 2004). Kremelbreg (2011) explains that a correlation coefficient of 1 indicates a positive correlation between two variables. A correlation coefficient of -1 means that there is a negative relationship between the two variables. A correlation coefficient of 0 means no relationship exists between two variables. Several correlation coefficients were tested via Pearson's Correlation (r) at a significance level set at 0.05 (2-tailed).

Table 6.4 provides a guideline for the strength of the relationship. The '-' indicates a negative relationship.

**Table 6.4: Guideline of strength of correlation**

| r Value | | | Strength of correlation |
|---|---|---|---|
| r = 0.10 to 0.29 | Or | r = -0.10 to -0.29 | Small/Weak |
| r = 0.30 to 0.49 | Or | r = -0.30 to -0.49 | Medium/Moderate |
| r = 0.50 to 1.00 | Or | r = -0.50 to -1.00 | Large/Strong |

Source: Adapted from Frost (2019)

Tables 6.4 to 6.22 present a summary for the matrix for the correlation of the variables of JSE AltX-listed, migrated and delisted companies.

### 6.5.1 Results of correlations for variables relating to growth for companies listed on the JSE AltX

The growth variables included both market capitalisation and growth ratios. Table 6.5 shows the correlation coefficient for market capitalisation.

**Table 6.5: Correlation coefficients for ratios relating to market capitalisation of JSE AltX-listed companies**

| | Market cap |
|---|---|
| Pearson Correlation | -.384** |
| Sig. (2-tailed) | 0.000** |
| N | 137 |

Source: Research results

Table 6.5 shows there is a moderate negative statistically significant relationship between market capitalisation and listed companies (r=-.384, p>0.01). The correlation analysis thus shows that being listed on the JSE has a significant relationship with market capitalisation.

Table 6.6 shows the three ratios that relate to growth and their correlation coefficients.

**Table 6.6: Correlation coefficients for ratios relating to growth of JSE AltX-listed companies**

|  | Return on capital | Return on equity | Return on asset |
|---|---|---|---|
| Pearson Correlation | -0.125 | -0.037 | -0.025 |
| Sig. (2-tailed) | 0.083 | 0.606 | 0.734 |
| N | 193 | 193 | 193 |

Source: Research results

Table 6.6 shows there is a weak negative relationship between return on capital of (r=-.125, p>0.05).

There is a weak negative relationship between return on equity of listed companies (r=-.037, p<0.05).

There is a weak negative relationship between return on assets of listed companies (r=-.025, p<0.05).

Thus, the correlations show no significant correlations for the three ratios that measure growth for listed companies.

### 6.5.2 Results of correlations for variables relating to sustainability for companies listed on the JSE AltX

There are four sets of ratios that measure sustainability, namely, the liquidity, profitability, sustainable growth, and leverage ratios. Table 6.7 presents the correlation results for the liquidity ratios of companies listed on the JSE AltX.

**Table 6.7: Correlation coefficients for ratios relating to the liquidity of JSE AltX-listed companies**

|  | Current ratio | Quick ratio | Cash flow |
|---|---|---|---|
| Pearson Correlation | -.214** | -.232** | -0.116 |
| Sig. (2-tailed) | 0.003** | 0.001** | 0.109 |
| N | 193 | 193 | 193 |

Source: Research results

Table 6.7 shows that there is a weak negative relationship between the current ratio of listed companies (r=-.214, p>0.05).

There is a weak negative relationship between the quick ratio and listed companies (r=-.232, p>0.01).

There is a weak negative relationship between cash flow and listed companies (r=-.116, p<0.05).

Thus, the correlation shows that there is a significant relationship between the current ratio and quick ratio of a company. There is no significant correlation with the cash flow of listed companies. The correlation shows a significant relationship with two of the three ratios that measure liquidity for listed companies.

Table 6.8 presents the correlation coefficients for the profitability ratios of companies listed on the JSE AltX.

**Table 6.8: Correlation coefficients for ratios relating to the profitability of JSE AltX-listed companies**

|  | Operating prof margin % | Earnings p/s | Net profit margin % | Price earnings | Price/ EBITDA |
|---|---|---|---|---|---|
| Pearson Correlation | 0.113 | -0.072 | 0.138 | -0.092 | -0.061 |
| Sig. (2-tailed) | 0.151 | 0.317 | 0.080 | 0.231 | 0.425 |
| N | 162 | 193 | 162 | 172 | 173 |

Source: Research results

Table 6.8 shows that there is a weak positive relationship between operating profit margin percentage and listed companies (r=.113, p<0.05).

There is a weak negative relationship between earnings per share and listed companies (r= -.072, p<0.05).

There is a weak positive relationship between net profit margin percentage and listed companies (r=.138, p<0.05).

There is a weak negative relationship between price earnings and listed companies (r= -.092, p<0.05).

There is a weak negative relationship between price earnings and listed companies (r= -.061, p<0.05).

Thus, the correlations show no significant correlations for the five ratios that measure profitability for listed companies.

Table 6.9 presents the correlation coefficients for the sustainable growth ratio of companies listed on the JSE AltX.

**Table 6.9: Correlation coefficients for the ratio relating to the sustainable growth of JSE AltX-listed companies**

|  | Sustainable growth |
|---|---|
| Pearson Correlation | 0.004 |
| Sig. (2-tailed) | 0.978 |
| N | 44 |

Source: Research results

Table 6.9 shows that there is a weak positive relationship between sustainable growth and listed companies (r=.004, p<0.05). Thus, the correlations show no significant correlation for the ratio that measures sustainable growth for listed companies.

Table 6.10 presents the correlation coefficients for the leverage ratios of companies listed on the JSE AltX.

**Table 6.10: Correlation coefficients for ratios relating to the leverage of JSE AltX-listed companies**

|  | Debt to assets | Debt to equity | Price to EBITDA | Leverage factor |
|---|---|---|---|---|
| Pearson Correlation | 0.076 | -0.066 | -0.096 | -0.042 |
| Sig. (2-tailed) | 0.294 | 0.362 | 0.209 | 0.563 |
| N | 193 | 193 | 172 | 193 |

Source: Research results

Table 6.10 shows that there is a weak positive relationship between debt-to-assets and listed companies (r=.076, p<0.05).

There is a weak negative relationship between debt-to-equity and listed companies (r= -.066, p<0.05).

There is a weak negative relationship between net price-to-EBITDA and listed companies (r=.096, p<0.05).

There is a weak negative relationship between the leverage factor and listed companies (r= -.042, p<0.05).

Thus, the correlations show no significant correlations for the four ratios that measure leverage for listed companies.

The following section describes the correlations for the variables relating to migrated companies.

### 6.5.3 Results of correlations for variables relating to growth for companies that migrated from the JSE AltX to the JSE Main Board

The growth variables include both the market capitalisation and growth ratios. Table 6.11 presents the correlation coefficient for the market capitalisation of migrated companies.

**Table 6.11: Correlation coefficients for ratios relating to the market capitalisation of JSE AltX migrated companies**

|  | Market cap |
|---|---|
| Pearson Correlation | -.344** |
| Sig. (2-tailed) | 0.000** |
| N | 313 |

Source: Research results

Table 6.11 shows that there is a moderate negative relationship between market capitalisation and migrated companies (r=-.344, p>0.01). The correlation analysis thus shows that JSE AltX migrated companies have a significant relationship with market capitalisation.

Table 6.12 presents the correlation coefficients for the growth of migrated companies.

**Table 6.12: Correlation coefficients for ratios relating to the growth of JSE AltX migrated companies**

|  | Return on capital | Return on equity | Return on asset |
|---|---|---|---|
| Pearson Correlation | -0.125 | -0.037 | -0.025 |
| Sig. (2-tailed) | 0.083 | 0.606 | 0.734 |
| N | 193 | 193 | 193 |

Source: Research results

Table 6.12 shows that there is a weak negative relationship between return on capital and migrated companies (r=-.125, p<0.05).

There is a weak positive relationship between return on equity and migrated companies (r=.033, p<0.05).

There is a weak positive relationship between return on assets and migrated companies (r=-.024, p<0.05).

Thus, the correlations show no significant correlations for the three ratios that measure growth for migrated companies.

### 6.5.4 Results of correlations for variables relating to sustainability for companies that migrated from the JSE AltX

There are four sets of ratios that measure sustainability, namely, liquidity, profitability, sustainability growth, and leverage ratios. Table 6.13 provides the correlation results for the liquidity ratios of companies listed on the JSE.

**Table 6.13: Correlation coefficients for ratios relating to the liquidity of JSE AltX migrated companies**

|  | Current ratio | Quick ratio | Cash flow |
|---|---|---|---|
| Pearson Correlation | 0.113 | .119* | -.231** |
| Sig. (2-tailed) | 0.055 | 0.042* | 0.000** |
| N | 290 | 290 | 290 |

Source: Research results

Table 6.13 shows that there is a weak positive relationship between current ratio and migrated companies (r= .113, p<0.05).

There is a weak positive relationship between quick ratio and migrated companies (r= .119, p>0.05).

There is a weak negative relationship between cash flow and migrated companies (r=-.231, p>0.01).

There is no significant correlation with the current ratio of migrated companies. The correlation shows a significant relationship between quick ratio and cash flow of migrated companies. The correlation shows a significant relationship with two of the three ratios that measure liquidity for migrated companies.

Table 6.14 presents the correlation coefficients for the profitability of migrated companies.

**Table 6.14: Correlation coefficients for ratios relating to the profitability of JSE AltX migrated companies**

| | Operating prof margin % | Dividend p/s | Earnings p/s | Net profit margin % | Price earnings | Price/ EBITDA |
|---|---|---|---|---|---|---|
| Pearson Correlation | -.375** | -0.094 | -.206** | -.365** | -.208** | 0.046 |
| Sig. (2-tailed) | 0.000** | 0.257 | 0.000** | 0.000** | 0.001** | 0.450 |
| N | 258 | 148 | 284 | 258 | 276 | 276 |

Source: Research results

Table 6.14 shows that there is a weak negative relationship between operating profit margin percentage and migrated companies (r= -.375, p>0.01).

There is a weak negative relationship between dividends per share and migrated companies (r= -.094, p<0.05).

There is a weak negative relationship between earnings per share and migrated companies (r=-.206, p>0.01).

There is a moderate negative relationship between net profit and migrated companies (r= -.365, p>0.01).

There is a weak negative relationship between price earnings and migrated companies (r= -.208, p>0.01).

There is a weak positive relationship between price EBITDA and migrated companies (r= .046, p<0.05).

There is no significant correlation between dividends per share and Price/EBITDA of migrated companies. The correlation shows a significant relationship between operating profit margin, earnings per share, net profit margin percentage, and price earnings of migrated companies. The correlation shows a significant relationship with four of the six ratios that measure liquidity for migrated companies.

Table 6.15 presents the correlation coefficients for the sustainable growth of migrated companies.

**Table 6.15: Correlation coefficients for ratios relating to the sustainable growth of JSE AltX migrated companies**

|  | Sustainable growth |
|---|---|
| Pearson Correlation | 0.003 |
| Sig. (2-tailed) | 0.970 |
| N | 143 |

Source: Research results

Table 6.15 shows that there is a weak positive relationship between sustainable growth and listed companies (r=.003, p<0.05). Thus, the correlations show no significant correlation between sustainable growth and migrated companies.

Table 6.16 presents the correlation coefficients for the leverage of migrated companies.

**Table 6.16: Correlation coefficients for ratios relating to the leverage of JSE AltX migrated companies**

|  | Debt to assets | Debt to equity | Price to EBITDA | Leverage factor |
|---|---|---|---|---|
| Pearson Correlation | 0.082 | 0.044 | -0.005 | -0.027 |
| Sig. (2-tailed) | 0.164 | 0.456 | 0.936 | 0.644 |
| N | 290 | 290 | 282 | 290 |

Source: Research results

Table 6.16 shows that there is a weak positive relationship between debt-to-assets and migrated companies (r=.082, p<0.05).

There is a weak negative relationship between debt-to-equity and migrated companies (r= -.044, p<0.05).

There is a weak negative relationship between net price-to-EBITDA and migrated companies (r=-.005, p<0.05).

There is a weak negative relationship between the leverage factor and migrated companies (r= -.027, p<0.05).

Thus, the correlations show no significant correlations for the four ratios that measure leverage for migrated companies.

### 6.5.5 Results of correlations for variables relating to growth for companies that delisted from the JSE AltX

The growth variables included both the market capitalisation and growth ratios. Table 6.17 shows the correlation coefficient for market capitalisation.

**Table 6.17: Correlation coefficient for the ratio relating to the market capitalisation of JSE AltX-delisted companies**

|                     | Market cap |
|---------------------|------------|
| Pearson Correlation | -0.042     |
| Sig. (2-tailed)     | 0.503      |
| N                   | 254        |

Source: Research results

Table 6.17 shows that there is weak negative relationship between market capitalisation and delisted companies (r=-.042, p<0.05). The correlation analysis thus shows that during the period of observation there was no significant relationship between market capitalisation and delisted companies.

Table 6.18 presents the correlation coefficients for the growth of delisted companies.

**Table 6.18: Correlation coefficients for ratio relating to growth of JSE AltX-delisted companies**

|                     | Return on capital | Return on equity | Return on asset |
|---------------------|-------------------|------------------|-----------------|
| Pearson Correlation | .147*             | 0.112            | 0.122           |
| Sig. (2-tailed)     | 0.044             | 0.126            | 0.095           |
| N                   | 189               | 189              | 189             |

Source: Research results

Table 6.18 shows that there is a weak positive relationship between return on capital and delisted companies (r=.147, p<0.05).

There is a weak positive relationship between return on equity and delisted companies (r=.112, p<0.05).

There is a weak positive relationship between return on assets and delisted companies (r=.122, p<0.05).

Thus, the correlations show no significant correlations for the three ratios that measure growth for delisted companies.

Table 6.19 presents the correlation coefficients for the liquidity of delisted companies.

**Table 6.19: Correlation coefficients for ratio relating to liquidity of JSE AltX-delisted companies**

|  | Current ratio | Quick ratio | Cash flow |
|---|---|---|---|
| Pearson Correlation | 0.090 | 0.116 | 0.025 |
| Sig. (2-tailed) | 0.215 | 0.110 | 0.727 |
| N | 190 | 190 | 190 |

Source: Research results

Table 6.19 shows that there is a weak positive relationship between current ratio and delisted companies (r= .090, p<0.05).

There is a weak positive relationship between quick ratio and delisted companies (r= .116, p<0.05).

There is a weak positive relationship between cash flow and delisted companies (r=-.025, p<0.05).

Thus, the correlations show no significant correlations for the three ratios that measure liquidity for delisted companies.

Table 6.20 presents the correlation coefficients for the profitability of delisted companies.

**Table 6.20: Correlation coefficients for ratio relating to profitability of JSE AltX-delisted companies**

|  | Operating prof margin % | Dividend p/s | Earnings p/s | Net profit margin % | Price earnings | Price/ EBITDA |
|---|---|---|---|---|---|---|
| Pearson Correlation | 0.146 | -0.270 | 0.071 | .175* | .221** | 0.037 |
| Sig. (2-tailed) | 0.065 | 0.128 | 0.343 | 0.026* | 0.005** | 0.643 |
| N | 160 | 33 | 180 | 160 | 159 | 160 |

Source: Research results

Table 6.20 shows that there is a weak positive relationship between operating profit margin percentage and migrated companies (r=.146, p<0.05).

There is a weak negative relationship between dividends per share and migrated companies (r= -.270, p<0.05).

There is a weak positive relationship between earnings per share and migrated companies (r=.071, p<0.05).

There is a weak positive relationship between net profit and migrated companies (r= .175, p>0.05).

There is a weak positive relationship between price earnings and migrated companies (r= .221, p>0.01).

There is a weak positive relationship between price EBITDA and migrated companies (r= .037, p<0.05).

There is no significant correlation between operating profit margin, dividends per share, earnings per share and Price/EBITDA of delisted companies. The correlation shows a significant relationship between the net profit margin and price earnings of delisted companies. The correlation shows a significant relationship with two of the six ratios that measure profitability for delisted companies.

Table 6.21 presents the correlation coefficient for the sustainable growth of delisted companies.

**Table 6.21: Correlation coefficients for ratio relating to sustainable growth of JSE AltX-delisted companies**

|  | Sustainable growth |
|---|---|
| Pearson Correlation | -0.135 |
| Sig. (2-tailed) | 0.338 |
| N | 52 |

Source: Research results

Table 6.21 shows that there is a weak negative relationship between sustainable growth and listed companies (r=-.135, p<0.05). Thus, there is no significant relationship between sustainable growth and delisted companies.

Table 6.22 presents the correlation coefficients for the leverage of delisted companies.

**Table 6.22: Correlation coefficients for ratio relating to leverage of JSE AltX-delisted companies**

|  | Debt to assets | Debt to equity | Price to EBITDA | Leverage factor |
|---|---|---|---|---|
| Pearson Correlation | .204** | -0.080 | 0.046 | 0.032 |
| Sig. (2-tailed) | 0.008** | 0.275 | 0.528 | 0.679 |
| N | 165 | 187 | 187 | 166 |

Source: Research results

Table 6.22 shows that there is a weak positive relationship between debt-to-assets and delisted companies ($r=.204$, $p>0.05$).

There is a weak negative relationship between debt-to-equity and delisted companies ($r= -.080$, $p<0.05$).

There is a weak positive relationship between net price-to-EBITDA and delisted companies ($r=.046$, $p<0.05$).

There is a weak positive relationship between the leverage factor and delisted companies ($r= .032$, $p<0.05$).

The correlation shows a significant relationship between debt-to-assets of delisted companies. There is no significant correlation between debt-to-equity, price to EBITDA and the leverage factor. The correlation shows a significant relationship with the four ratios that measure leverage for delisted companies.

Table 6.23 presents a summary of the correlation analysis for listed, delisted and migrated companies.

**Table 6.23: Correlation analysis summary for JSE AltX-listed, migrated and delisted companies**

| Ratios | Companies listed on the JSE AltX | JSE AltX migrated companies | JSE AltX-delisted companies |
|---|---|---|---|
| **Growth** | | | |
| Market capitalisation | Weak negative Significant (-.384 *) | Weak negative significant (-.344**) | Weak negative (0.042) |
| **Growth ratios** | | | |
| Return on Capital | Weak negative (-.125) | Weak negative (-0.125) | Weak negative significant (0.147*) |
| Return on Equity | Weak negative (-.037) | Weak negative (-0.037) | Weak positive (0.112) |
| Return on Asset | Weak negative (-.025) | Weak negative (-0.025) | Weak positive (0.122) |
| **Liquidity** | | | |
| Current ratio | Weak negative Significant (-.214**) | Weak positive (0.113) | Weak positive (0.090) |
| Quick ratio | Weak negative Significant (-.232**) | Weak positive significant (0.119*) | Weak positive (0.116) |
| Cash flow | Weak negative (-0.116) | Weak negative significant (-0.231**) | Weak positive (0.025) |
| **Profitability** | | | |
| Operating profit margin % | Weak positive (0.113) | Weak negative significant | Weak positive (0.146) |
| Dividends per share | | Weak negative (-0.94) | Weak negative (-0.270) |
| Earnings per share | Weak negative (-0.072) | Weak negative significant (-206**) | Weak positive (0.071) |
| Net profit margin % | Weak positive (0.138) | Moderate negative significant (-0.365**) | Weak positive significant (0.175*) |
| Price / Earnings | Weak negative (-0.092) | Weak negative significant (-0.208**) | Weak positive significant (0.221**) |
| Price/EBITDA | Weak negative (-0.061) | Weak positive (0.046) | Weak positive (0.037) |

| Ratios | Companies listed on the JSE AltX | JSE AltX migrated companies | JSE AltX-delisted companies |
|---|---|---|---|
| **Sustainable growth** | | | |
| Sustainable growth ratio | Weak positive (0.004) | Weak positive (0.003) | Weak negative (-0.135) |
| **Leverage** | | | |
| Debt to Assets | Weak positive (0.076) | Weak positive (0.082) | Weak positive significant (0.204**) |
| Debt to Equity | Weak negative (-0.066) | Weak positive (0.044) | Weak negative (-0.080) |
| Price to EBITDA | Weak negative (-0.096) | Weak negative (-0.005) | Weak positive (0.046) |
| Leverage factor | Weak negative (-0.042) | Weak negative (-0.027) | Weak positive (0.032) |

Source: Research results

Table 6.23 depicts a summary of the correlations for JSE AltX-listed, migrated and delisted companies. A large majority of the correlation is weak negative or weak positive. This may be indicative that there is a weak relationship between a majority of the JSE AltX companies and the variables. However, conclusions cannot be drawn from correlations without further research. Correlation in this study necessitates the investigation of the background information regarding the JSE AltX data.

Considering the correlation coefficients, as outlined in Table 6.23, only those variables with correlation coefficients above 0.1 were used in the regression analysis. Table 6.24 outlines those variables that were used in the regression analysis as their correlations coefficients were above 0.1.

**Table 6.24: Variables used in the regression analysis**

| Variable (ratio) | Description | Category |
|---|---|---|
| Market capitalisation | Allows one to determine the value of the company based on current share and total outstanding stock. | Growth ratio |
| Return on capital | Indicative of how well a company is able to grow its returns. Return on capital shows how effectively capital used is turned into profit. Long term this is indicative of growth. | Growth ratio |
| Return of equity | A good/sustainable ROE shows how a company is creating long-term value. It also indicates how a company is using equity to grow a business. | Growth ratio |
| Return on assets | This ratio shows how efficient a company is in using assets to create earnings. | Growth ratio |
| Operating profit margin | Indicative of how much money a business makes from their core business. It shows if a company makes money from its real activities or through investing. | Sustainability ratio |
| Dividend per share | Shows profits that go out that do not necessarily have to be re-invested. Companies that do well are able to pay dividends. | Sustainability ratio |
| Net profit | This is the bottom line of a company. This ratio shows how much profit a company really makes for every rand (example). | Sustainability ratio |
| Price earnings | This is considered an important ratio when one values how profitable a company is or how it will be in the future. Shows whether a company is over or undervalued. This can be considered a 'confidence ratio' because it shows how much confidence investors have in the business. | Sustainability ratio |
| Current ratio | Measures how able a company is to pay short-term obligations (usually a year). This shows the financial health of a company and how a company can use its assets to settle liabilities and improve liquidity. Usually this figure is considered good when it is a value of 1. This would then mean a company had enough liquid assets to pay short-term liabilities. | Sustainability ratio |
| Quick ratio | This ratio shows how a company is able to meet short-term liabilities with its most liquid assets (usually cash) without having to sell or get additional finance. | Sustainability ratio |
| Cash flow | Cash flow is basically the money that flows in and out of a company. This is used to analyse the liquidity position of a company. | Sustainability ratio |
| Sustainable growth | This is the maximum rate a company can grow without additional finance or equity. This ratio is good because it can also show at which stage in the life cycle the company is. | Sustainability ratio |

Some of the growth ratios in Table 6.24 may also be used to evaluate profitability. The study evaluated the role of the JSE AltX as a platform for sustainability and growth. Specific ratios were used to measure growth, and specific ratios were used to evaluate sustainability. The ratios that measure profitability, liquidity, sustainability, and leverage were used to evaluate sustainability in this research.

Chapter 4 presented and categorised the financial ratios, after which specific ratios were selected to respond to the objectives of the study. The IRESS platform was used to calculate these ratios that were identified and categorised in Chapter 4.

The following section presents the regression analysis that tested the hypotheses of this study.

## 6.6 REGRESSION ANALYSIS TO TEST THE HYPOTHESES

Regression analysis may be described as a method for explaining or predicting the variability of a dependent variable using one or more independent variables. The question regression analysis attempts to answer is: "What values in the dependent variable can we expect, given certain values of the independent variable(s)?" (Vogt, 2005).

In part, some of the results produced by regression analysis are the p-value, regression coefficient (b) and r-squared. The p-value ranges between 0 and 1, and is calculated using sampling distributions (Salkind, 2010). The p-value indicates the statistical relationship between the independent and dependent variables. Lewis-Beck *et al.* (2004) explain that the regression coefficient is associated with each independent variable and provides the expected direct effect of one-unit change in the independent variable on the dependent variable, keeping all other independent variables constant. The r-squared measures the explanatory or predictive power of a regression model. This indicates how well the linear regression equation fits the data (Lewis-Beck *et al.*, 2004).

As mentioned in Section 6.2 (data capturing), regression was done by considering all the performance variables with a correlation value above 0.1. Performance variables were used as the dependent variable, and in so doing, determined to what extent the percentage of years the company has been listed/delisted/migrated has an influence on the performance variable.

### 6.6.1 Regression results for testing hypotheses relating to listed companies

Table 6.25 shows the results for the simple regression for JSE AltX-listed companies.

**Table 6.25: Simple regression analysis results for JSE AltX-listed companies and their ratios**

| GROWTH | | | |
|---|---|---|---|
| **Dependent variable: Market capitalisation $R^2$= 0.148; F-value =23.402( p<0.01)\*\*\*** | | | |
| **Independent variable** | **Regression coefficient** | **t-value** | **P-value** |
| **Listed companies (% of years listed)** | -0.384 | -4.838 | 0.0000\*\*\* |
| **Dependent variable: Return on capital $R^2$= 0.029; F-value=3.032 (p <0.1)** | | | |
| **Independent variable** | **Regression coefficient** | **t-value** | **P-value** |
| **Listed company (% of years listed)** | -0.125 | -1.741 | 0.083\* |
| **SUSTAINABILITY** | | | |
| **Dependent variable: Operating profit margin $R^2$=0.013; F-value= 2.084 ( p>0.1)** | | | |
| **Independent variable** | **Regression coefficient** | **t-value** | **P-value** |
| **Listed companies (% of years listed)** | 0.113 | 1.444 | 0.151 |
| **Dependent variable: Net profit $R^2$= 0.019 F-value = 3.098 (p<0.1)\*** | | | |
| **Independent variable** | **Regression coefficient** | **t-value** | **P-value** |
| **Listed companies (% of years listed)** | 0.138 | 1.760 | 0.080\* |
| **Dependent variable: Current ratio $R^2$= 0.046; F-value=9.183 (p<0.01)\*\*\*** | | | |
| **Independent variable** | **Regression coefficient** | **t-value** | **P-value** |
| **Listed companies (% of years listed)** | -0.214 | -3.030 | 0.003\*\*\* |
| **Dependent variable: Quick ratio $R^2$= 0.054; F-value= 10.884 (p<0.01)\*\*\*** | | | |
| **Independent variable** | **Regression coefficient** | **t-value** | **P-value** |
| **Listed companies (% of years listed)** | -0.232 | -3.298 | 0.001\*\*\* |
| **Dependent variable: Cash flow $R^2$= 0.013; F-value = 2.595 (p >0.1)** | | | |
| **Independent variable** | **Regression coefficient** | **t-value** | **P-value** |
| **Listed company (% of years listed)** | -0.116 | -1.611 | 0.109 |

Source: Research results

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Significance levels applicable for Table 6.26 and Table 6.2.7Table 6.25 shows that:

*Growth:*

- JSE AltX-listed companies had a negative and significant relationship with market capitalisation. This means that companies listed on JSE AltX had a statistically significant relationship with their market capitalisation during the period of observation in this study.

- JSE AltX-listed companies had a negative and significant relationship with return on capital. This means that JSE AltX-listed companies had a statistically significant relationship with return on capital.

*Sustainability:*

- JSE AltX-listed companies had a positive and non-significant relationship with operating profit margin. This means that JSE AltX-listed companies did not have a statistically significant relationship with operating profit margin.

- JSE AltX-listed companies had a positive and non-significant relationship with net profit. This means that JSE AltX-listed companies did not have a statistically significant relationship with net profit.

- JSE AltX-listed companies had a negative and significant relationship with current ratio. This means that JSE AltX-listed companies had a statistically significant relationship with current ratio.

- JSE AltX-listed companies had a negative and significant relationship with quick ratio. This means that JSE AltX-listed companies had a statistically significant relationship with quick ratio.

- JSE AltX-listed companies had a negative and non-significant relationship with cash flow. This means that JSE AltX-listed companies did not have a statistically significant relationship with cash flow.

## 6.6.2 Regression results for testing hypotheses relating to migrated companies

Table 6.26 shows the results for the simple regression for JSE AltX migrated companies.

**Table 6.26: Simple regression analysis results for JSE AltX migrated companies and their ratios**

| Dependent variable: Market capitalisation R$^2$= 0.119 F-value=41.809 (p <0.01) *** | | | |
|---|---|---|---|
| **Independent variable** | **Regression coefficient** | **t-value** | **P-value** |
| **Migrated companies (% of years listed)** | -0.344 | -6.466 | 0.0000*** |
| **SUSTAINABILITY** <br> **Dependent variable: Operating profit margin R$^2$=0.141; F-value=41.866 (p <0.01)*** | | | |
| **Independent variable** | **Regression coefficient** | **t-value** | **P-value** |
| **Migrated companies (% of years listed)** | -0.375 | -6.470 | 0 |
| **Dependent variable: Net profit R$^2$= 0.133 F-value=39.302 (p < 0.01)*** | | | |
| **Independent variable** | **Regression coefficient** | **t-value** | **P-value** |
| **Migrated companies (% of years listed)** | -0.365 | -6.269 | 0.000*** |
| **Dependent variable: Price earnings R$^2$= 0.011; F-value= 3.167 (p<0.1)** | | | |
| **Independent variable** | **Regression coefficient** | **t-value** | **P-value** |
| **Migrated companies (% of years listed)** | -0.107 | -1.779 | 0.076* |
| **Dependent variable: Current ratio R$^2$= 0.003; F-value= 0.759 (p >0.1)** | | | |
| **Independent variable** | **Regression coefficient** | **t-value** | **P-value** |
| **Migrated companies (% of years listed)** | -0.051 | -0.871 | 0.384 |
| **Dependent variable: Quick ratio R$^2$= 0.003;F-value= 0.784 (p > 0.1)** | | | |
| **Independent variable** | **Regression coefficient** | **t-value** | **P-value** |
| **Migrated companies (% of years listed)** | -0.052 | -0.885 | 0.377 |
| **Dependent variable: Cash flow R$^2$= 0.011; F-value= 3.109 (p <0.1)*** | | | |
| **Independent variable** | **Regression coefficient** | **t-value** | **P-value** |
| **Migrated companies (% of years listed)** | -0.103 | -1.763 | 0.079* |
| **Dependent variable: Price earnings R$^2$= 0.004; F-value= 1.074 (p >0.1)** | | | |
| **Independent variable** | **Regression coefficient** | **t-value** | **P-value** |
| **Migrated companies (% of years listed)** | -0.062 | -1.036 | 0.301 |

Source: Research results

Table 6.26 shows that:

- JSE AltX migrated companies had a negative significant relationship with market capitalisation. This means that JSE AltX migrated companies had a statistically significant relationship with market capitalisation.

- JSE AltX migrated companies had a negative and non-significant relationship with operating profit margin. This means that JSE AltX migrated companies did not have a statistically significant relationship with operating profit margin.

- JSE AltX migrated companies had a negative significant relationship with net profit. This means that JSE AltX migrated companies had a statistically significant relationship with net profit.

- JSE AltX migrated companies had a negative and significant relationship with price earnings. This means that JSE AltX migrated companies had a statistically significant relationship with price earnings.

- JSE AltX migrated companies had a negative and non-significant relationship with current ratio. This means that JSE AltX migrated companies did not have a statistically significant relationship with current ratio.

- JSE AltX migrated companies had a negative non-significant relationship with quick ratio. This means that JSE AltX migrated companies did not have a statistically significant relationship with quick ratio.

- JSE AltX migrated companies had a negative and significant relationship with cash flow. This means that JSE AltX migrated companies did not have a statistically significant relationship with cash flow.

The following section presents the regression results for hypothesis testing relating to JSE AltX-delisted companies.

### 6.6.3 Regression results for testing hypotheses relating to JSE AltX-delisted companies

Table 6.27 shows the results of the simple regression for JSE AltX-delisted companies.

**Table 6.27: The simple regression analysis results for JSE AltX-delisted companies and their ratios**

**GROWTH**
**Dependent variable: Return on capital R2= 0.022; F-value=4.125 (p < 0.01)\*\***

| Independent variable | Regression coefficient | t-value | P-value |
|---|---|---|---|
| Delisted company (% of years listed) | 0.147 | 2.031 | 0.044 \*\* |

**Dependent variable: Return on assets $R^2$= 0.015 F-value=2.824 (p < 0.1)\***

| Independent variable | Regression coefficient | t-value | P-value |
|---|---|---|---|
| Delisted company (% of years listed) | 0.122 | 1.680 | 0.095* |

**SUSTAINABILITY**
**Dependent variable: Return on equity $R^2$= 0.012; F-value= 2.364 (p > 0.1)**

| Independent variable | Regression coefficient | t-value | P-value |
|---|---|---|---|
| Delisted company (% of years listed) | 0.112 | 1.537 | 0.126 |

**Dependent variable: Operating profit $R^2$= 0.021;F-value= 3.442 (p < 0.1)\***

| Independent variable | Regression coefficient | t-value | P-value |
|---|---|---|---|
| Delisted company (% of years listed) | 0.146 | 1.855 | 0.065 * |

**Dependent variable: Dividend per share $R^2$= 0.073; F-value = 2.442 (p >0.1)**

| Independent variable | Regression coefficient | t-value | P-value |
|---|---|---|---|
| Delisted company (% of years listed) | -0.270 | -1.563 | 0.128 |

**Dependent variable: Net profit $R^2$= 0.031; F-value= 5.020 (p < 0.05)\*\***

| Independent variable | Regression coefficient | t-value | P-value |
|---|---|---|---|
| Delisted company (% of years listed) | 0.175 | 2.241 | 0.026\*\* |

**Dependent variable: Price earnings $R^2$= 0.049; F-value= 8.060 (p < 0.01)\*\*\***

| Independent variable | Regression coefficient | t-value | P-value |
|---|---|---|---|
| Delisted company (% of years listed) | 0.221 | 2.839 | 0.005\*\*\* |

**Dependent variable: Quick ratio $R^2$= 0.014; F-value= 2.578 (p > 0.1)**

| Independent variable | Regression coefficient | t-value | P-value |
|---|---|---|---|
| Delisted company (% of years listed) | 0.116 | 1.606 | 0.110 |

**Dependent variable: Sustainable growth $R^2$=- 0.018; F-value= 0.935 (p > 0.1)**

| Independent variable | Regression coefficient | t-value | P-value |
|---|---|---|---|
| Delisted company (% of years listed) | -0.135 | -0.967 | 0.338 |

**Dependent variable: Price to earnings $R^2$=- 0.042; F-value= 7.102 (p < 0.01)\*\*\***

| Independent variable | Regression coefficient | t-value | P-value |
|---|---|---|---|
| Delisted company (% of years listed) | 0.204 | 2.665 | 0.008\*\*\* |

Source: Research results

Table 6.25 shows that:

- JSE AltX-delisted companies had a positive and significant relationship with return on capital. This means that JSE AltX-delisted companies had a statistically significant relationship with return on capital.

- JSE AltX-delisted companies had a positive non-significant relationship with return on equity. This means that JSE AltX-delisted companies did not have a statistically significant relationship with return on equity.

- JSE AltX-delisted companies had a positive significant relationship with return on assets. This means that JSE AltX-delisted companies had a statistically significant relationship with return on assets.

- JSE AltX-delisted companies had a positive and significant relationship with operating profit. This means that JSE AltX-delisted companies had a statistically significant relationship with operating profit.

- JSE AltX-delisted companies had a negative and non-significant relationship with dividend per share. This means that JSE AltX-delisted companies did not have a statistically significant relationship with dividend per share.

- JSE AltX-delisted companies had a positive and significant relationship with net profit. This means that JSE AltX-delisted companies had a statistically significant relationship with net profit.

- JSE AltX-delisted companies had a positive and significant relationship with price earnings. This means that JSE AltX-delisted companies had a statistically significant relationship with price earnings.

- JSE AltX-delisted companies had a positive and non-significant relationship with quick ratio. This means that JSE AltX-delisted companies did not have a statistically significant relationship with dividend per share.

- JSE AltX-delisted companies had a negative and non-significant relationship with sustainable growth. This means that JSE AltX-delisted companies did not have a statistically significant relationship with sustainable growth.

JSE AltX-delisted companies had a positive and significant relationship with price to earnings. This means that JSE AltX-delisted companies had a statistically significant relationship with price to earnings.

Table 6.28 summarises the results of the hypotheses testing.

**Table 6.28: Summary of the results of the hypothesis testing**

| Hypothesis | Listed companies | Migrated companies | Delisted companies |
|---|---|---|---|
| H1: There is a statistically significant relationship between companies listed on the JSE AltX and their market capitalisation.<br><br>H1a: There is a statistically significant relationship between companies listed on the JSE AltX that have migrated to the JSE Main Board and their market capitalisation.<br><br>H1b: There is a statistically significant relationship between companies that have delisted from the JSE AltX and their market capitalisation. | **Accept** | **Accept** | **Reject** |
| H2: There is a statistically significant relationship between companies listed on the JSE AltX and the growth of a company.<br><br>H2a: There is a statistically significant relationship between companies that were previously listed on the JSE AltX and the growth of a company.<br><br>H2b: There is a statistically significant relationship between companies that have delisted from the JSE AltX the growth of a company. | **Reject**<br><br>**Only return on capital was significant at the 0.10 level** | **Reject** | **Accept 2/3**<br><br>**Return on capital significant at 0.01 level**<br><br>**Return on assets significant at 10% level** |
| H3: There is a statistically significant relationship between companies listed on the JSE AltX and the liquidity of the companies.<br><br>H3a: There is a statistically significant relationship between companies that were first listed on the JSE AltX and that migrated to the JSE Main Board and the liquidity of the companies.<br><br>H3b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the liquidity of the companies. | **Accept**<br><br>**Current ratio significant at the 0.01 level**<br><br>**Quick ratio significant at 0.01 level** | **Reject**<br><br>**Only cash flow significant at 0.10 level** | **Reject** |

| Hypothesis | Listed companies | Migrated companies | Delisted companies |
|---|---|---|---|
| H4: There is a statistically significant relationship between companies listed on the JSE AltX and the profitability of the companies.<br><br>H4a: There is a statistically significant relationship between companies that were first listed on the JSE AltX and that migrated to the JSE Main Board and the profitability of the companies.<br><br>H4b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the profitability of the companies. | **Reject** | **Reject**<br><br>**Net profit significant at 0.01 level**<br><br>**Price earnings significant 0.10 level** | **Accept**<br><br>**Operating profit significant at 0.10 level**<br><br>**Net profit significant at 0.05 level**<br><br>**Price earnings significant at 0.01 level**<br><br>**Price to earnings significant at 0.01 level** |
| H5: There is a statistically significant relationship between companies listed on the JSE AltX and the sustainable growth rate of the company.<br><br>H5a: There is a statistically significant relationship between companies previously listed on the JSE AltX and the sustainable growth rate of the company.<br><br>H5b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the sustainable growth rate of the company. | **Reject** | **Reject** | **Reject** |
| H6: There is a statistically significant relationship between companies listed on the JSE AltX the leverage of a company.<br><br>H6a: There is a statistically significant relationship between companies that migrated to the Main Board from the JSE AltX and the leverage of a company.<br><br>H6b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the leverage of a company. | **Reject** | **Reject** | **Reject** |

| Hypothesis | Listed companies | Migrated companies | Delisted companies |
|---|---|---|---|
| H7: There are statistically significant differences between JSE AltX-listed companies, those that migrated to the Main Board and those that delisted and their sustainability and growth. | **There is an equal probability for growth (market capitalisation accepted, growth ratios rejected)**<br><br>**For sustainability: ¼ accepted which was liquidity. Therefore, overall rejection.** | **There is an equal probability for growth (market capitalisation accepted; growth ratios rejected)**<br><br>**For sustainability: all ratios rejected. Therefore reject.** | **There is an equal probability for growth (market capitalisation rejected; growth ratios accepted)**<br><br>**For sustainability: ¼ accepted which was profitability. Therefore reject.** |

Table 6.28 provides a summary for the hypothesis testing of the proposed theoretical framework. For listed companies, there was a statistically significant relationship with market capitalisation. However, for the growth ratios, only return on capital had a statistically significant relationship. Migrated companies also had a statistically significant relationship with market capitalisation but none with growth. The converse was true for delisted companies, which had no statistically significant relationship with market capitalisation but a statistically significant relationship with the growth ratios, specifically, return on capital and return on assets.

For the ratios measuring sustainability for listed companies, only liquidity was acceptable. All other ratios were rejected. For ratios measuring the sustainability of migrated companies, all the ratios were rejected. In measuring the sustainability of delisted companies, only the profitability ratios had a statically significant relationship. All other ratios for delisted companies' sustainability were rejected.

## 6.7   EMPIRICALLY TESTED FRAMEWORK

In Chapter 4, a proposed theoretical framework was developed (Figure 4.3). The results presented in this chapter enabled the testing of the proposed framework. Table 6.28 depicted a summary of the hypothesis testing of the theoretical model. From this

summary, the revised proposed new theoretical framework can be provided as depicted in Figure 6.2.

**Independent variables**

**Dependent variables**

AltX listed companies

**GROWTH**
**Market capitalisation**

**SUSTAINABILITY**
- **Liquidity**

AltX delisted companies

**GROWTH**
- **Growth ratios**

**SUSTAINABILITY**
- **Profitability**

AltX Migrated companies

**GROWTH**
- **Market capitalisation**
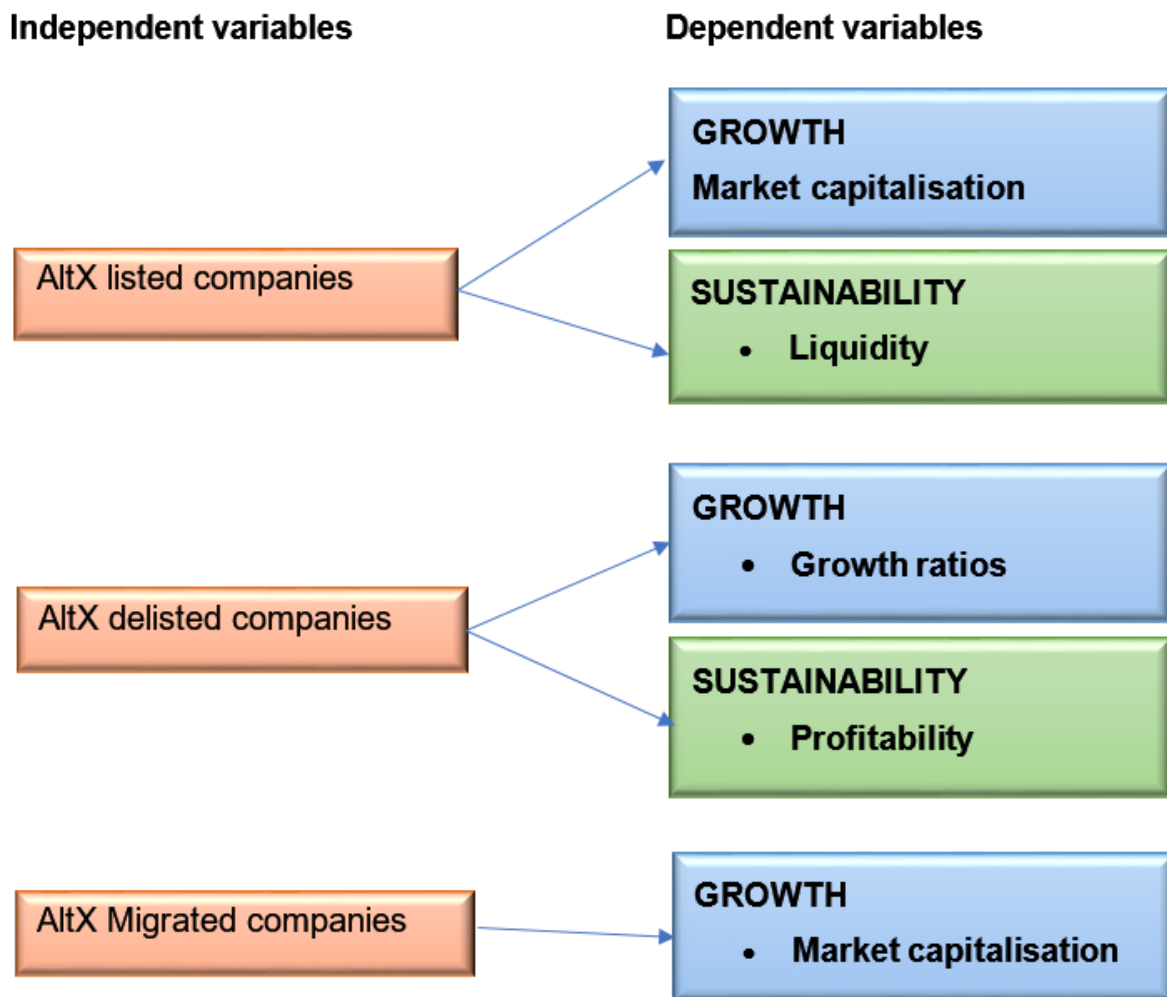
**Figure 6.2: Revised proposed theoretical framework based on empirical research**

The revised theoretical framework shown in Figure 6.2 shows that migrated companies have no relationship with sustainability, which indicates that once they have migrated to the Main Board, sustainability is no longer an issue for the company.

## 6.8    SUMMARY

Chapter 6 presented the results of the study, which is the culmination of the study, where the questions and objectives were answered. This research aimed to analyse the role of the JSE AltX as a platform for creating sustainability and growth for SMEs. The process followed in the data analysis was explained in the data-capturing section of this chapter. Descriptive statistics were presented, followed by a discussion of how

validity and reliability were maintained in this study. The correlation analysis indicated weak negative and positive relationships with the variables, which can be interpreted as the relationship with a majority of JSE AltX companies and the variables. While correlation is not conclusive, it highlights the need for further investigation into the backstory of the JSE AltX. The regression analysis conducted for JSE AltX-listed, migrated and delisted companies made it possible to identify which variables had an impact on whether or not the JSE AltX is a platform for creating sustainability and growth for SMEs. In this chapter a revised proposed theoretical framework based on empirical research was presented. This framework depicts the hypotheses that showed a statistically significant relationship with the variables tested.

Chapter 7 presents the summary, conclusions and recommendations of this study, where the findings of this chapter will be interpreted in relation to the thesis.

# CHAPTER 7

# SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 7.1    INTRODUCTION

The primary objective of this study was to evaluate the role of the JSE AltX as a platform for sustainability and growth of high-potential SMEs. This study followed a mixed method approach to fulfil this research objective.

Chapter 1 presented the blueprint for the study. Chapters 2, 3 and 4 provided the literature review for the study. Chapter 2 presented an overview of stock exchanges and synthesised capital structure theories. Chapter 3 presented an overview of growth and sustainability in SMEs. Chapter 4 presented the theoretical framework of the study. In Chapter 5, the research methodology followed in the study was explained. Chapter 6 presented the results of the empirical analyses.

The final chapter of this study, Chapter 7, provides the summary, conclusions, and recommendations of the study. A summary of the research executed in this study is described, followed by how the research objectives of the study were met. The major findings and recommendations based on the empirical results are discussed, followed by a discussion of the contribution of the study. The limitations of the study are presented, alongside recommendations for future research. The following section presents an overview of the research process followed in this study.

## 7.2    OVERVIEW OF THE RESEARCH PROCESS

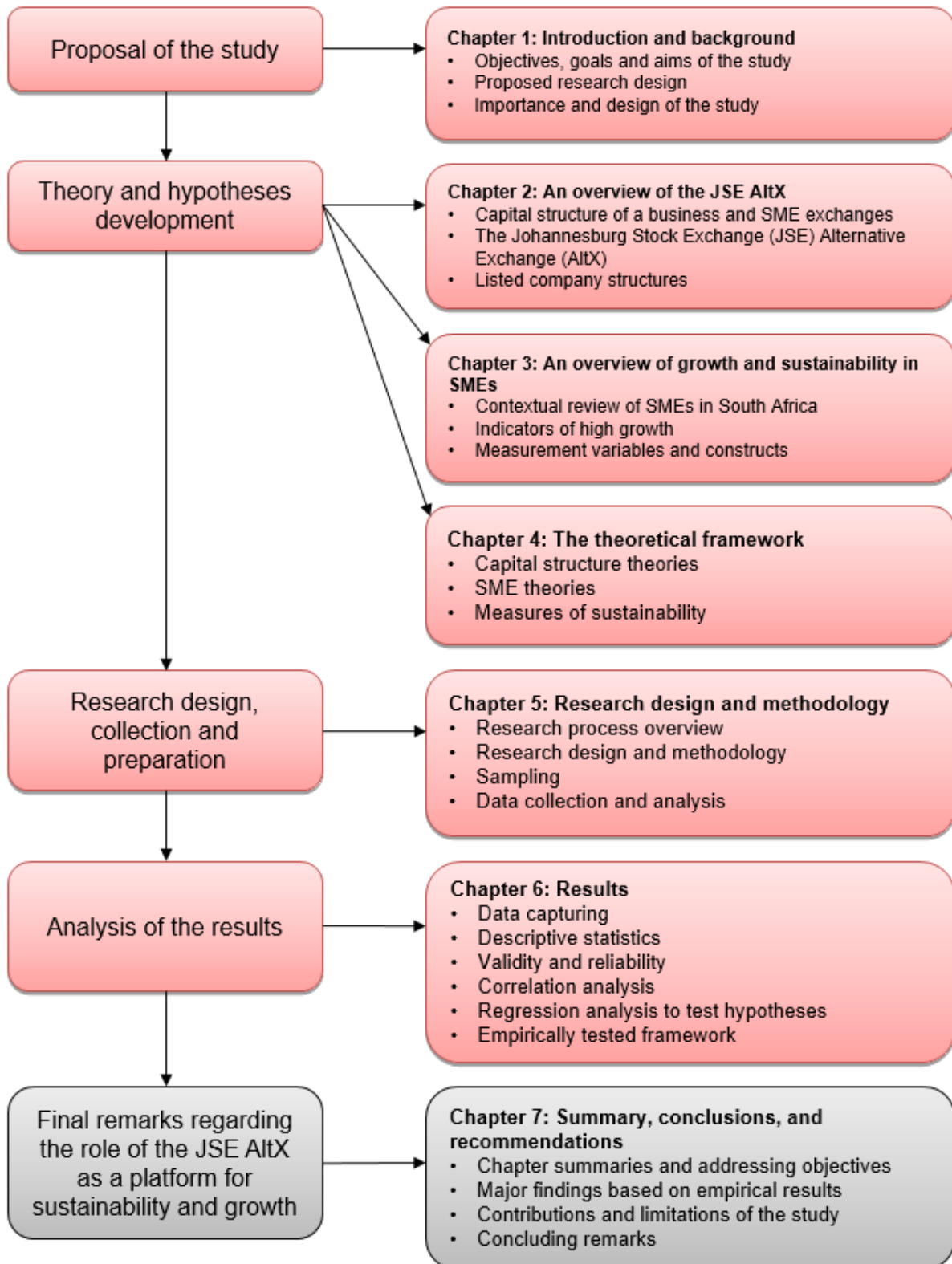Figure 7.1 presents a diagrammatical depiction of the research process of the study.



**Figure 7.1: Overview of the research process**

## 7.3    SUMMARY OF RESEARCH

Sections 7.3.1 to 7.3.6 provide summaries of the six preceding chapters of this study.

### 7.3.1    Summary of Chapter 1

Chapter 1 provided the foundation of the study. Much of the research on SMEs has focused on survivalist enterprises and the challenges of entrepreneurship. When research is conducted on the JSE, the focus is often on larger companies. Stock exchanges ideally provide liquidity, appeal and long-term sustainability for companies, and research on these companies, specifically South Africa's JSE AltX, should provide insight into whether the JSE AltX is indeed fulfilling its mandate of improving the financing and sustainability of high-potential SMEs.

This chapter outlined the introduction and background of the study. This allowed for the description of the problem statement from which the research objectives and the focus of the study were formulated. The purpose of this study was to evaluate the role of the JSE AltX as a platform for sustainability and growth for high growth potential SMEs. Chapter 1 also highlighted the importance of the study and the contribution the study will make in this sub-area of SMEs and stock exchanges which are an under-researched area of research. The research design presented aresearch design that would be followed in executing the study.

### 7.3.2    Summary of Chapter 2

Chapter 2 is the first of the three literature review chapters. From the primary objective of the study, which was to evaluate the role of the JSE AltX as a platform for sustainability and growth, Chapter 2 presented an overview of stock exchanges. Capital structure theories were introduced to highlight the funding decisions that companies make. However, the chapter highlighted paucity in the research on how SMEs apply the capital structure was highlighted. In this chapter, benefits of well functioning SME exchanges were presented such as public accountability, transparency and improved governance.

Chapter 2 presented an overview of global stock exchanges, stock exchanges in Africa, and narrowed the discussion to focus on the JSE. The JSE is Africa's largest stock exchange. Special focus was given to the JSE AltX as a dedicated alternative stock exchange for high growth potential SMEs. The JSE AltX is based on the London

AIM model but has not achieved the same success. Research on the performance of the JSE AltX often yields mixed reviews. This further highlights the need for this research which evaluates whether the JSE AltX is a platform for sustainability and growth. The chapter was concluded with a discussion of corporate governance to highlight executive director insights, board composition and structures, and the key senior positions within a company.

### 7.3.3 Summary of Chapter 3

Chapter 3 presented an overview of the growth and sustainability of SMEs. This chapter attempted to present a definition for SMEs in South Africa. South Africa follows the quantitative defeinition of SMEs which is informed by the size of the business, number of employees and annual turnover. SMEs are further classified according to sectors which range from agriculture to construction to wholesale and manfucturing amongst others. An important concept of 'high growth potential SME' was explained, and the indicators, characteristics, importance and challenges thereof were discussed. There is no uniform definition of a high growth SME. However, the chapter provided various definitions and common indicators and markers of high growth SMEs. It is important to understand what differentiates an ordinary SME from a high growth SME so that support can be tailored to allow growth as high growth SMEs create more employment, are important for economic growth, increased innovation and productivity. When research evaluates challenges ecountered by high growth SMEs, policy makers and other stakeholders are aided in creating conditions that allow them to flourish. A key construct in the study is sustainability and this was discussed in the context of SMEs. It was clarified in this chapter that sustainability in this study refers to the long term and sustained existence of a business and not the triple bottom line as the term "sustainability" has come to be understood. Measurement variables for sustainability and growth as well as specific constructs of the study were delineated.

### 7.3.4 Summary of Chapter 4

Chapter 4 presented the theoretical framework of the study. Important theories related to the study were discussed to help organise the evidence that would be collected. This commenced with a discussion of capital structure theories, such as the capital structure irrelevance theory of Modigliani and Miller, pecking order theory, the trade-off theory, market timing theory, net income approach, and net operating income

approach. These theories help one to understanding the financing decision that a company makes. The common thread amongst these theories is that companies must make a choice between debt financing and equity financing to finance their assets for growth. However, this decision is influenced by various factors and considerations that the company has to make. Various SME performance models of growth, and factors related to SME sustainability were discussed. Research in the field of SME growth is highly fragmented and this has created what may be considered an incoherent body of knowledge on SME growth theories.

Chapter 4 introduced the financial ratios relevant to the study and described various possible measures of growth and sustainability. The relationship between companies and financial ratios was presented to create a link between the hypotheses of the study. The proposed framework was illustrated from the theory concluded in the chapter. The hypotheses to be tested in the empirical research were developed in Chapter 4 of the study. The following hypotheses were developed for this study:

H1: There is a statistically significant relationship between companies listed on the JSE AltX and their market capitalisation.

H1a: There is a statistically significant relationship between companies listed on the JSE AltX that have migrated to the JSE Main Board and their market capitalisation.

H1b: There is a statistically significant relationship between companies that have delisted from the JSE AltX and their market capitalisation.

H2: There is a statistically significant relationship between companies listed on the JSE AltX and the internal growth of a company.

H2a: There is a statistically significant relationship between companies that were previously listed on the JSE AltX and the internal growth of a company.

H2b: There is a statistically significant relationship between companies that have delisted from the JSE AltX the internal growth of a company.

H3: There is a statistically significant relationship between companies listed on the JSE AltX and the liquidity of the companies.

H3a: There is a statistically significant relationship between companies that were first listed on the JSE AltX and that migrated to the JSE Main Board and the liquidity of the companies.

H3b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the liquidity of the companies.

H4: There is a statistically significant relationship between companies listed on the JSE AltX and the profitability of the companies.

H4a: There is a statistically significant relationship between companies that were first listed on the JSE AltX and that migrated to the JSE Main Board and the profitability of the companies.

H4b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the profitability of the companies.

H5: There is a statistically significant relationship between companies listed on the JSE AltX and the sustainable growth rate of the company.

H5a: There is a statistically significant relationship between companies previously listed on the JSE AltX and the sustainable growth rate of the company.

H5b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the sustainable growth rate of the company.

JSE AltXJSE AltXJSE AltX.

H6: There is a statistically significant relationship between companies listed on the JSE AltX and the leverage of a company.

H6a: There is a statistically significant relationship between companies that migrated to the Main Board from the JSE AltX and the leverage of a company.

H6b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the leverage of a company.

H7: There are statistically significant differences between JSE AltX-listed companies, those that migrated to the Main Board and those that delisted and their sustainability and growth.

### 7.3.5    Summary of Chapter 5

Chapter 5 of the study described the research process and decisions made regarding research methods and research design. This study employed a quantitative approach to respond to the research questions and objectives. The study affirmed itself in the positivist paradigm. The research design of this study may be considered correlational as the investigations analysed relationships between variables by using correlational statistics and determined the strength of relationship between variables. Figure 5.2 depicted the independent and dependent variables in the study. The sample in this study consisted of 55 JSE AltX delisted companies, 38 JSE listed and 37 companies that have migrated to the JSE Main board. Permission was sought and granted from the JSE to conduct this study. The JSE provided the names of the companies and IRESS was used to calculate the ratios determined in Chapter 4 of the study. In preparing the data for analysis, different tabs were created for the three groups of companies, namely, delisted, listed and migrated companies. Statistical tests were conducted, and the results were discussed in Chapter 6 of the study ethical considerations of the study were addressed. The study held ethics in the highest regard and was guided by UNISA's policy on Research Ethics. To not bring any company into disrepute, confidentiality and anonymity are maintained in this study.

### 7.3.6    Summary of Chapter 6

Chapter 6 reported on the empirical results of the study. The data capturing process which described each phase of data analysis was described. The basic features of data in the study were referenced in the descriptive statistics section. A step-by-step assessment of the validity and reliability of the data was presented.

The rest of the chapter extensively discussed the inferential statistics conducted to establish the relationships between independent and dependent variables. Correlational analysis allowed the researcher to determine the strength of the relationship between the independent and dependent variables. All correlation values above 0.1 were considered for regression analysis to determine the extent to which the variables influenced the performance of delisted, listed and migrated companies. An empirically tested model developed from the proposed theoretical framework was presented.

The following section addresses the achievement of the research objectives of this study.

## 7.4 ACHIEVEMENT OF PRIMARY AND SECONDARY OBJECTIVES

Table 7.1 provides a summary of the achievement of the primary and secondary objectives in the study. These primary and secondary objectives were presented in Chapter 1.

**Table 7.1: Research objectives achieved**

| | OBJECTIVE | CHAPTER ADDRESSING OBJECTIVE |
|---|---|---|
| **SECONDARY** | ONE: To develop a theoretical framework to investigate the role of the JSE AltX as a platform for sustainability and growth for high growth potential SMEs. | Chapters 2, 3 and 4 |
| | TWO: To empirically test the theoretical framework to investigate the role of the JSE as a platform for sustainability and growth for high growth potential SMEs | Chapter 6 |
| | THREE: To evaluate if the JSE AltX is a catalyst for growth in high growth potential SMEs. | Chapter 6 |
| | FOUR: To establish whether the JSE AltX is beneficial for the sustainability of SMEs of high growth SMEs. | Chapter 6 |
| | FIVE: To compare differences in the sustainability and growth of JSE AltX-delisted, listed and migrated high growth potential SMEs. | Chapter 6 |
| | SIX: To propose an empirically tested framework to investigate the role of the JSE as a platform for sustainability and growth for high growth potential SMEs. | Chapter 6 |
| **PRIMARY** | To investigate the role of the JSE AltX as a platform for sustainability and growth for high growth potential SMEs | Chapter 6 |

Source: Researcher's own compilation

### 7.4.1    Addressing the research questions

From the objectives of the study, the research questions were formulated, as presented in Chapter 1 of the study. The findings addressing the research questions are presented below.

- **What does theory propose regarding SMEs and stock exchanges?**

The three literature review chapters aimed to provide an understanding of the financing decisions through capital structure theories, presented an overview of the JSE AltX and an overview of growth and sustainabilty. Chapter 2 provided the context of SMEs and the JSE AltX as a platform developed by the JSE for high-potential SMEs. From the literature discussed in Chapter 2, it became evident that companies list on stock exchanges to generate funding. Other benefits that can be derived from listing on a stock exchange include increased visibility and increased credibility which are often associated with good governance. High growth SMEs, which may be considered the kind of companies that list of the JSE AltX, are marred by illiquidity, and the stock exchange presents a platform for them to generate the funds necessary for growth, improve their liquidity, visibility, and public appeal. However, capital structure literature often focuses on larger companies and not high growth potential SMEs. Various characteristics of the SME, such as age of the business, business size, asset structure, profitability, risk, and growth are important in understanding the concept of capital structure. However, these characteristics are limited to sourcing debt funding, and not equity funding, such as listing on a platform like the JSE AltX. Chapter 2 provided the rationale for an SME's funding decisions and presented the setting against which high growth potential SMEs operate.

While Chapter 2 presented the background, Chapter 3 presented an overview of growth and sustainability in SMEs. In this chapter, the concept of 'high growth SME' was presented. While this concept remains broad, the characteristics of high growth SMEs were described. These include some of the following: psychology of the entrepreneur, the strategies which define the competitive position of the business, organisational characeristics, innovation and human capital. This chapter presented the uniqueness and challenges face by high growth SMEs and described the well-functioning funding mechanisms that need to be in place to allow the optimal performance and contribution of these businesses. There is no single encompassing

definition of the two concepts: growth and sustainability. The varying perspectives and dimensions on the concepts of growth and sustainability allowed the researcher to develop a holistic understanding that contributed to the development of the theoretical framework.

Chapter 4 presented theories related to the study. This was an important chapter, as the theory presented in it would aid in organising the evidence later in the study and the achievement of the objectives of this study. The Capital Structure Theory of Modigliani and Miller (1958) is often criticised for its unrealistic assumtions which do not take into consideration factors such as taxes, transaction costs and clientele effects amongst other things. However, what it does is provide a structure for evaluating the importance of financing. According to the Pecking Order Theory the preferred funding source of SMEs is internal funding, followed by debt funding, rather than the sale of equity. The Trade-Off theory is premised on the revised Capital Structure theory which in its revisions included taxes. This theory premises that optimal capital structure is possible. In essence, the similarities in the theories discussed in Chapter 4 is that when companies evaluate their capital needs, they determine the costs versus the benefits of either debt or equity capital. The foundation for the empirical analysis lay in the explanation of the various financial ratios. The ratios were categorised in terms of that which they assessed, and they were aligned to the main objective of the study. From the theories, context, literature and ratios, a framework for the capital structure decision for growth was developed. This was followed by a theoretical framework against which the hypotheses of the study would be tested.

- **What do the empirical results say about the theoretical framework developed in the study?**

The results of the study indicated a large majority of the correlation in the study was weak negative or weak positive. This could be indicative of a weak relationship with the variables tested. Since correlation cannot be considered conclusive, regression analysis was done. The regression analysis highlighted different aspects for the three groups (listed, migrated, and delisted companies). For listed companies, there was a statistically significant relationship with only market capitalisation in all the variables that measured growth. For the sustainability of listed companies, two of the three ratios

for liquidity proved a statistically significant relationship. For delisted companies, two of the three ratios used to evaluate growth proved statistically significant. For sustainability, the profitability ratios had a statistically significant relationship. Since the aim of the JSE AltX is to be a catalyst for migration to the JSE Main Board, only market capitalisation had a statistically significant relationship. The growth ratios were rejected, with no statistically significant relationship. Companies may list on the JSE AltX for a myriad of reasons, which could include improved liquidity, growth, profitability, improved leverage, and sustainability. For the three groups, most of the variables tested were rejected. This is not encouraging in asserting the position of the JSE AltX as a catalyst for sustainability and growth. For all three groups, the empirical results indicated there was an equal probability that the JSE AltX was a platform for growth. Most of the sustainability ratios were rejected. Therefore, there was overall rejection of the sustainability ratios. This could be interpreted as stating that minimal benefits could be derived in terms of sustainability for JSE AltX companies.

- **Is the JSE AltX a catalyst for growth?**

There is an equal probability that the JSE AltX was a platform for growth. For listed companies there was a statistically significant relationship with market capitalisation, while the growth ratios were rejected, as there was no statistically significant relationship with any of the ratios/variables.

For migrated companies, there was a statistically significant relationship with market capitalisation, while all the growth ratios/variables were rejected.

Unlike listed and migrated companies, there was no statistically significant relationship with market capitalisation for delisted companies. However, delisted companies' growth ratios were accepted, as two of the three variables had a statistically significant relationship. For the three groups of companies either one of two variables were accepted. There was no group where both variables were accepted which could cement the position of the JSE AltX as a platform for growth. According to the JSE (2016), delisted companies are not indicative of failed trading on the JSE AltX platform. Between 70% - 80% of delisted companies delist after possible development and growth. Delistings often form part of a buy-out and consolidation into a larger, growing company. This stems from companies finding JSE AltX-delisted companies attractive due to their performance and growth.

The empirical results of this study show that there is an equal probability that the JSE AltX is catalyst for growth.

- **Is it beneficial in terms of sustainability for companies to list on the JSE AltX?**

For listed companies, only the variables that measured liquidity were accepted as having a statistically significant relationship. The rest of the variables, namely, profitability, sustainable growth and leverage were rejected. This means that only one out of four of the variables were significant. Therefore, the empirical results show no statistically significant relationship with the majority of the variables used to evaluate sustainability and listed companies. These results are not encouraging for listed companies.

For delisted companies, only the variables that measured profitability showed a statistically significant relationship for the percentage of years listed. The other variables that measured liquidity, sustainable growth and leverage were rejected. These results may support or indicate reasons for voluntary delistings on the platform. If such minimal benefits were derived from having been listed on the platform, this sheds light on what could be possible contributing factors for delisting.

While the JSE AltX may regard migration to the JSE Main Board by companies initially listed on the JSE AltX as preferable; the empirical evidence in this study suggests that in the percentage of years listed, all variables used in this study to measure sustainability were rejected. Ultimate success of the JSE AltX is measured by companies that migrate to the JSE Main Board. The JSE AltX has the highest migration rate from the AltX in comparison to its peers. (Semenya & Dhliwayo, 2020:6). However, when this study evaluated migrated companies, all variables that measured sustainability were rejected indicating no significant relationship with profitability, liquidity, sustainability, and leverage. These results could align to Coutinho's (2019) findings that companies that have migrated to the JSE Main Board do not perform too well once they have migrated. They tend to experience problems with their issue price. Migrated companies may have benefitted from listing on the JSE AltX as it did perform as a catalyst in essence. However, the question arises if listing on the JSE AltX provided adequate preparation for the JSE Main Board. This question however falls outside the scope of this study.

- **What differences in the sustainability and growth can be observed between JSE AltX-delisted, listed and migrated companies?**

The empirical results in this study indicated that there is an equal probability that the JSE AltX is a platform for growth. However, there was a difference in the ratios that resulted in this finding for listed, delisted and migrated companies. For listed companies and migrated companies, there was a statistically significant relationship with market capitalisation. The variables that measured growth for listed and migrated companies were rejected, indicated that there was no significant relationship in growth for listed companies and those that had migrated to the JSE Main Board. For delisted companies the results were different in that the market capitalisation hypothesis was rejected, and the growth ratios were accepted. This indicated a statistically significant relationship for growth in delisted companies. Semenya and Dhliwayo (2020: 6) explain this phenomenon in JSE AltX companies by stating that high growth potential SMEs have a lowered likelihood of failure than their unlisted counterparts. High growth potential SMEs are unlikely to fall back to the survival stage or diminish.

For sustainability, there was an overall rejection of the ratios. This rejection stemmed from non-significant relationships in most variables that tested sustainability for listed, delisted and migrated companies. For listed companies, a quarter of the ratios that measured liquidity were accepted. For migrated companies, none of the ratios used to measure sustainability were accepted. Delisted companies also showed an overall rejection of the hypotheses. However, only the profitability ratios for delisted companies showed a statistically significant relationship with the JSE AltX.

- **What is the role of the JSE AltX as a platform for sustainability and growth for SMEs?**

The empirical results of this study show that the JSE AltX provided different, yet limited, benefits for the different groups of companies. For listed and migrated companies there was a statistically significant relationship with market capitalisation. Market capitalisation indicates a company's worth based on the stock market. The market capitalisation of a company can also be indicative of the size of the company. However, the ratios used to measure growth in this study were rejected for listed and migrated companies. These included return on capital, return on equity as well as return on assets. These ratios are able to measure how well a company can grow its

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returns, how it uses equity to grow its returns, and how its assets are used to create earnings. For delisted companies, the market capitalisation theory was rejected. There was a statistically significant relationship with return on capital and return on assets for delisted companies. The role of the JSE AltX in growth is not a one-size-fits-all approach. Different groups of companies derived different results in terms of growth. For listed companies there was a significant relationship with market capitalisation, for delisted companies there was a significant relationship with growth and migrated companies there was a significant relationship with market capitalisation.

In this study, the majority of hypotheses that measured sustainability were rejected for listed, migrated and delisted companies. For listed companies, there was a statistically significant relationship with liquidity only. Liquidity is important as it indicates a company's ability to meet its short-term obligations. However, liquidity does not accurately reflect the ability of a company to meet its short-term obligations, as various factors, such as the type of current asset liabilities of different companies have an influence on liquidity (Kontuš & Mihanović, 2019:3256). Liquidity needs to be considered alongside profitability (Mohanty & Mehrotra, 2018). However, Kontuš and Mihanović (2019:3263) advise that companies should effectively balance liquidity with profitability to ensure overall financial health, as excessive liquidity can mean that a company has not done an aggressive search for the desirable capital investment opportunities.

All the ratios measuring sustainability in migrated companies were rejected. It should be kept in mind that the mandate of the JSE AltX is to create a platform that facilitates migration to the JSE Main Board. Van Heerden (2015) states that it must be considered that the reasons for listing, delisting, and migrating are based on company strategy and decision-making. This overrides whichever bourse a company is listed on. Additionally, the JSE AltX can be seen as the gateway to bigger markets. Companies may choose to trade on the JSE AltX first, before going to the main exchange and vice versa. Sebastian and Merino (2019) infer that certain companies may qualify for initial listing on the JSE Main Board but choose to list on the JSE AltX. Ultimately, various factors, such as size of the company, age, capital structure and strategy, could influence this decision.

Companies delist from stock exchanges either voluntarily or non-voluntarily. Although a stock exchange may delist a company for non-adherence to listing requirements, companies often delist because of transferring to a larger stock exchange to raise more capital, advantageous growth opportunities or private buyouts. Other reasons for voluntary delisting include the high compliance costs and visibility and investor interests (Balios, Eriotisa, Missiakoulisa & Vasiliou 2015:67). According to the JSE (2016), less than 15% of the delistings resulted from noncompliance with the stock exchange's requirements or as a result of liquidation.

Over the years, the JSE has experienced dwindling listings, which has pushed companies to delist, amalgamate and list in other markets. George (2020) lists the tough economic conditions and large fines imposed as a result of noncompliance as major contributing factors.

The empirical results in this study indicate that while all the sustainability ratios for delisted companies were rejected, there was a statistically significant relationship with the profitability ratios. The rejection of the majority of hyptotheses that measured sustainability in this study may indicate that the JSE AltX is not a platform that adequately addresses issues of sustainability for high growth potential SMEs.

## 7.5    TESTING OF THE HYPOTHESES

Table 7.2 summarises the acceptance or rejection of the hypotheses.

**Table 7.2: Summary of the acceptance and rejection of the hypotheses**

| Hypothesis | Accept or Reject |
|---|---|
| H1: There is a statistically significant relationship between companies listed on the JSE AltX and their market capitalisation. | **Accept** |
| H1a: There is a statistically significant relationship between companies listed on the JSE AltX that have migrated to the JSE Main Board and their market capitalisation. | **Accept** |
| H1b: There is a statistically significant relationship between companies that have delisted from the JSE AltX and their market capitalisation. | **Reject** |

| Hypothesis | Accept or Reject |
|---|---|
| H2: There is a statistically significant relationship between companies listed on the JSE AltX and the growth of a company. | **Reject** |
| H2a: There is a statistically significant relationship between companies listed on the JSE AltX that have migrated to the JSE Main Board and their growth. | **Reject** |
| H2b: There is a statistically significant relationship between companies that have delisted from the JSE AltX the growth of a company. | **Accept** |
| H3: There is a statistically significant relationship between companies listed on the JSE AltX and the liquidity of the companies. | **Accept** |
| H3a: There is a statistically significant relationship between companies that were first listed on the JSE AltX and that migrated to the JSE Main Board and the liquidity of the companies. | **Reject** |
| H3b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the liquidity of the companies. | **Reject** |
| H4: There is a statistically significant relationship between companies listed on the JSE AltX and the profitability of the companies. | **Reject** |
| H4a: There is a statistically significant relationship between companies that were first listed on the JSE AltX and that migrated to the JSE Main Board and the profitability of the companies. | **Reject** |
| H4b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the profitability of the companies. | **Accept** |
| H5: There is a statistically significant relationship between companies listed on the JSE AltX and the sustainable growth rate of the company. | **Reject** |
| H5a: There is a statistically significant relationship between companies previously listed on the JSE AltX and the sustainable growth rate of the company. | **Reject** |
| H5b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the sustainable growth rate of the company. | **Reject** |

| Hypothesis | Accept or Reject |
|---|---|
| H6: There is a statistically significant relationship between companies listed on the JSE AltX and the leverage of a company. | **Reject** |
| H6a: There is a statistically significant relationship between companies that migrated to the Main Board from the JSE AltX and the leverage of a company. | **Reject** |
| H6b: There is a statistically significant relationship between companies that delisted from the JSE AltX and the leverage of a company. | **Reject** |
| H7: There are statistically significant differences between JSE AltX-listed companies, those that migrated to the JSE Main Board and those that delisted and their sustainability and growth. | **Equal probability of growth (market capitalisation accepted, growth ratios rejected)**<br><br>**For sustainability: Reject** |

Table 7.1 depicts a summary of hypotheses tested in the study and the acceptance or rejection thereof. For the hypotheses that tested growth, the listed and migrated companies had a statistically significant relationship with market capitalisation. That was not the case for delisted companies that only had a statistically significant relationship with the ratios that measured growth and not market capitalisation. A majority of the hypotheses that measured sustainability were rejected. For listed companies, there was only a statistically significant relationship with liquidity. All other hypotheses were rejected.

The results were similar for delisted companies; where the majority of the hypotheses that measured sustainability were rejected, and there was only a statistically significant relationship with the ratios that measured profitability. All the ratios that measured sustainability for migrated companies were rejected.

It would be interesting to understand these results from the perspective of the management of all three groups of companies. This presents an opportunity for further research.

## 7.6    MAJOR FINDINGS AND RECOMMENDATIONS BASED ON EMPIRICAL RESULTS

This section presents the findings and recommendations of the study, starting with a discussion of the findings of the correlation analysis.

### 7.6.1    Correlation analysis

Correlation represents the strength of a relationship between two variables. The values measuring correlation range from -1 to +1. A positive correlation (value of 1) indicates a positive relationship between variables, while a 0 value indicates that there is no relationship between variables, and -1 indicates a negative relationship between variables.

While correlation cannot prove causation, in the empirical results of this study there was an observable pattern of weak negative correlations. In the majority of variables, there was weak negative correlation. Where the correlation was not weak negative, it was weak positive. A negative correlation indicates that variables move in opposite directions. Correlations do not provide conclusive results as there are various factors that could affect them. Correlations provide evidence of association and not causation (Mindrila & Balentyne, 2013). It therefore becomes important to understand these factors that influence correlation. The results of the correlation coefficients were used to select the variables to be used in the regression analysis. Only those variables with coefficients above 0.1 were used in the regression analysis. Twelve ratios were thus included in the regression analysis. These 12 ratios are:

- Market capitalisation
- Return on capital
- Return on equity
- Return on assets
- Operating profit margin
- Dividend per share
- Net profit
- Price earnings
- Current ratio

- Quick ratio

- Cash flow

- Sustainable growth

## 7.6.2 Growth on the JSE AltX

While the JSE AltX intends to be a platform for improving liquidity, creating access to capital markets, and a platform for sustainability and growth, it did not fulfil many of these aims, according to the empirical results of this study.

There is an equal probability that the JSE AltX is a platform for growth for listed, migrated and delisted companies. The statistically significant relationship was found in the market capitalisation of these two groups. For delisted companies, the statistically significant relationship was found in the growth ratios, and not market capitalisation.

Market capitalisation was included in the calculation for growth. Additionally, return on capital, return on equity and return on assets were also calculated for listed, delisted and migrated companies.

## 7.6.3 Sustainability measures on the JSE AltX

There were only a few statistically significant relationships for the ratios measuring sustainability as related to delisted, listed and migrated companies. The results show that there was a statistically significant relationship with liquidity. In terms of delisted companies, the only statistically significant relationship for the ratios measuring sustainability was with profitability. There was no statistically significant relationship for migrated companies with the ratios that measured sustainability.

## 7.6.4 Framework based on empirical research

To test regression in this study, only variables with a correlation value above 0.1 were considered. In terms of growth, JSE AltX-listed companies had a statistically significant relationship with market capitalisation. In terms of sustainability, there was a statistically significant relationship with only liquidity. The variables that measured sustainability, such as operating profit margin and cash flow that had a correlation variable above 0.1, did not provide any statistically significant relationships. The hypotheses that tested profitability, sustainable growth and leverage were therefore

rejected. It can therefore be stated that the empirical research showed no relationship with the growth ratios in terms of profitability, sustainable growth and leverage and listed companies. The framework based on the empirical research shows a statistically significant relationship between market capitalisation and liquidity for JSE AltX-listed companies.

In terms of measuring growth, return on capital and return on assets for JSE AltX-delisted companies there formed what was a statistically significant relationship for the ratios measuring growth. However, in terms of sustainability, only profitability was statistically significant. All other hypotheses were rejected.

JSE AltX migrated companies had a statistically significant relationship with market capitalisation. Since the mandate of the JSE AltX is to serve as a catalyst for migration to the Main Board, it may be deemed that the JSE AltX has achieved its mandate in this regard.

Figure 7.2 shows the newly proposed empirically tested framework for investigating the role of the JSE AltX as a platform for sustainability and growth.
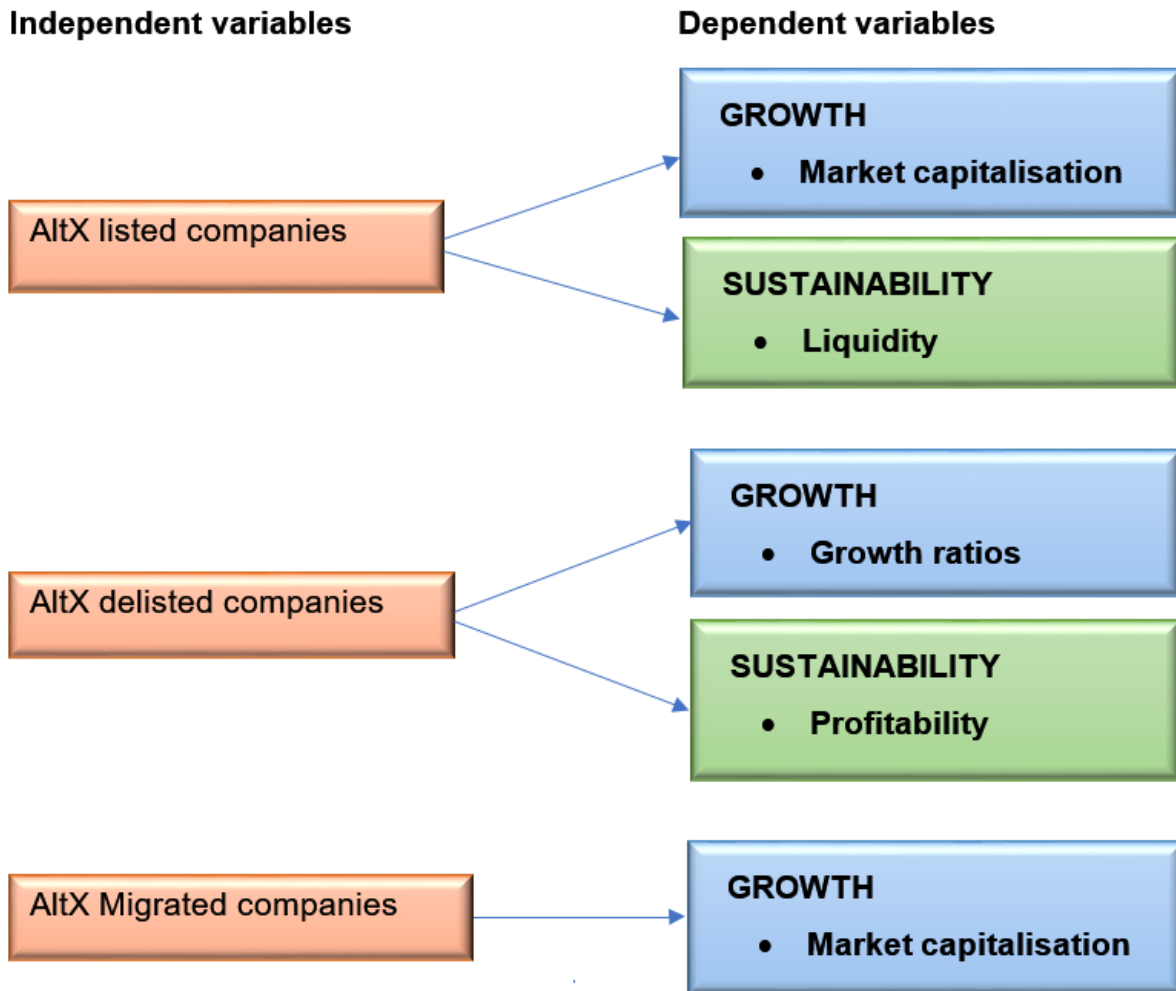
**Figure 7.2: Proposed empirically tested framework to investigate the role of the JSE AltX as a platform for sustainability and growth**

Figure 7.2 shows that sustainability no longer plays a role in migrated companies, while it still plays a role in JSE AltX-listed companies and JSE AltX-delisted companies. Sustainability is driven by liquidity in JSE AltX-listed companies while in JSE AltX-delisted companies it is driven by profitability.

In finance studies, regression assists in gaining an understanding of the relationships between variables and is also useful in modelling a future relationship between a dependent and independent variable. These empirical results may be useful in understanding the specific role for JSE AltX for listed, delisted, and migrated companies.

## 7.7 RECOMMENDATIONS BASED ON THE RESULTS OF THE STUDY

This study investigated the role of the JSE AltX as a platform for sustainability and growth for SMEs and can therefore make the following recommendations.

### 7.7.1 Recommendations for listed companies

For listed companies there was a statiscally significant relationship between market capitalisation in measuring growth and a statiscally significant relationship with liquidity in measuring sustainability.

- These results derived from this study are not encouraging as the phase in which such a business may find itself requires extensive amounts of capital. High growth potential SMEs list on stock exchanges commonly to access long-term funding, improve liquidity, and improve public appeal amongst other reasons. It is recommended that listed companies should realistically evaluate what is possible to achieve on the JSE AltX and evaluate whether or not continuing to be listed on the stock exchange yield sufficient benefits.

- While the stock exchange aims to be a catalyst for migration to the main board, and in many instances has achieved this, companies that migrate to the JSE Main Board sometimes find themselves trading in the red. It is recommended that listed companies with ambitions to migrate use the time that they are listed on the JSE AltX to adequately prepare themselves for the JSE Main Board. A strategy that will guide trade on the JSE Main Board that is assuring for investors is a necessity. One of the main reasons investors are hestitant to invest in the JSE AltX is a direct result of the perceived risk. Transparency and good governance practices may aid in creating credibility for investors.

### 7.7.2 Recommendations for delisted companies

For delisted companies, there was a statiscally significant relationship with growth and profitability.

- These results indicate that to a certain extent some benefit, event though minimal were derived on the stock exchange. Semenya and Dhliwayo (2020) state that companies that delist from the JSE AltX do not often go back to

survivalist stage. With regard to delisted companies, the results may be indicative of a learning curve. The JSE (2016) states that 15% of their delistings result from noncompliance or liquidation. Companies delist for various reasons, and these may include better opportunities elsewhere, high listing costs, investor interests (Balios et al. (2015:67), or sporadic trade which does not justify remaining listed (Macey, O'Hara & Pompilio, 2008:686). Planting (2020) suggests that delisting does not necessarily reflect the state of a company and may be associated with finding cheaper ways of obtaining funding than remaining listed on a stock exchange. It is therefore recommended that delisted companies evaluate alternative funding forms other than debt and equity funding. Possible sources of funding may include mergers and acquitions.

- Delisting may also present a listed company with the opportunity to buy back undervalued stock. Nkosi (2020) suggests that delistings in South Africa may be attributed to alternative sources of financing. Stock markets are intended to be platforms to raise capital and growth but the increase in delistings over the years may suggest that stock markets are performing this specific function less vigorously than previously. It is therefore recommended that delisted companies who choose to revert to being private companies consider the option of buying stock that may have been undervalued on the JSE AltX. This should give them back some of the management control they may have lost while being a publicly listed company.

### 7.7.3   Recommendations for migrated companies

For migrated companies, there was a statiscally significant relationship with only market capitalisation.

- The results of this study are not encouraging for migrated companies. McNeil (2016:2) states that the relaxed listing requirements do not adequately prepare SMEs for the challenges of a stock market environment, and it may not be considered transparent enough for investors. It is recommended that while planning migration or having migrated already to the JSE Main Board, companies need to develop a long-term view approach in their governance and funding efforts. Companies that have migrated need to keep in mind that investing is considered a long-term decision. Therefore, they should be

proactive and strive to generate and maintain investor interests not just to finance their short-term needs but to build and grow long term investments. This required good strategic practices, transperancy and good governance.

### 7.7.4 Recommendations for the JSE AltX

Stock exchanges present opportunities to gain access to funding allowing a company to improve various aspects such as liquidity, growth and sustainability. However, the empirical results of this study show otherwise. Listed, delisted, and migrated companies derived minimal benefits in terms of sustainability and growth from the JSE AltX.

- This indicates that the platform is unable to provide benefits as robustly as it should. It is recommended that the JSE AltX re-evaluates its effectiveness in being a stock exchange that can adequately provide sustainability and growth. This may require a needs-analysis and a stakeholder perceptions study. These findings might provide insights for the JSE AltX to determine where things go wrong and provide solutions to the stumbling blocks in their aims. Sebastian and Kransdorff (2017:700) conclude that a comparative study of listed and unlisted companies is required in order to assess the effectiveness of the JSE AltX in providing long-term access to capital markets. This view is also supported by Sebastian and Merino (2019:11).

- Platforms such as the JSE AltX present this opportunity for high growth potential SMEs without having to meet the onerous listing requirements as would be required for the JSE Main Board (Sebastian & Merino, 2019:2). The intention is to provide high growth potential SMEs with an opportunity to access long term funding. However, investors need to find the listed companies attractive and worthy of their investment without a perception that implies that the companies that list on the platform are riskier. Risk is an important factor that influences the investing decision. It is recommended that the JSE encourages these companies to place more information that could ease risk perceptions in the public domain. Investors may have a hard time accessing information pertaining to JSE Altx companies which could possibly help in clarifying any misconceptions they may have.

- For investors, the equity market is risky. For many investors, the less onerous listing requirements of the JSE AltX have created a perception of risk. McNeil (2016:3) adds that many of the JSE AltX's top performers have migrated to the JSE Main Board, which has left the platform struggling with companies that do not perform well. Furthermore, after the financial crisis of 2008, the performance of the JSE AltX has made investors more risk averse. It is recommended that the JSE AltX should consider focusing on areas such as, company scandals, listing requirements and efforts to improve the reputation of the JSE AltX, to make the stock exchange more appealing to potential investors.

### 7.7.5    Recommendations for potential investors

In this study, ratios were determined that were used to calculate growth and sustainability of high growth potential SMEs that are listed on the JSE AltX.

Investors generally view JSE AltX companies as riskier. Another possible reason for not investing could be that high growth potential SMEs are not tracked by analysts and information about them in the public domain is limited. This leaves investors with the task of gauging credibility of these high growth potential SMEs on their own (Coutinho, 2019). It is therefore recommended that potential investors could use some of the ratios determined in this study to evaluate companies they have an interest in. These investigations however should be supported by qualitative assessments of potential companies.

### 7.7.6    Recommendations for policymakers

The majority of the hypotheses tested in this study were rejected. This could be interpreted as that the JSE AltX might not be the most suitable platform to create sustainability and growth for high-potential SMEs.

- In a developing country like South Africa, high growth SMEs create 86% of new jobs. It is therefore recommended that long-term funding structures are created to support the growth and sustainability of such SMEs. Only 6% of high growth potential SMEs are listed on the JSE AltX (Small Business Institute, 2018). This is a small percentage of total high growth potential SMEs with access to what could potentially be a good platform if it is positioned and tailored properly.

Either collaborative efforts with the JSE AltX itself or a possibly government funded division that would support high growth SMEs' growth needs.

## 7.8    CONTRIBUTION OF THE STUDY

This study contributes in highlighting a gap in exisiting literature as derived from the literature review, in terms of the methodology as well as the empirical results obtained in this study. These are discussed in more detail in this section.

The first contribution of this study is its contribution to the limited research on SMEs that participate on platforms such as stock exchanges. While many previous studies (see Chapter 2, Section 2.4) have focused on the JSE as a stock exchange for corporates, this study deliberately focused on the JSE AltX, a stock exchange developed especially for high growth potential SMEs. This study not only looked at JSE AltX-listed companies but also delisted and migrated companies. This allowed the researcher to compare and contrast the performance of these different groups.

A second contribution of the study was the development of a framework for high growth potential SME capital structure decision making for growth and sustainability. This conceptual framework could be used to understand the financing decision making of high growth potential SMEs. According to Abeywardhana (2017), companies make three financing decisions, namely, investing decisions, financing decisions and dividend decisions. The various capital structure theories that were discussed in the study mostly suggest that a company's financing decision involves either taking on more debt or issuing equity, to either fund operations and growth, or to create business sustainability. A company would have to weigh the pros and cons of the alternative methods of obtaining funding. The capital structure theories provide a guideline of this process of decision making by companies. The conceptual framework developed for this study incorporated the company's financing decision alongside the various capital structure theories to determine where the JSE AltX fits into this capital structure decision. A theoretical framework was also developed for the study that was empirically tested.

A third contribution of this study is the methodological application that was followed. This research followed a correlational research design where the strength of relationships between variables was determined. Using this approach to develop a

framework, determining ratios to be calculated and hypotheses testing in the study, allowed the researchers to precisely measure what was required with regard to the aims of the study.

A fourth contribution of the study is in the results obtained through empirical research. The findings of the study suggest that in the percentage of years listed, JSE AltX companies have experienced limited success in all the ratios tested for sustainability and growth. With regard to JSE AltX-listed companies, the hypothesis for market capitalisation and liquidity were accepted. With regard to JSE AltX-delisted, two thirds of the ratios used to measure growth were accepted. In the case of sustainability as related to JSE AltX-delisted companies, the profitability ratios were accepted. With regard to JSE AltX migrated companies, only the market capitalisation hypothesis was accepted. All the other ratios related to sustainability were rejected. The results of the study suggest that the JSE AltX does not adequately deliver growth and sustainability for high growth potential SMEs. Stakeholders such as delisted, listed, migrated companies, the JSE itself, potential investors and policymakers may derive some benefits from the results of this study. The empirical results may present an evaluative measure for the three groups of companies of the JSE AltX. The JSE itself may undertake research on perceptions and performance of the alternative stock exchange. Companies with ambitions to list on the platform may evaluate whether or not the JSE AltX is a suitable platform for their growth and sustainability goals.

This study highlighted that companies have experienced a limited number of positive effects from listing on the JSE AltX since a majority of the hypotheses tested were rejected. Companies, therefore, need to consider which benefits exist for listing on the JSE AltX, or whether alternative sources of funding should be considered.

The study makes a fifth contribution that may be of interest to various stakeholders such as investors, the JSE itself and academics. The research evaluated the performance of the JSE AltX in terms of sustainability and growth. Investors may benefit from the empirical results of this study in evaluating their investment decision, as this study presented a multi-faceted approach to the analysis of the performance of not only listed companies but companies that have also delisted and migrated to the JSE Main Board.

This study developed and empirically tested a framework. The JSE AltX may use the information contained in this study to inform the requirements related to the companies they list on the bourse. The research conducted in this study may also benefit academics in the field of high growth potential SMEs and finance. This study contributed in researching an under-researched area of entrepreneurship. In understanding the research processes followed and interpreting the empirical results, future research areas of conducting a mixed-method assessment of a similar topic to support the quantitative results. This study may be used to assist students and academics in understanding the role of a stock exchange in an emerging economy, such as South Africa.

## 7.9 LIMITATIONS OF THE STUDY AND FUTURE AREAS FOR RESEARCH

The limitations of the study are presented in the following section. These are followed by a discussion of future areas for research.

### 7.9.1 Limitations of the study

The research approach followed in this study was a quantitative approach. The design can be more accurately described as correlational. The empirical results suggest limited benefits for companies listing on the JSE AltX. The quantitative results do not provide detailed explanations of the results and performance of the companies. The study could have benefitted from an in-depth understanding which could have been facilitated through interviews to provide a better understanding of the results. However, this limitation also presents an area for future research.

A second limitation of the study was the non-categorisation of companies by sector and turnover. The categorisation by sector and turnover would have allowed for more accurate comparison between the different groups of companies.

The following section discusses future areas for research identified when conducting this study.

### 7.9.2   Areas for future research

This study might have benefitted from interviews with relevant stakeholders who might have provided further information to explain the role of the JSE AltX in terms of the growth and sustainability of JSE AltX-listed companies. A future area of research could be to include a qualitative aspect in a similar study. This would add the perspectives and insights of executives related to JSE AltX companies. This would allow researchers, companies, the JSE AltX and other relevant stakeholders to achieve a better understanding of the performance of the JSE AltX and the expectations for performance, as well as assist in making decisions about listing on the platform.

The second future research area would be the application of the research framework that was developed in this research. This would provide SMEs that intend to list on the JSE AltX with a step-by-step framework to evaluate if it would be beneficial for them to use the JSE AltX as a platform for growth and sustainability.

This study found that the JSE AltX offered limited success in the growth and sustainability of companies. While this study focused on capital structure theories and the performance of companies on the JSE AltX, it would be interesting to gain insight into the strategies followed by companies to ensure performance on the JSE AltX. It can be said that ultimately, the strategies the company employs before listing, during listing, and sometimes post-delisting or migration, are important determinants of their success on the stock exchange.

Various ratios were used to evaluate the performance of companies on the JSE AltX from 2008 to 2018. As some company data was missing, a decision was made to use the percentage of years. A future area for research would be to determine trends in the different groups of delisted, listed and migrated companies, using the same ratios over the same period of years. Trends analysis would assist in identifying patterns in companies' performance and predicting performance in the short to long run.

## 7.10   CONCLUDING REMARKS

This research aimed to evaluate the role of the JSE AltX as a platform for growth and sustainability. This was done through the employment of various measures to evaluate how delisted, listed and migrated companies performed from 2008 to 2018. The theoretical framework that was developed was informed by various capital structure

theories and the financing decision made by companies. The results of research demonstrated that the separate groups of delisted, listed and migrated companies derived limited benefits from being listed on the stock exchange. These results were not encouraging in promoting the JSE AltX as a catalyst for sustainability and growth. They results may be indicative of the JSE AltX's inability to improve market capitalisation, growth, profitability, liquidity, sustainability and leverage for the different groups of companies. From the results of the study, it should be considered that results or performance on the stock exchange is not a one-size-fits-all programme. High growth potential SMEs need to realistically evaluate what can be derived from listing on the JSE AltX. While the results of this study are not encouraging in presenting the JSE AltX as a platform for sustainability and growth, they may be considered a point of depature in evaluating the effectiveness of this platform from multiple perspectives of listed companies, companies considering delisting, companies that have migrated and other stakeholders such as companies who wish to list, investors, policymakers and the JSE itself.

An area for future research that should be considered in similar studies is the inclusion of a qualitative aspect to gain insight into a company's strategy for listing on a stock exchange such as the JSE AltX. Understanding such insights could provide valuable information that could improve different company's expectations and perhaps explain their rationale for listing on the stock exchange. The research done in this study has the potential to contribute to the field of theory and empirical research as related to high growth potential SMEs in emerging economies.

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# APPENDIX A:
# ETHICAL CLEARANCE APPROVAL

UNISA | university of south africa

## UNISA ECONOMICS ETHICS REVIEW COMMITTEE

Date: 02 Oct. 18

Dear Ms. N.M. Mmako

| NHREC Registration # : (if applicable) |
| --- |
| ERC Reference # :<br>**2018_DE_007(SD)_Ms_NM_Mmako** |
| Name : N.M. Mmako |
| Student #: |
| Staff #: 90180429 |

**Decision: Ethics Approval from 2018 to 2023**

**Researcher(s):** Name Ms. N.M. Mmako
Address Department of Applied Management, UNISA
E-mail address: mmakonm@unisa.ac.za

**Supervisor (s):** Name: Prof. M. Struwig
E-mail address, Miemie.Struwig@mandela.ac.za  telephone # +27 (0) 41 504 2475

**Working title of research:**

**The role of the JSE AltX as a platform for creating sustainability and growth for SMEs**

**Qualification:** PhD (Business Management)

Thank you for the application for research ethics clearance by the Unisa Economics Ethics Review Committee for the above mentioned research.  Ethics approval is granted for 5 years.

The **low risk application** was **reviewed** by the Economics Ethics Review Committee on 02 October 2018 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment. The decision was approved on 02 October 2018.

The proposed research may now commence with the provisions that:
1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.

# APPENDIX B:
# TURNITIN CERTIFICATE

Nthabi

# APPENDIX C:
# IRESS RATIO DOCUMENTS


McGregor BFA

| Ration Name | Standardised - Non Gold Formulas | Formula in Words |
|---|---|---|
| ACCOUNTS RCVB/TOVER | V51 / V27 | Turnover / Debtors |
| | | |
| ASSETS / CAPTAL EMP | V40 / (V40 - V37) | Total Assets / (Total Assets - Total Current Liabilities) |
| | | |
| BOOK VAL/ SHARE (c) | (V6 / V102) * 100 | (Ordinary Shareholders Interest) / Nr of Ordinary Shares in Issue @ Year End) * 100 |
| | | |
| CASH FLW/ SHARE (c) | (V77 - V63 + V130) / V102 * 100 | (Profit After Taxation - Total Profits Extraordinary Nature + Items Not Representing Cash flow) / Nr of Ordinary Shares in Issue @ Year End * 100 |
| | | |
| CASH FLOW DIV COVER | (V82 + V80 + V130) / V80 | (Retained Profits + Ordinary Dividend + Items Not Representing Cash flow) / Ordinary Dividend |
| | | |
| CASH FLOW INTR COVER | (V77 - V63 + V130 + V74) / V74 | (Profit After Taxation - Total Profits Extraordinary Nature + Items Not Representing Cash flow + Total Interest Paid) / Total Interest Paid |
| | | |
| CURRENT RATIO | V31 / V37 | Total Current Assets / Total Current Liabilities |
| | | |
| DEBT / ASSETS | (V24 + V37) / V40 | (Total Long Term Loan Capital + Total Current Liabilities) / Total Assets |
| | | |
| DEBT / EQUITY | (V24 + V37) / V9 | (Total Long Term Loan Capital + Total Current Liabilities) / Total Owners Interest |
| | | |


McGregor BFA

| | | |
|---|---|---|
| DIR REM % PFT BTAX | ((V68 + V69) / V73) * 100 | ((Directors Remuneration: Direct + Directors Remuneration: Other) / Profit Before Interest And Tax (EBIT)) * 100 |
| | | |
| DIVIDEND/ SHARE (c) | V87 / 10 (As per PUB Fin's) | Dividends Per Share / 10 (As per PUB Fin's) |
| | | |
| DIVIDEND COVER | (V80 + V82) / V80 | (Ordinary Dividend + Retained Profits) / Ordinary Dividend |
| | | |
| DIVIDEND YIELD % | ((V80 / V102) / (V150 / 100)) * 100 | ((Ordinary Dividend / Nr of Ordinary Shares in Issue @ Year End) / (Share Price @ Company Financial Year End / 100)) * 100 |
| | | |
| EARNINGS/ SHARE (c) | V144/10 | Headline Earnings per Share / 10 |
| | | |
| EARNINGS YIELD % | (V144 / V150) * 100 | (Headline Earnings per Share / Share Price @ Company Financial Year End) * 100 |
| | | |
| FINANCIAL DISTRESS | See (a) Below | See (a) Below |
| | | |
| IADJ PRF/ SHARE (c) | ((V82 + V80 - V119) / V102) * 100 | ((Retained Profits + Ordinary Dividend - Inflation Adjusted Depreciable Fixed Asset) / Nr of Ordinary Shares in Issue @ Year End) * 100 |
| | | |
| IADJ RET ASSETS % | ((V73 - V63 - V119) / (V40 + V42 + V118)) * 100 | ((Profit Before Interest And Tax (EBIT) - Total Profits Extraordinary Nature - Inflation Adjusted Depreciable Fixed Asset) / (Total Assets + Surplus Value Over Book Value of Investment + Inflation Adjusted Other Fixed Asset)) * 100 |
| | | |
| IADJ RET EQUITY % | ((V82 + V80 - V119) / (V9 + V42 + | ((Retained Profits + Ordinary Dividend - Inflation Adjusted |

| | V118)) * 100 | Depreciable  Fixed Asset) / (Total Owners Interest + Surplus Value Over Book Value of Investment + Inflation Adjusted Other Fixed Asset)) * 100 |
|---|---|---|
| | | |
| INTEREST COVER | (V73 - V63) / V74 | (Profit Before Interest And  Tax (EBIT) - Total Profits Extraordinary Nature) / Total Interest Paid |
| | | |
| LEVERAGE FACTOR | (V77 / V9) / ((V73 - V63 - V76) / V40) | (Profit After Taxation / Total Owners Interest) / ((Profit Before Interest And  Tax (EBIT) - Total Profits Extraordinary Nature - Taxation) / Total Assets) |
| | | |
| LT LOANS %TOT DEBT | (V24 / (V24 + V37)) * 100 | (Total Long Term Loan Capital / (Total Long Term Loan Capital + Total Current Liabilities)) * 100 |
| | | |
| N A V   / SHARE (c) | (V9 / V102) * 100 | (Total Owners Interest / Nr of Ordinary Shares in Issue @ Year End) * 100 |
| | | |
| NET PRF MARGIN % | (V77 / V51) * 100 | (Profit After Taxation / Turnover) * 100 |
| | | |
| OPRT PRFIT /EMPLOYEE | (V73 / V131) * 1000 | (Profit Before Interest And  Tax (EBIT) / No Persons Employed) * 1000 |
| | | |
| OPR PRF MARGIN % | ((V73 - V63) / V51) * 100 | ((Profit Before Interest And  Tax (EBIT) - Total Profits Extraordinary Nature) / Turnover) * 100 |
| | | |
| PRICE / IADJ PRF | (V150 / 100) / ((V82 + V80 - V119) / V102) | (Share Price @ Company Financial Year End / 100) / ((Retained Profits + Ordinary Dividend - Inflation Adjusted Depreciable  Fixed Asset) / Nr of Ordinary Shares in Issue @ |

| | | Year End) |
|---|---|---|
| | | |
| PRICE / BOOK VALUE | V150 / ((V6 / V102) * 100) | Share Price @ Company Financial Year End / ((Ordinary Shareholders Interest / Nr of Ordinary Shares in Issue @ Year End) * 100) |
| | | |
| PRICE / CSH FLOW | (V150 / 100) / ((V77 - V63 + V130) / V102) | (Share Price @ Company Financial Year End / 100) / ((Profit After Taxation - Total Profits Extraordinary Nature + Items Not Representing Cash flow) / Nr of Ordinary Shares in Issue @ Year End) |
| | | |
| PRICE / EARNINGS | V150 / V144 | Share Price @ Company Financial Year End / Headline Earnings per Share |
| | | |
| PRICE / N A V | (V150 / 100) / (V39 / V102) | (Share Price @ Company Financial Year End / 100) / (Net Assets / Nr of Ordinary Shares in Issue @ Year End) |
| | | |
| PRICE / SHARE (c) | V150 | Share Price @ Company Financial Year End |
| | | |
| QUICK RATIO | (V31 - V26) / V37 | (Total Current Assets - Total Stock) / Total Current Liabilities |
| | | |
| RET EXT INVEST. % | (V59 / V19) * 100 | (Total Income Investment / Total Long Term Investments) * 100 |
| | | |
| RETENTION RATE | (V82 / (V79 - V81)) * 100 | (Retained Profits / (Profit to Ordinary And Preference Shareholders - Preference Dividend)) * 100 |
| | | |
| RETURN ON ASSETS  % | ((V73 - V63) / V40) * 100 | ((Profit Before Interest And  Tax (EBIT) - Total Profit |

| | | Extraordinary Nature) / Total Assets) * 100 |
|---|---|---|
| | | |
| RETURN ON EQUITY  % | (V77 / V9) * 100 | (Profit After Taxation / Total Owners Interest) * 100 |
| | | |
| SHARE SPLT FACTOR | V173 | Split Factor ( 3 Decimals ) |
| | | |
| SUSTAIN GROWTH % | See (b) Below | See (b) Below |
| | | |
| TOT ASSETS / TOVER | V51 / V40 | Turnover / Total Assets |
| | | |
| TOT DEBT / CSH FLOW | (V24 + V37) / (V77 - V63 + V130) | (Total Long Term Loan Capital + Total Current Liabilities) / (Profit After Taxation - Total Profits Extraordinary Nature + Items Not Representing Cash flow) |
| | | |
| TURNOVER / EMPLOYEE | (V51 / V131) * 1000 | (Turnover / No Persons Employed) * 1000 |
| | | |
| | | |
| | | |
| | | |
| **A: Financial distress** **a.** | a: -1.662 * ((V24 + V37) / V40) | a: -1.662 * ((Total Long Term Loan Capital + Total Current Liabilities) / Total Assets) |
| | | |
| **b.** | b: 1.11 * ((V73 * 24 months / V115) / (V40 + V40(prey year) )) | b: 1.11 * ((Profit Before Interest And  Tax (EBIT) * 24 months / Months Covered By Financial Statements) / (Total Assets + Total Assets(prey year) )) |
| | | |
| **c.** | c: 5.29 * (V31 + V112) / (V37 * 100) | c: 5.29 * (Total Current Assets + Market Value Listed |

| | | Investments) / (Total Current Liabilities * 100) |
|---|---|---|
| | | |
| **d.** | d: 8.6 * ((V77 * 24 months / V115) / (V40 + V40(prey year) )) | d: 8.6 * ((Profit After Taxation * 24 months / Months Covered By Financial Statements) / (Total Assets + Total Assets(prey year) )) |
| | | |
| **e.** | e: 1.74 * ((V77 + V130) * 12 months / V115) / ((V40 + V42 + V128)) | e: 1.74 * ((Profit After Taxation + Items Not Representing Cash flow) * 12 months / Months Covered By Financial Statements) / ((Total Assets + Surplus Value Over Book value of Investment + Deferred Tax Total)) |
| | | |
| **f.** | f: 1.071 * (V26 / (V40 + V42 + V118)) | f: 1.071 * (Total Stock / (Total Assets + Surplus Value Over Book value of Investment + Inflation Adjusted Other Fixed Asset)) |
| | | |
| **g.** | g: -0.06881 | g: -0.06881 |
| **Result.** | Sum(a to g) Rounded to two decimals | Sum(a to g) Rounded to two decimals |
| | | |
| **B: Sustainable Growth** | | |
| **p.** | (V82 / (V79 - V81)) | (Retained Profits / (Profit to Ordinary And Preference Shareholders - Preference Dividend)) |
| | | |
| **ROA** | ((V73 - V63 - V76) / V40) * 100 | ((Profit Before Interest And  Tax (EBIT) - Total Profit Extraordinary Nature - Taxation) / Total Assets) * 100 |
| | | |
| **D / E** | (V24 + V37) / V9 | (Total Long Term Loan Capital + Total Current Liabilities) / Total Owners Interest |
| | | |

| | | |
|---|---|---|
| **I.** | (V74 / (V24 + V32 + V34)) * 100 | (Total Interest Paid / (Total Long Term Loan Capital + Short Term Borrowings + Bank Overdraft)) * 100 |
| | | |
| **Formula** | (p * ROA) + (D / E * (ROA - I) * p) | (Retention Rate * Return on Assets) + (Debt to Equity * (Return on Assets - Return on Interest Bearing Investments) * Retention Rate) |
| | | |
| | | |
| | ((V82 / V79) * ((V73 - V63 - V76) / V40) * 100) + ((V24 + V37) / V9 * (((V73 - V63 - V76) / V40) * 100 - (V74 / (V24 + V32 + V34)) * 100) * (V82 / V79)) | |
| | | |
| | | ((Retained Profits / Profit to Ordinary And Preference Shareholders) * ((Profit Before Interest And  Tax (EBIT) - Total Profit Extraordinary Nature - Taxation) / Total Assets) * 100) + ((Total Long Term Loan Capital + Total Current Liabilities) / Total Owners Interest * (((Profit Before Interest And  Tax (EBIT) - Total Profit Extraordinary Nature - Taxation) / Total Assets) * 100 - (Total Interest Paid / (Total Long Term Loan Capital + Short Term Borrowings + Bank Overdraft)) * 100) * (Retained Profits / Profit to Ordinary And Preference Shareholders)) |
| | | |
| | (0.740331394787856 * 7.95228628230616) + (1.53624101853019 * (7.95228628230616 - 7.94656383418262) * 0.740331394787856) | |

# APPENDIX D:
# JSE PERMISSION

Hi Nthabeleng,

Thank you for your email.

Please be advised that we can provide the data however, before we send it to you we require the following;

1. Completed historical data order form(attached)
2. Completed student dispensation form(attached)
3. Copy of your student card
4. Copy of your thesis/research (we understand that you cannot provide us with this right now therefore kindly advise on the date that you intend to finish and we will follow up with you when the time comes should you not comply.

Once we have the above we will provide you with the data, as you will be using the data for academic purposes, you will noy be required to pay.

Kind Regards,

**Market Data Support**

Information Services/Market Data

**T** +27 11 520 7151

**E** MDSupport@jse.co.za

JSE Limited · One Exchange Square · Gwen Lane · Sandown · South Africa

www.jse.co.za

Johannesburg
Stock Exchange

From: Mmako, Nthabeleng <mmakonm@unisa.ac.za>
Sent: 2019/09/19 10:33
To: MDSupport <MDSupport@jse.co.za>
Subject: RE: REQUEST FOR INFORMATION

Good morning

Thank you. Please find attached the following documents:

1.      Completed historical data order form
2.      Completed student dispensation form
3.      Proof of registration (UNISA is a distance university)

My anticipated completion date is December 2020.

I trust that all is in order.

Kind regards
Nthabeleng

# APPENDIX E:
# JSE ALT X GROUPS OF COMPANIES

| Delisted companies | Listed companies | Migrated companies |
|---|---|---|
| SAB&T UBUNTU HLDGS LTD | 4SIGHT HOLDINGS LIMITED | SA COAL (PREVIOUSLY YOMHLABA) |
| CREDIT U HOLDINGS LIMITED | ADVANCED HEALTH LIMITED | MAZOR GROUP LTD |
| CELCOM | AEP ENERGY AFRICA LIMITED | SANYATI HOLDINGS LTD |
| COUNTRY FOODS LIMITED | WESIZWE PLATINUM LIMITED | ESOR LIMITED |
| MILKWORX LIMITED | ALPHAMIN RESOURCES CORPORATION | CIC HOLDINGS LTD |
| DTH DYNAMIC TECHNOLOGY HOLDINGS LTD | ANCHOR GROUP LIMITED | PAN AFRICAN RESOURCE PLC |
| ABE CONSTRUCTION CHEMICALS LIMITED | ETION LIMITED | INFRASORS HOLDINGS LTD |
| KIMBERLEY CONSOLIDATED MINING LTD | ASTORIA INVESTMENTS LIMITED | WESCOAL HOLDINGS LTD |
| BEGET HOLDINGS LIMITED | AVIOR CAPITAL MARKETS HOLDINGS LIMITED | LITHA HEALTHCARE GRP LTD (MYRIAD MEDICAL HLDGS LTD) |
| PALADIN CAPITAL LIMITED | BRIKOR LIMITED | 1TIME HOLDINGS LTD |
| VOX TELECOM LIMITED | CASTLEVIEW PROPERTY FUND LIMITED | NEW EUROPE PROP INV PLC |
| AFRICAN BRICK CENTRE LIMITED | CHROMETCO LIMITED | CONSOLIDATED INFRASTRUCTURE GRP LTD(BUILDWORKS) |
| DIALOGUE GROUP HOLDINGS LIMITED | ENALENI PHARMACEUTICALS | ELLIES HOLDINGS LTD |
| O-LINE HOLDINGS LIMITED | GO LIFE INTERNATIONAL LIMITED | MORVEST GROUP LTD(XANTIUM TECH HLDGS LTD) |
| IQUAD GROUP LIMITED | HERIOT REIT LIMITED | TASTE HLDGS LTD |
| S A FRENCH LIMITED | NUTRITIONAL HOLDINGS LTD | SANTOVA LOGISTICS LTD |
| QUEENSGATE HOTELS & LEISURE LIMITED | KIBO MINING PLC | ROLFES TECHNOLOGY HLDGS |
| HARDWARE WAREHOUSE LIMITED | METTLE INVESTMENTS LIMITED | INSIMBI REF & ALLOY SUP |

| Delisted companies | Listed companies | Migrated companies |
|---|---|---|
| ZAPTRONIX LIMITED | NEW FRONTIER PROPERTIES LIMITED | CALGRO M3 HLDGS LTD |
| MUVONI TECHNOLOGY GROUP LTD | NEWPARK REIT LIMITED | CURRO HOLDINGS LIMITED |
| RGT SMART MARKET INTELLIGENCE LTD | NVEST FINANCIAL HOLDINGS LIMITED | ONELOGIX GROUP LTD |
| LONRHO PLC | OASIS CRESCENT PROPERTY FUND | THE WATERBERG COAL CO LTD |
| SABLE HOLDINGS LIMITED | PEMBURY LIFESTYLE GROUP LIMITED | FINBOND GROUP LTD |
| RACEC GROUP LIMITED | ALARIS HOLDINGS LTD | TORRE INDUSTRIES LIMITED |
| B&W INSTRUMENTATION & ELECTRICAL LD | PSV HOLDINGS LIMITED | COGNITION HOLDINGS LTD(INTERCONNECTIVE SOLUTION) |
| SHERBOURNE CAPITAL LIMITED | RENERGEN LIMITED | INTERWASTE HLDGS LTD |
| UBUBELE HOLDINGS LIMITED | SOAPSTONE INVESTMENT LTD | ROCKCASTLE GLOBAL REAL ESTATE CO LTD |
| ALLIANCE MINING CORPORATION LIMITED | TELEMASTERS HOLDINGS LIMITED | MAS REAL ESTATE INC. |
| AFRICA CELLULAR TOWERS LIMITED | TOTAL CLIENT SERVICES LIMITED | GRIT REAL ESTATE INC GRP(PREVIUSLY DELTA, MARA DELTA, OSIRIS) |
| ERBACON INVESTMENT HOLDINGS LIMITED | UNIVERSAL PARTNERS LIMITED | STENPROP LIMITED |
| PINNACLE POINT GROUP LIMITED | VISUAL INTERNATIONAL HOLDINGS LIMITED | HUGE GROUP LTD |
| BEIGE HOLDINGS LIMITED | W G WEARNE LIMITED | ATLANTIC LEAF PROP LTD |
| RARE HOLDINGS LIMITED | WORKFORCE HOLDINGS LIMITED | CSG HOLDINGS LTD |
| SACOVEN PLC | | SIRIUS REAL ESTATE LTD |
| LODESTONE REIT LIMITED | | GREENBAY PROPERTIES LTD |
| GOODERSON LEISURE CORPORATION LIMITED | | SPEAR REIT LIMITED |
| GIYANI GOLD CORPORATION | | TISO BLACKSTAR GROUP SE |
| DIAMONDCORP PLC | | |
| AFRICAN EAGLE RESOURCES PLC | | |

| Delisted companies | Listed companies | Migrated companies |
|---|---|---|
| CHEMICAL SPECIALITIES LIMITED | | |
| QUANTUM PROPERTY GROUP LIMITED | | |
| WILLIAM TELL HOLDINGS LIMITED | | |
| MONEYWEB HOLDINGS LIMITED | | |
| M-FITEC INTERNATIONAL LIMITED | | |
| INTERNATIONAL HOTEL PROPERTIES LIMITED | | |
| VESTIN HOLDINGS LIMITED | | |
| BSI STEEL LIMITED | | |
| ALERT STEEL HOLDINGS LIMITED | | |
| RBA HOLDINGS LIMITED | | |
| IPSA GROUP PLC | | |
| BLUE FINANCIAL SERVICES LIMITED | | |
| STRATCORP LIMITED | | |
| MASTER PLASTICS LIMITED | | |
| MAINLAND REAL ESTATE LIMITED | | |
| GOLD BRANDS INVESTMENTS LIMITED | | |
| GLOBAL ASSET MANAGEMENT LIMITED | | |

# APPENDIX F:
# DECLARATION OF PROFESSIONAL EDIT



Retha Burger  B.A.(H.E.D.)  tel: 012 807 3864  cell: 083 653 5255  fax: 012 807 3864  e-mail: retha@skillnet.co.za

Independent Skills Development Facilitator

Dear Ms Mmako

This letter is to record that I have completed a language edit of your thesis entitled, "The role of the JSE AltX as a platform for sustainability and growth".

The edit that I carried out included the following:

| | |
|---|---|
| -Spelling | -Grammar |
| -Vocabulary | -Punctuation |
| -Pronoun matches | -Word usage |
| -Sentence structure | -Correct acronyms (matching your supplied list) |

-Captions and labels for figures and tables
-Spot checking of 10 references


The edit that I carried out excluded the following:

-Content
-Correctness or truth of information (unless obvious)
-Correctness/spelling of specific technical terms and words (unless obvious)
-Correctness/spelling of unfamiliar names and proper nouns (unless obvious)
-Correctness of specific formulae or symbols, or illustrations.

Yours sincerely

Retha Burger

7 June 2021