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# Top management team characteristics, organisational design and financial performance of publically traded companies on the JSE Altx

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A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Masters of Business Administration

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# Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirement for the degree of Maters of Business Administration and the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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**Date:** 7 November 2016

## Abstract

In the South African context, understanding factors, which influence financial performance, is of particular importance in lieu of slowing economic growth rates and high levels of unemployment. The JSE Altx was developed to provide SME organisations with access to capital markets and thereby facilitate growth. The success of the exchange has however come under scrutiny and the value added to both investors and entrepreneurs questioned. Continued poor performance of Altx listed organisations may deter further listings and future investment. Research into developing an understanding of factors that affect growth in Altx firms could provide insights into what can improve firm performance and ensure their contribution to national growth and competitiveness. This research determines the predictor variables, which affect financial performance of such firms listed on the Altx. Top Management Team (TMT) characteristics were investigated to determine how they impact firm performance. The possible causal relationships between firms who have appointed external CEO's and firms whose original founders are the current CEO's were also analysed. On the organisational level 'growing pains' is hypothesised as having a causal relationship to financial performance. The relationship between TMT characteristics and firm level 'growing pains' was further explored at an organisational level. The research finds that TMT characteristics influence firm level 'growing pains', which ultimately affect the financial performance of the firms.

**Key Words**: Upper Echelon, Organisational Lifecycle, Growing Pains, JSE Altx

## List of Acronyms

| | |
|---|---|
| AAIM | Australian Alternative Investment Market |
| AIM | Alternative Investment Market London Stock Exchange |
| Altx | Alternative Exchange South Africa |
| CEO | Chief Executive Officer |
| JSE | Johannesburg Stock Exchange |
| ROA | Return on Assets |
| ROE | Return on Equity |
| SME | Small to Medium Size Enterprise |
| TMT | Top Management Team |

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# Chapter 1 : Introduction to research problem

## 1.1 Introduction

There is much literature on entrepreneurship, small to medium enterprises (SME's) and their contribution, towards economic growth. In this regard, Wennekers and Thurik (1999) conclude that entrepreneurship is an essential element of economic growth, resultant from increased levels of innovation and heightened levels of domestic competition, which can contribute towards an increase national competitiveness. The impact of entrepreneurship on the development of economies is illustrated by research conducted by Carlson (Carlsson, 1992). Carlson's (1992) study measured the percentage share of employment between large organisations and SME's in the USA. During the 1970's and 1980's, the top 500 firms in the United States employed over 20% of the nation's workforce. However, by 1996, this had dropped to just 8.5% (Wennekers & Thurik, 1999b). Employment characteristics had shifted; with a larger share of the workforce being employed by small to medium sized entrepreneurial firms. This highlighted the growing contribution of SMEs to economic development and growth. Gupta, Guha, and Krishnaswami (2013) confirm that the SME and entrepreneurial sectors significantly contribute to higher rates of employment and economic activity (Gupta, Guha, & Krishnaswami, 2013)

The JSE Alternative Exchange (Altx) was developed as a platform for small to medium-sized companies to list on an open market exchange. It serves to provide access to capital, enabling further growth, whilst providing investment alternatives to the traditional Johannesburg Stock Exchange in a regulated environment (JSE, 2015). Over the past ten years, 120 companies have listed on the JSE Altx, raising more than R 46 billion in market capitalisation, which may previously have been unavailable to these firms. Access to capital via the Altx has allowed these companies to generate the required funding to continue their growth either organically and or through acquisitions that could further support growth.

Companies listing on the Altx are characterised as family-owned, owner-managed and entrepreneurial in nature (Red Hot Penny Shares, 2015). This is of particular interest as firms described as entrepreneurial in nature are innovative and can experience high levels of growth, but this is often accompanied by higher levels of uncertainty (Alessandra Colombelli, 2015).

However, of the 123 companies listed since inception, only thirty (25%) of these have made the transition to the JSE main board (Cheyne, 2015) twenty-nine (24%) have de-listed (Cheyne, 2015). From the current listings, thirteen (21%) have suspended trading status (INET BFA, 2016). The relatively low success rate, as measured by the remaining active companies on the Altx, growth in market capitalisation, and the number of businesses that have failed to transition from the intermediate to the main board, suggests that further research may be required in order to understand the factors which influence the performance of these entrepreneurial firms in a publically traded environment.

Relaxation of the listing requirements for companies on the Altx may be a contributing factor to current low levels of success in transitioning to the main board. The relaxation of listing requirements may not adequately prepare entrepreneurs for the rigours of a new operating environment and may not provide enough transparency for potential investors. Listing on the JSE Altx currently requires that firms submit only the previous year's audited financial statements, and qualification criteria is determined on this information alone (JSE Securities Exchange, 2012). Current listing requirements are almost solely focused on financial statements and corporate governance, with little focus on organisational design and management composition (JSE Securities Exchange, 2012). Further, the financial statements alone do not indicate other factors that could be hindering transition to the main board, such as struggling to keep up with trends within the sectors in which they are operating, keeping up with social and corporate responsibilities, cultural or historical performance and the future of the firms within the current regulatory environment.

## 1.2 Problem Statement

For SME's to ultimately participate in economic growth, the ability to raise capital is a key determinant for organisational growth in order to contribute to increased innovation and competitiveness both locally and internationally (Wennekers & Thurik, 1999b).

Continued poor performance of these organisations, as well as their ability to successfully manage the transition to publically traded environments, could potentially diminish the attractiveness of alternative exchanges from both an entrepreneurial and investor perspective. Developing a recipe for success based on empirical evidence may provides additional insights into the management of independent variables and

their effects on firm financial performance, ensuring the long-term sustainability of businesses listing on the Altx.

Although the Altx environment has provided a platform from which SMEs can generate capital to fund operations and enable future growth, sustainability of these organisations and therefore the overall success of the Altx, has not met investor expectations (Hasenfuss, 2014). Thus, a key question to be asked is whether or not organisations planning to list on the Altx are adequately prepared to meet the organisational demands for operating in publically listed environments.

Upper Echelon Theory suggests that it is the top management team characteristics that act as proxies to decision-making, and therefore organisational performance. The theory developed by Hambrick and Mason (1984) uses Top Management Team (TMT) demographics including education, age, tenure, and TMT size as variables which impact firm performance (Hambrick and Mason, 1984). Research conducted in relation to Upper Echelon Theory and firm performance provides evidence that TMT characteristics may impact firm performance. The results from the research does, however, vary in the outcomes associated with TMT composition and firm financial performance, with much of the research focused on large listed entities with many years of operational experience. Only one study could be found which specifically investigates Upper Echelon Theory in relation to firms listing on alternative exchanges, with the research conducted on the London-based Alternative Exchange. Findings from this research are discussed further in chapter 2. However, results from numerous studies find variable results dependent on local and industry-related characteristics. No research could be found on Upper Echelon Theory and its impact on South African firms listed on the Altx, suggesting the need for further research.

Additionally, Organisational Life Cycle theory (Dodge and Robbins, 1992) discusses that in various stages within organisations, each stage presents unique challenges, which need to be overcome in order to transition to the next stage and sustain growth. One factor is that of founder involvement and the transition between each phase. Although no specific research could be found relating to South African organisations, the theory posits that as firms grow, founders' roles need to change and the appointment of "managers" is necessary to develop structures and processes to support growth. In line with this theory, of particular interest, is how South African firms listed on the JSE Altx fare when the founder is the CEO, and or when the CEO has been appointed externally.

Hambrick and Mason (1984) further discuss growing pains as a key indicator of firm financial performance, and that high levels of growing pains will result in poor financial performance. Again, the theory has been stated with very little research available to support the theory specifically in the South African context. This theory is therefore tested against firms who have been listed on the Altx, who are in growth phases of their organisational life cycles, and tests whether growing pains are relevant and if this leads to poor financial performance.

Continued poor performance of these organisations and their ability to successfully manage the transition to publically traded environments could potentially diminish the attractiveness of alternative exchanges from both an entrepreneurial and investor perspective. Developing a recipe for success based on empirical evidence may provide additional insights into the management of independent variables and their effects on firm performance. This, in turn, could highlight key factors essential to ensuring the long-term sustainability of businesses listed on the Altx. This, in turn, could highlight key factors essential to ensuring the long-term sustainability of firms listed on the JSE Altx.

## 1.3 Aim

The aim of the research was to close the gap on existing knowledge between top management team compositions and organisational design and performance by investigating various independent variables and their impact on firm financial performance. The research integrates existing theories relating to the Upper Echelon Theory, focusing on top management team composition (TMT) and Organisational Life Cycle theories, in order to determine possible causal relationships between management team characteristics, organisational design and firm performance.

Implications of the research will guide entrepreneurial firms who may be considering listing on the Altx in necessary structural changes required in organisational design (Life Cycle Theories) and top management composition (Upper Echelon Theory). Increased incidents of success on the Altx would return investor confidence to the exchange, thus increasing capital inflows and aiding further development of SME's, thereby increasing levels of employment and generating contributions towards economic growth.

Within this research, Chapter 2 provides an overview of the literature reviewed to establish existing theories and findings pertaining to TMT characteristics and firm performance, with particular emphasis on the Organisational Life Cycle and Upper Echelon theories. Chapter 3 explores the research hypotheses needed to test existing theories on the Organisational Life Cycle and Upper Echelon Theories in the context of firms listed on the Johannesburg Altx and their associated financial performance. There are three hypotheses that are tested, i.e. the demographic characteristics of Top Management Teams and whether this impacts organisational performance of firms listed on the Altx, whether or not the CEO as a founder negatively impacts firm financial performance, and finally, whether or not Top Management Teams' characteristics impact the level of growing pains within organisations. Chapter 4 outlines the research methodology utilised to test the hypotheses and synthesise the hypotheses into the existing Organisational Life Cycle and Upper Echelon Theories. Chapter 5 explores the data analyses and research results. Chapter 6 provides a discussion of the results and Chapter 7 draws conclusions from the research by highlighting principle findings, research limitations and management implications. Based on the limitations identified suggestions for future research are provided in order to expand existing knowledge

# Chapter 2 : Literature Review

## 2.1 Introduction

This chapter outlines the literature reviewed relating to performance of Altx listed organisations, upper echelon and organisational lifecycle theories in developing the three research hypotheses.

## 2.2 Alternative Exchanges

Alternative exchanges, such as the JSE's Altx, London's AIM and Australia's AAIM, have been established as alternatives to main board listings, providing access to capital for small to medium size companies (AAIM, 2016; AIM, 2016; JSE, 2015). These alternative exchanges, in all cases, are designed to provide platforms for SME firms in growth phases to access capital for expansion. Access is enabled through the relaxation of listing requirements, which would have otherwise made a listing on main boards unfeasible. Each of these exchanges has had varying degrees of success, however, a common theme throughout is that the majority of listed firms have not performed in line with market expectations.

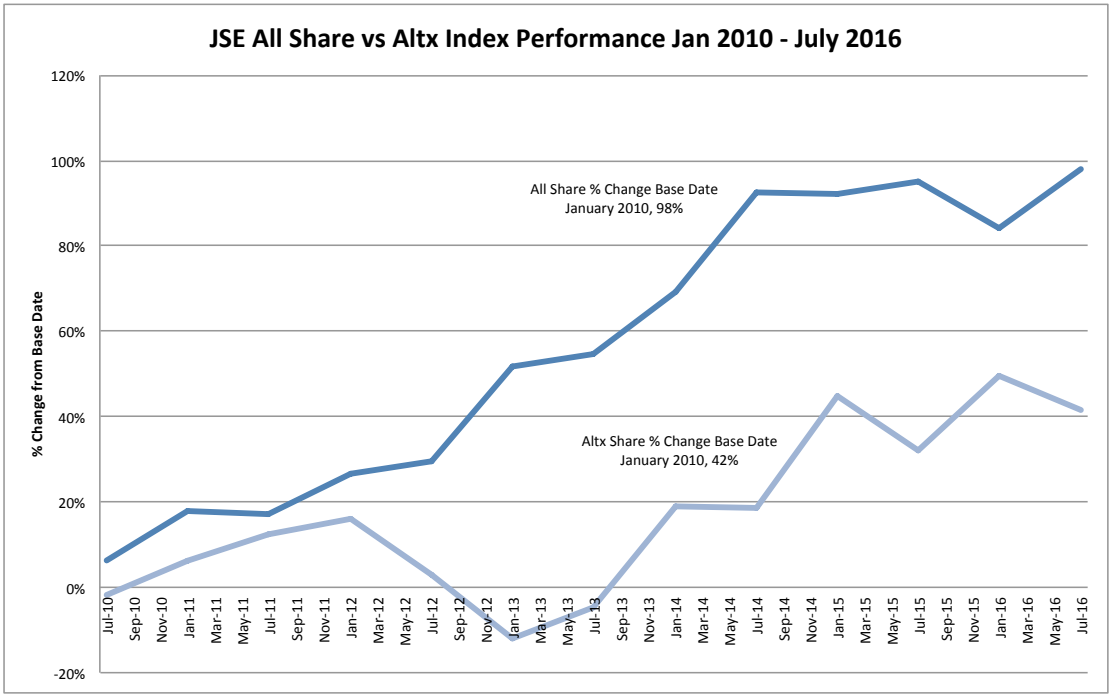
The JSE Altx launched in partnership with the DTI in 2003 has, since inception, listed over 120 SME's. At its peak in December 2007, it had a market capitalisation of R 31,2 Billion (Fin24, 2008). The global financial crises of 2008 negatively impacted overall market performance on the JSE, including the Altx, and by May 2008, market capitalisation on the Altx had declined to R 26 Billion (-20%) (Hasenfuss, 2013). Before the 2008 financial crisis, the Altx was described as being less volatile than the JSE All Share, with the composition of companies listed on the Altx less vulnerable to international market movements (Nevin, 2009). This is in line with the nature of these organisations, which are small to medium size entrepreneurial businesses in the growth phase of the organisation's life cycle. Nevin goes on to discuss that at the time of writing, the Altx had outperformed the JSE All Share Index.

The Altx has however performed poorly post the 2008 financial crises with a current total market capitalisation of R 32,6 billion and only 63 companies currently listed (Cheyne, 2016). Fifi Peters (2014) describes how market perceptions have changed since the 2008 financial crises, with investors becoming more risk averse, while at the same time, scandals involving Altx listed firms and the misrepresentation of financial information negatively impacting on investor confidence (Peters, 2014).

The relative lack of success is however challenged by Keith McLachlan (2010) who ascertains that the lack of achievement of the Altx may be as a result of top performing firms migrating to the JSE main board. The result is that top performing organisations are no longer included in the index, with the remaining Altx firms comprising of less successful businesses, hence the relative underperformance (Keith McLachlan, 2010).

Figure one below represents the relative performance over the past five years of the Altx indexes in comparison to the JSE All Share index. The graph summarises the percentage growth of the index value measured at six monthly intervals, from January 2010, which has been selected as the base date. Based on the data below, the Altx has appeared to be more volatile in growth and that over the period under review has not performed as well as the JSE All Share index. The data confirms that the JSE All Share has grown by 98% while the Altx index has only grown by 48% over the same period.

**Figure 1 - Altx Indexes vs. JSE Share comparative performance.**




Source: Sharenet

Of particular interest, specifically relating to this research proposal is whether there is a discernable difference in organisational characteristics between firms performing well as those performing poorly measured by return on equity and return on assets.

## 2.3 Top management team characteristics

Upper Echelon Theory, developed Hambrick and Mason (1984), argues that it could be the Top Management Team (TMT) that directly influences the strategic choices made within organisations, and therefore this directly impacts the organisation's financial performance (Hambrick & Mason, 1984).

A key component in Upper Echelon Theory is that management decisions are, to a large extent, influenced by their interpretation of events, with their interpretation dependent on cognitive basis and values.

In developing the theory, Hambrick and Mason (1984) developed 21 propositions grouped into seven demographic categories, which aim to explain to some extent the differences in organisational performance based on TMT characteristics. The seven demographic categories include age, functional experience, corporate influences, education, socio-economic background, and stockholding and group heterogeneity. Upper Echelon Theory posits that it is these demographic characteristics which serve as proxies to psychological constructs. It is these psychological constructs which influence the team's interpretation of both the internal and external environment, thus affecting the strategic choices made which are ultimately reflected in organisational performance (Carpenter, Geletkancz, & Sanders, 2004). Carpenter, Geletkanycz and Sanders (2004) summarise Upper Echelon theory into three key tenants;

1. Strategic choices are made by powerful actors within organisations and that these decisions are influenced by the values and cognitive bases of each of the actors.
2. The values and cognitive bases are observable through demographic characteristics such as age, education and experience.
3. A causal relationship exists between observable demographic characteristics and organisational outcomes.

The Organisational Ecology Theory is presented as an opposing view to the Upper Echelon Theory by Michale and Hannan (1989) that the performance of the organisation has little to do with the executive team composition. They suggest and that performance is as a result of established organisational structures with decision making constrained to corporate conventions and norms (Michale T. Hannan, 1989).

Hambrick (2007) acknowledges that both theories may hold true in some cases. However, for purposes of this research and due to the owner managed, entrepreneurial nature and size of the firms being investigated, the Upper Echelon Theory and the associated demographics will, therefore, be used as the preferred framework for analysis.

Research conducted in the field of Upper Echelon Theory and firm performance confirms that top management team demographics do in a large part, impact firm performance, as is evident through available literature. Literature relating to Upper Echelon Theory, in the context of a South African firms making the transition from a privately to publically listed environments, could however not be found. This suggests that there is a gap in the existing knowledge and that additional research may be needed in order to better understand the impact of TMT characteristics on firm performance.

Demographic constructs relating to education, age, team size and tenure are of particular interest in this research and have been used as independent variables to determine causal relationships in organisational design and fit (as measured by growing pains) and financial performance, each of which is discussed individually in this chapter.

### 2.3.1 TMT Education

Upper Echelon Theory suggests that top management teams influence firm decision-making and that Top Management Teams (TMTs) are in turn influenced by their cognitive base, with cognitive base influenced by various factors, one of which is education. The theory posits that higher levels of education increase management's ability to interpret complex sets of information and therefore improves decision-making processes resulting in enhanced financial performance.

The development of competitive advantages within organisations is seen as a key determinant in sustained company performance, with intellectual capital being described as an important consideration in a knowledge-based economy. Intellectual capital consists of both human and structural capital and it is the unique combination of both within organisation that creates value and delivers sustained competitive advantages (Yu, Ng, Wong, Chu, & Chan, 2010). Structural capital describes business

processes, strategies and routines while human capital relates to individuals characteristics including but not limited to, 'know how', learning capacity and education, all of which impact the amount of human capital within organisations. Relating this to the TMT theory would affect organisational outcomes.

In the context of Upper Echelon Theory, structural processes and strategic decisions are the primary responsibility of top management teams. These decisions are however influenced to some degree by individual cognitive biases affecting the quality of decisions made.

Yu et al. (2010) find a negative correlation between human capital (HCE) and various measures of financial performance of firms operating in Hong Kong. Human capital was however measured as a component of "value added intellectual capital" (Yu et al., 2010) and is measured using total employee expenses against Return on Equity, market to book ratios and asset turnover. The measures of human capital employed in this research were however based on quantity versus quality, and a more comprehensive measure of human capital specifically relating to the top management team may have yielded different results, suggesting the need for further research.

In contrast to the above study conducted, Sirinuch Nimtrakoon (2015) finds a positive correlation between human capital and firm financial performance for technology-based firms listed on five different exchanges throughout ASEA (Nimtrakoon, 2015). Interestingly the same measure of human capital has been used in both studies, but with varying outcomes relating to the influence of human capital. The ASEA study was however limited to technology firms in the region while the Yu et al. (2010) study was based on the Hang Seng index, consisting of 154 organisations across all industries, in comparison to Nimtrakoon's (2015) study, which focused on technology-based firms, which may explain the variation in results. The lack of consistency in the findings does, however, suggest that additional research into regional and industry specific factors may be a consideration in future research.

Pegels, Song and Yang (2000) investigate management team heterogeneity and firm performance and find a positive correlation between executive-level education and firm performance. This means that levels of education may act as a proxy to firm performance.

Salim Darmadi (2013) specifically investigated the relationship between organisational performance and board members education. His findings, using empirical evidence from developing economies in Indonesia, confirms that educational qualifications of board members are relevant considerations in predicting firm performance. Darmadi (2013) does, however, go on to discuss that education alone may not be the only proxy to improved managerial performance. Experience, external networks and individual managerial skills may need to be considered in future research (Darmadi, 2013).

Carmen Diaz-Fernandez, Rosario Gonzalez-Rodriguez and Pawlak (2014) study the effects of top management team demographics and firm performance with a specific focus on education. The study further segments education into "level of education" of individuals and the "diversity of education" within top management teams (Carmen Díaz-Fernández, Rosario González-Rodríguez, & Pawlak, 2014). Their investigation into the level and diversity of education provides interesting insight into TMT demographics and performance. In their research, they find a negative correlation between diversity of education and organisational performance as measured by ROA and ROE on an intra-industry basis. They go on to describe that firms concentrate on making employment decisions based on industry experience, rather than educational qualifications resulting in a homogenous management team, and it is the industry experience which positively correlates with performance, while poor performing firms have more educational and industry diversity. Pegel, Song and Yang (2000) present similar results on top management team heterogeneity and indicate that increased levels of diversity may, in fact, lead to poorer financial performance. (Pegel, Song and Yang, 2000). This is contrary to previous research which suggests that the more diverse the top management teams, the more informed the decision-making process (Carmen Díaz-Fernández et al., 2014; Darmadi, 2013). This may be as a result of delayed decision-making caused by team heterogeneity and the inability to reach consensus on key decisions.

### 2.3.2 TMT Age

Hambrick and Mason (1984) suggest that young management teams have a greater propensity for risk, which in turn results in relatively high rates of growth in revenues when compared to more mature management teams. They further suggest that young management teams are unable to integrate vast amounts of information in the decision-making process and as a result increased revenues are associated with more volatile earnings. Older management teams may, however, have larger cognitive bases,

resulting in improved decision making and less volatile earnings. Growth in revenues is slowed in comparison to young management teams with three key reasons being cited as possible factors for consideration (Hambrick & Mason, 1984).

1. Older management teams take more time to consider all relevant information before making decisions.
2. In line with the above, senior management teams may source additional information and facts to support the decisions made and to ensure the quality of the decision-making process.
3. Lastly, older management teams are less likely to take more risky decisions based on their status within organisations and to avoid any negative outcomes based on risky decisions, which may impact the status within their social circles and long-term financial security.

Research into top management team composition, specifically relating to management age, confirms the original hypothesis that youthful management teams are positively correlated with high levels of revenue growth (Alessandra Colombelli, 2015; Norburn & Birley, 1988; Pegels, Song, & Yang, 2000).

Based on the nature of firms on the Altx, top management team age is of particular interest and the majority of firms are entrepreneurial, have youthful management teams and are transitioning through organisational life cycle stages. Listing on the Altx would suggest relatively strong growth in revenue. However, stability of earnings is an important financial consideration and possible causal relationships between TMT age, and profitability is of particular interest in this research.

### 2.3.3 TMT Tenure

In the literature on TMT characteristics and firm performance, executive tenure is an important consideration in predicting firm performance.

Norburn and Birley (1988) investigate executive tenure and firm financial performance and find differences between industry types. In turbulent industries, their research confirms that companies with shorter tenure executives perform better than companies with long-standing executives. In contrast, firms in stable environments perform better with high tenure executives (Norburn & Birley, 1988). In turbulent environments, more dynamic change may be required, suggesting that younger tenure executive teams are

more willing to make significant changes to ensure survival, while older tenure executive teams are less willing to make riskier decisions on fundamental redesign.

Hannan and Freeman (1984) refer to structural inertia as an organisation's ability to internally reorganise, based on external environmental changes. Organisations with high levels of inertia restructure slower than environmental changes, while organisations with low levels of inertia can reconfigure much more quickly and in line with environmental changes (Hannan & Freeman, 1984). They find that firms in distress, i.e. in turbulent environments, are more likely to fail with older tenure executive teams, while firms with lower tenures are more liable to change to meet environmental needs to survive.

Geletkanycz and Hambrick (2011) discuss conformity as the willingness to challenge the status quo within organisations to realise the necessary change and ensure firm sustainability. This change in the context of structural inertia would describe the necessary changes needed to meet new environmental demands as a result of industry changes. They do however find that conformity is a U-shaped relationship and that high levels of conformity exist with both younger tenure executives and older tenured executives (Geletkanycz & Hambrick, 2011). Executives with relatively young organisational tenures may be less willing to make risky decisions, which may impact their future employment, while executives with higher tenures avoid risky decisions to maintain the status quo based on previous successes.

Additional literature of interest in this research is based on organisational learning. Organisational learning refers to an organisation's ability to benefit from past experiences, improve the decision-making process, and increase operational efficiency and therefore financial performance. Simon (1991) suggests that organisations learn in one of two ways. The first is based on the learning of individuals within the organisation and the second on the introduction of new knowledge from employees who have been brought into the organisation (Simon, 1991). Simons does, however, discuss the effects of turnover as providing both positive and negative impacts. From a positive perspective, staff turnover may introduce new knowledge, increase levels of innovation and therefore improve business performance i.e. improving the firm's ability to overcome structural inertia. Alternatively, high levels of turnover result in decreased levels of firm-specific knowledge, slowing the decision-making processes, resulting in reduced levels of financial performance.

Based on the literature reviewed, there are opposing views on organisational tenure and the impact on financial performance suggesting the need for additional research. In the Altx environment, executive tenure is of particular importance as organisations make the transition from private to publically traded companies. Do firms listing on the Altx maintain executive teams with long tenures or employ new executives to meet challenges of the listing environment?

### 2.3.4 TMT Size

Hambrick and Mason (1984) hypothesise that TMT size is an important consideration and that team size to a large extent impacts the decision-making process. Larger TMT's which have a diverse range of skills are better able to process and understand complex information and situations and make better, more informed decisions. (Hambrick and Mason, 1984). Upper Echelon Theory does, however, suggest that in stable environments, top management team heterogeneity may have an adverse impact on performance as internal conflict slows the decision-making process. In turbulent environments, however, team heterogeneity is theorised to be positively correlated to financial performance, as diversity improves the team's ability to interpret information and make strategic choices considering a broader range of alternatives. Pegels et al. (2000) suggest that organisational performance is in part due to TMT demographics and that the most suited composition of Top Management Teams and size is dependent to a large extent on the environment (Pegels et al., 2000).

Haleblian and Finkelstein (1993) confirm these findings and discuss environmental turbulence as a moderator to top management teams and firm performance (Haleblian & Finikelstein, 1993). Their research confirms that in turbulent environments, larger management teams will be more profitable and that in stable environments, smaller homogenous teams perform better and that, depending on the environment, there is an optimal team size, which will improve performance. Large TMT's may experience higher levels of internal conflict, which may negatively impact the decision-making process, while small teams may not pose the required skills and or experience to correctly interpret events to make informed decisions. The research uses team size as a control variable, and Haleblian and Finkelstein (1993) suggest that future research considers team size and an independent variable in predicting firm performance. This research expands on their findings and uses team size as an independent variable for analysis.

## 2.4 Organisational Life Cycle

Organisational Life Cycle Theory seeks to explain the relationship between the various stages of growth and the changing requirements associated with the organisational structure as the organisation increases in both sizes and therefore complexity. The complexity associated with each stage of development includes aspects relating to the environmental context, strategy and structure (Hanks, 1990) and that each variable acts as an interconnected system with changes in one variable triggering a subsequent shift in all other variables (Galbraith, 1982).

Literature on the subject is abundant with variations in the number of stages identified as well as the general terminology of each stage. The various models do however have some commonality between them. The first is that each stage of development is characterised by unique structural requirements and second that structural requirements successful in each stage may be ineffective, even detrimental, in subsequent stages (Hanks, 1990).

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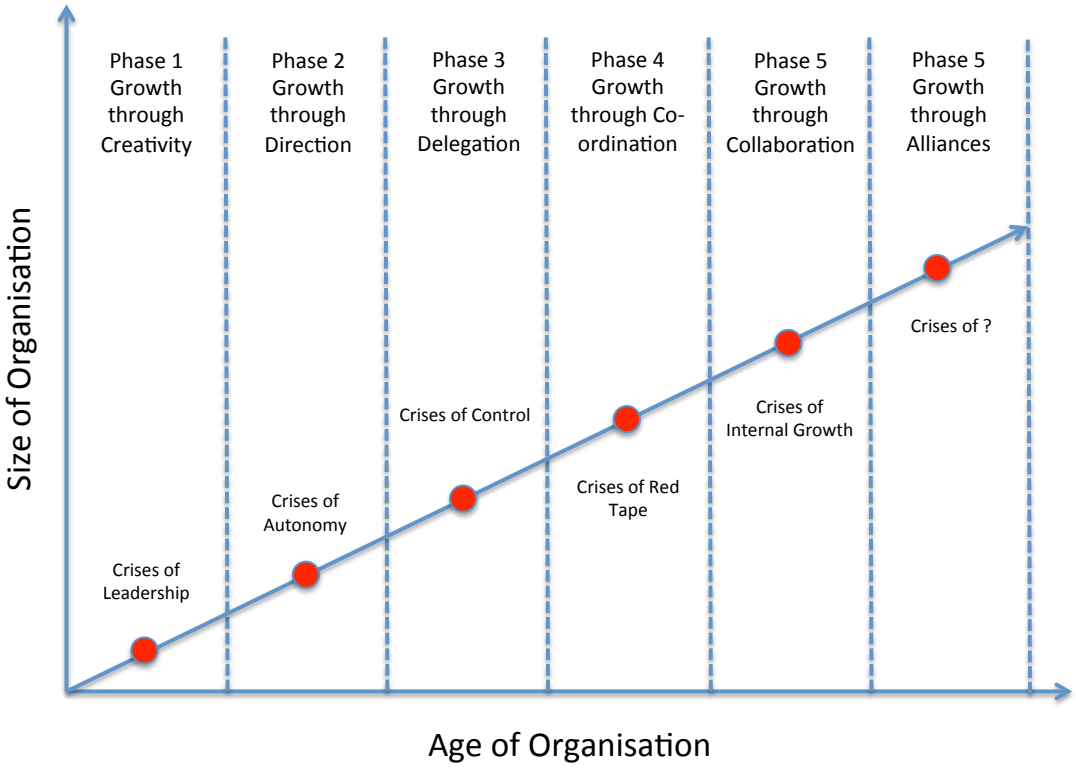
Seminal work conducted by Greiner, first published in 1972 (Greiner, 1972) and revised in 1998, identifies six distinct phases of growth as organisations transition between one stage and the next (Greiner, 1998). Greiner further suggests that the speed at which organisations progress through each of the growth phases is, to a large extent, dependent on industry growth rates and that high growth rate industries will

result in faster progression through each of the phases, while low industry growth rates will result in slower progression. Greiner (1998) describes these five stages of growth as being “evolutionary”, time dependent and that each requires different management practices to navigate successfully through each. However rather than being a smooth transition between each phase, Greiner (1998) proposes that each progression is characterised by a stage of “crises” referred to as “revolution”. Revolution is defined as a dramatic change in management practices as opposed to revolution, which takes place more slowly over time. A detailed representation of the phases of growth (evolution) and each of the revolutionary management crises, which need to be overcome, has been detailed below in figure 2 – Greiner Stages of Growth

**Figure 2 – The Grainer Curve – The Six Phases of Growth**




Source: Harvard Business Review May – June 1998

Greiner (1998) explains that to progress from phase one, “Creativity”, to phase two, "Direction", founders are required to relinquish control and appoint leadership who are better able to implement systems and processes. Founders are reluctant to give up management control resulting in the first of five crises, the "leadership crises" (Greiner, 1998). The crises that follow are created as a result of continuous growth. Each solutions crisis within each phase of growth creates new crises and propel organisations to the next phase of growth. A crisis of autonomy is as a result of management’s unwillingness to delegate. Successful delegation results in a crisis of

control, resulting from more formalised processes and centralisation of decisions. This results in the next crisis, a crisis of red tape. Bureaucracy and centralised decision-making slow the organisation's ability to develop and implement new strategies, resulting in declining company performance. In line with the Upper Echelon Theory, Greiner confirms that it is management's responsibility to identify each of the stages of the lifecycle and develop structures which increase performance. (Greiner, 1998).

Listing on the JSE Atx would represent a revolutionary change, as demands on the organisation are expected to be distinctly different, and that the process of becoming a publically traded entity occurs over a relatively short period.

Galbraith (1982) Stages of Growth consist of five identifiable phases, echoing Greiners model (Greiner, 1998), from the prototype to model shop, start-up into natural growth and finally strategic manoeuvring. Galbraith (1982) presents an organisational development model detailing six factors to be considered when developing the capabilities to transitioning through each phase of growth (Galbraith, 1982). The six factors identified include task, people, structure, reward system and decision-making processes, and Galbraith (1982) describes these as being interconnected, with changes in any one of the factors requiring variations in another. As a result, progression from one phase to the next requires complete organisational redesign to achieve a balance between each of the structures. Transitioning from one phase to the next therefore has implications throughout the organisation, and as a result, Galbraith (1982) describes this as leading to a "new way of life" for the organisation" (Galbraith, 1982). Greiner (1998) discusses five categories, similar to those of Galbraith, with each model identifying distinct differences in each throughout the organisational lifecycle.

Gupta, Guha and Krishnaswami (2013) conducted research related specifically to the growth paths followed by small to medium size enterprises, and confirm that the importance of understanding organisational growth is to prepare owners and managers better to make informed decisions proactively in order to develop the required resources to support growth (Gupta et al., 2013). In their literature review, Gupta et al. (2013) introduce additional research on organisational growth models, suggesting that growth through various stages may not be sequential and that growth paths may be erratic depending on influences from both the internal and external environments. Gupta et al. (2013) identify research gaps in existing literature on organisational growth and provide a suggested framework including both internal and external factors, which may affect organisational growth paths. External factors include economic, social, and

political factors, all of which are outside of the organisation's control but which will impact organisational growth. Internal factors are identified as those factors which are within the supervision of the organisation such as recruitment, strategy and operational and marketing activities. The internal factors are however influenced to a large extent on external environmental factors. Gupta et al. (2013) identify human resources as one of the most important factors affecting organisational performance, and that human capital have a significant impact on a firm's ability to successfully interpret external conditions and implement appropriate strategies. The relevance of Upper Echelon Theory is, therefore, an important construct in developing firm's capabilities to manage growth paths successfully at various stages of development.

Dodge and Robbins (1992) investigate the lifecycle model in the context of small to medium size businesses and consider four stages of growth namely; formulation, early growth, later growth and stability (Dodge & Robbins, 1992). Dodge and Robbins' research investigates major problem areas, identified as marketing, finance and management, and how these differ in each of the lifecycle phases identified. Their findings confirm that as SME firms grow, problems relating to specific management practices vary significantly which the owner-manager needs to contend with. In the early lifecycle stages, external environmental factors relating to products and markets play a significant role and are a key determinant of success. In later organisational life cycles stages, characterised by high growth and uncertainty, problems relating to the formalisation of internal management processes dominate. Their findings echo previous research on lifecycle theories that as organisations grow more formalised approaches are required relating to management processes to succeed.

Dodge and Robbins (1992) confirm previous theories that promotion from one level of the Organisational Life Cycle to the next may not be achieved if the required structures have not proactively been developed in previous stages.

Hanks (1990) developed a five-stage growth model based on a review and synthesis of ten previous models on lifecycle growth theory. These lifecycle stages include start-up, expansion, consolidation, revival and decline and again goes on to detail specific structural and management processes to graduate from one stage to the next (Hanks, 1990). Hanks (1990), however, suggests that a more comprehensive model is needed which considers not only life cycle stages but the processes involved within each in transition. In his research, Hanks (1990) proposes an integrative model on organisational lifecycles, including "five growth cycles", which need to be overcome for

the organisation to develop and reach the next stage of the lifecycle. The "Configuration Loop Cycle" is one of the five growth cycles introduced. Hanks suggests that where organisations are unable to develop the necessary resources, that these organisations leave the particular stage of the growth cycle and enter the configuration loop cycle. At this point, organisations overburden existing resources, negatively impacting the organisation's ability to serve its markets and unless resolved, may lead to organisational decline.

Continual development along the organisational life cycle is to a large extent dependent on external market influences. Organisations may enter declining stages, not only as a result of poor internal design but also as a result of changes in the external market. This could relate to changes in consumer preferences and increased levels of competition. Alternatively, organisations may benefit from changes in the external environment where demand for existing products or services increases without implementing any internal changes. Metamorphosis theory describes the reason for the organisational change as being that of survival, and that without change, organisations will cease to exist (Hanks, 1990). To make informed decisions, the top management team management would need to understand the reasons behind either decline or growth and whether these forces are internal or external.

Flamholtz and Randle (2012) present a seven stage model and discuss “organisational development”, as the process which firms need to undergo to develop the required “organisational capabilities” for successful transition through various phases of growth (E. G. Flamholtz & Randle, 2012). These organisational capabilities consist of six “building blocks” necessary to facilitate organisational sustainability. Two of these components relate to industry characteristics (external environment) such as markets selected and products sold, while the remaining four relate to the required internal resources to support growth and include operational systems, management systems and culture.

Flamholtz and Randle (2012) go on to discuss that when organisation growth outpaces the development of “organisational capabilities” an “organisational gap” develops. The “organisational gap” refers specifically to the difference between the increase in revenues and the required infrastructure to meet market expectations (E. G. Flamholtz & Randle, 2012). The gap that develops between revenues and firm infrastructure results in increased organisational pressures referred to by Flamholtz and Randle (2012) as “Growing Pains”. Ten common organisational growing pains have been

identified. Each of these is an indicator that firm has not yet developed the required "organisational capabilities to transition successfully to the next stage of organisational development. In addition to the ten common growing pains, the differential between growth and resource availability is manifested in firm financial performance. Although revenues may be increasing, firms are unable to cope with the increased demand placed on resources existing resources resulting in lower profitability. (Flamholtz & Randle, 2012).

Growing pains are described as a reflection of the organisation's current resource infrastructure; including organisational design, and its ability to meet current market demands (E. G. Flamholtz & Randle, 2012). The "gap" which develops as growth outpaces development is of particular interest as it is the top management team who are tasked with developing the required infrastructure to sustain growth. Moderators have however been identified, which may negate the impact that the top management team composition may have on organisational performance.

Despite variations in the number of phases and the terminology used, each of the theories discussed on the Organisational Life Cycle theory, confirm that there are discernible differences in organisational structures and processes to ensure organisational fit, with the changing demands of the operating environment as organisations grow and where firm infrastructure does not meet the environmental requirements, that these will be presented as "growing pains".

## 2.5 CEO/Founder level involvement

Of particular interest in this research is the changing nature of the role the founders or owner managers play as organisations develop. Firms listing on the Altx have been characterised as entrepreneurial, with the management structure often headed by the company's original founders. Each of the growth models presented confirms that the founders play a vital role in the early lifecycle stages and that much of the company's success in these steps is attributable to founders direct involvement and organisational commitment (Gupta et al., 2013). Each of the models does, however, suggest that to transition from one phase to the next, consideration is given to the founder's role and level of involvement.

It is assumed that organisations have successfully transitioned beyond the early stages of lifecycle development and that firms listing on the Altx are in the later phases of

development including “later growth” (Dodge & Robbins, 1992), “delegation” (Greiner, 1998), “professionalization” (E. G. Flamholtz & Randle, 2012) and “volume production” (Galbraith, 1982). Each of the lifecycle stages identified makes specific reference to founders handing over some control of the organisation to professional management to further develop the required infrastructure to support growth.

Galbraith discusses how founders of the firm are reluctant to give up management control in the decision-making process attributing previous firm success directly to their involvement. Greiner (1998) describes this as the first of the revolutionary crises, with Hanks referring to this as the founder's trap. Hannan and Freeman (1984) suggest that the failure of medium-sized organisations is often as a result of the founder’s unwillingness to delegate responsibility (Hannan & Freeman, 1984).

Haleblian and Finkelstein (1993) investigate the impact of Top Management Team size and CEO dominance on firm performance and find that companies with dominant CEO’s underperform in dynamic environments. Research conducted by Colombelli (2015) on newly listed firms on the London Alternative Exchange (AIM), finds that where the founder is also the company’s CEO, that these businesses perform less well than about listed firms who have appointed non-founder CEO’s (Alessandra Colombelli, 2015). Greiner (1998) proposes that founders are entrepreneurially orientated, and their focus is almost solely focused on creative tasks around the development and sales of new products or services. As organisational complexity increases, they find themselves burdened by management responsibilities and that they lack the required motivation and managerial skills to implement the required systems.

A key premise to organisational lifecycle theories is that as organisations grow, the structures needed to manage increasingly complex systems and interpret external market demands increases. The Upper Echelon Theory suggests that it is the Top Management Team’s responsibility to determine strategic choices, based on available information and how it is interpreted, and those observable demographics are important proxies to firm performance. Research, however, confirms that CEO involvement and management discretion are important moderators to the performance of Top Management Teams.

The research seeks to close the gap on existing knowledge between Top Management Team compositions, organisational levels of growing pains, and financial performance for Atx listing organisations on the South African Stock Exchange

## 2.6 Conclusion

From the literature reviewed, both Upper Echelon and Organisational Lifecycle theories are purported to have a significant impact on the financial performance of organisations. From the Upper Echelon theory, it can be argued that strategic decision are made by the TMT's and that these decisions in turn impact firm financial performance. TMT characteristics are therefore of particular interest in determining causal relationships between various TMT characteristics and firm performance.

In terms of Organisational Lifecycle theories, successful growth is too dependent on an organisation's ability to transition between each phase and develop the required infrastructure to cope with increasing organisational complexities as a result of growth in revenues. When firms do not align infrastructure with revenues, literature suggests that these firms experience growing pains and that these growing pains impact financial performance. Based on Upper Echelon Theory, strategic decisions, including the development of infrastructure to manage growth, is the responsibility of the TMT. Of particular interest therefore in this research is the relationship between the level of growing pains within organisations and the TMT characteristics of each.

Previous research which investigates TMT composition and their ability to impact levels of growing pains could not be found.

The research adds to existing knowledge by including organisational level growing pains influenced by TMT characteristics and if indeed high levels of growing pains impact firm performance of JSE Altx listed organisation. By developing an integrative model including both theories, it may be possible to determine the characteristics of top management team composition that can improve organisational structures supporting sustained growth and continued positive financial performance.

The Altx environment has some unique features which may act as moderators in the theories ability to predict firm performance.

1. Many companies listed on the Altx are as a result of entrepreneurial activities and are owner managed which according to lifecycle theorists may impede the business's future growth.
2. The rapid transition from a privately to publically owned enterprise and the subsequent accelerated pace through the organisational lifecycle.

The proposed research incorporates aspects relating to both upper echelon theory and Life Cycle stages and their impacts on firm performance relating to both firm growth and profitability.

# Chapter 3 : Research Hypothesis

## 3.1 Introduction

Three hypotheses are posed in this research, i.e. that the demographic characteristics of Top Management Teams listed on the Altx do not impact organisational performance; that the CEO as founder negatively impacts firm financial performance; and the third being that Top Management Teams characteristics impact the level of growing pains within organisations.

## 3.2 Hypothesis

The hypotheses proposed have been developed to test existing theories on the Organisational Lifecycle and Upper Echelon Theories in the context of firms listed on the Johannesburg Altx and their associated financial performance.

Upper Echelon Theory proposes that the demographic characteristics of the top management team act as proxies in determining individual behaviours and decision-making and therefore impact firm performance. Research findings are however not conclusive, and no research has been found which specifically relates to South African firms listed on the Altx. Existing theory on Upper Echelon Theory has therefore been tested in the first hypothesis indicated below, based on demographic characteristics of the top management team discussed in chapter four.

*H1*. The demographic characteristics of Top Management Teams listed on the Altx do not impact organisational performance.

Theories on Organisation Life Cycle theory suggest that a key area for consideration for the successful transition from one lifecycle stage to the next is the role of the founder. The founder's role is expected to become more strategic as the enterprise grows and that the appointment of professional managers is required for the development of the necessary structures to sustain future growth. Research conducted by Colombelli (2015) confirms that where the founders are the CEO's of organisations listed on the London alternative exchange, that these firms performed poorly in comparison to firms who have appointed non-founder as CEO's. One potential factor is that where the CEO is the company's founder, that the CEO's dominance negatively impacts firm decision making and therefore the company's financial performance

(Haleblian & Finikelstein, 1993). The third hypothesis has therefore been developed to test the relationship between the founder as the CEO and if there is a statistically significant association with the firm's financial performance of Altx listed organisations.

*H2*. CEO as founder negatively impacts firm financial performance.

The three hypothesis presented above will be used to empirically test the impact that each may have on financial performance and to develop a model integrating all three hypothesis to more accurately predict financial performance of organisations listing on the Johannesburg Altx.

Organisational Life Cycle development has been discussed at length, and that successful organisational design, in line with environmental requirements, does impact firm performance. Galbraith (1982) measures the level of fit between the organisational structures and the environment through “growing pains” (Galbraith, 1982) and confirms that high levels of growing pains negatively impact financial performance. Investigating specific organisational designs within the sample frame may not be practical based on the sample size, the potential number of respondents and specific differences within each organisation. Galbraith's (1982) growing pains as a measure of fit has been used to determine if TMT Characteristics of the sample impact on the level of growing pains experienced by each organisation.

*H3*. Top Management Teams characteristics impact the level of growing pains within organisations

## 3.3 Conclusion

The hypotheses are explored in the context of the Organisational Life Cycle and Upper Echelon theories and herein factors such as the demographic characteristics of top management as well stages of organisational growth and growing pains are thus considered in the research.

# Chapter 4 : Research Methodology

## 4.1 Introduction

The purpose of the research proposal is to expand our existing knowledge of the firm performance of organisations listing on the Altx by synthesising existing theories on Top Management Team composition and Organisational Life Cycle theories through a systematic process of enquiry (Collins & Roger Hussey, 2014).

## 4.2 Research Design

The research summary below provides a high-level overview of the structure followed to test the hypothesis presented in chapter three and is based on the “research onion” developed by Saunders and Lewis (Saunders & Lewis, 2012). Each element identified is discussed further.

- Research Philosophy
  - Pragmatism
- Research Approach
  - Induction
  - Explanatory
- Research Strategy
  - Archival – Financial Data
  - Survey – Growing Pains
- Research Choices
  - MonoMethod- Quantitative Data
- Time Horizons
  - Cross-Sectional – Director Demographics
  - Longitudinal – Financial Performance
- Research Techniques and Procedures
  - Data Collection and Analysis

The central philosophy is based on positivism as the research seeks to determine the influence of independent variables (TMT composition and Organisational Design) on a dependent variable in this case financial performance. Research based on positivism is structured and can be replicated in future (Saunders & Lewis, 2012).

The research design is deductive and explanatory in nature and seeks to develop possible insights into causal relationships, which may exist between independent variables and the dependent variable specifically relating to organisational performance. The hypothesis presented has been based on the literature reviewed in chapter two and analysis of the research results has been made to determine if the findings support the theories discussed.

The research strategy is based on a mixed methods approach to the collection of data. Secondary data relating to the financial performance as measured by ROA and ROE has been gathered from data extracted from Macgregor's BFA while cross-sectional data relating to C-suite demographics was obtained from annual reports downloaded from organisational websites.

Based on the research design and the quantity of data to be analysed, a mono method based on quantitative data has been for purposes of this research.

## 4.3 Population and Sampling

### 4.3.1 Target Population

The population consists of all firms listed on the JSE Alternative Exchange and actively trading as of the 1st of July 2016. Of the one hundred and twenty-three listed since inception only sixty-three organisations are currently listed, thirteen of which have suspended trading status with the remaining fifty organisations included in the research.

### 4.3.2 Sampling Method

The initial sample was based on the top and bottom fifteen performing organisations using non-random purposeful sampling based on the appropriate measures of financial performance over a chosen period. This would have produced a total of thirty organisations and allowing for a suitable size sample to conduct the research. The sample frame was selected, based on the availability of no less than five years of uninterrupted financial information between 2010 and 2015. The results from the initial sample frame selection resulted in only twenty-three suitable organisations. As a result, and to obtain no less than thirty organisations for the research, the requirement for

longitudinal financial data was reduced from five to three years leading to a revised sample frame of thirty-one organisations.

In addition to the above and in order to further test the hypothesis presented the thirteen organisations that, as of the first of July 2016, had suspended trading status were included in the research.

The sample frame consisted of a total of thirty-one organisations as per Appendix A attached.

## 4.4 Unit of Analysis

The unit of analysis to be used in the research is company specific comprising of organisations listed on the JSE Altx.

## 4.5 Financial Performance

Measures of organisational performance in previous research have been restricted to single measures, either on growth in revenues, return on assets or return on equity. Growth in revenues has been excluded from the measures on financial performance, as growth in revenues may not necessarily be indicative of long-term firm sustainability. The research is primarily based on the ability of companies to not only grow in revenues but to grow profitably and provide returns to shareholders.

To determine sustained organisational performance more holistically it is proposed that measures incorporating both returns on assets and return on equity be utilised.

### 4.5.1 Return on Assets

ROA = Net Income/Total Assets

Similar to Return on Equity, Return on Assets is a measure of how well a firm is using assets to generate returns. Aside from capital structures, firms use the capital to purchase assets to generate returns. Based on economic scarcity, the correct allocation of funding and investment in assets is required in addition to asset efficiency with a view to generating profits. Both choice and effectiveness are too large extent strategic decisions made within the top management teams, and therefore an important measure when considering firm performance in relation to Upper Echelon and Life Cycle theories.

Each of the firms will be assessed based on the average performance of return on assets over a three-year period from 2012 – 2015.

Additional data tables were created and statistical analysis conducted on average financial performance after the removal of outliers based on the Thompson Tau test. Results did not provide significant variances in levels of significance, and all analysis has therefore been based on the original data set including outliers.

### 4.5.2 Return on Equity

ROE = Net Income/Shareholders Equity

Return on Equity reflects organisational profits, which are ultimately attributable to shareholders. This is of particular interest in Altx listed firms, who use equity finance raised during a listing to fund further growth.

Return on Equity is affected directly by management's decisions on how growth is financed. Firms can fund growth requirements either by making shares available to the market thereby increasing equity and or by taking on additional debt. The mix of capital sources is to a large extent decided by the top management team with capital sourcing influencing organisational gearing, which may ultimately impact financial performance. Firms with low levels of gearing (high equity) have less financial exposure to increased interest rates and debt repayments. Equity finance is, however, costly. Altx listed firms attract a market risk premium of 5% above the risk-free rate increasing the weighted average cost of capital and therefore impacting profits (Deal Advisory, 2016). Firms with high levels of gearing have a lower weighted average cost of capital as a result of the tax benefit associated with debt (tax shield). The reduced debt is however considered more risky, as debt repayments are subject to interest rate movements and repayment is required despite organisational performance. Management ability to correctly leverage firms directly impacts firm performance, and ROE is a measure of the company's effectiveness at generating returns from assets through appropriate capital structures.

Each of the firms will be assessed based average performance of return on equity over a three-year period from 2012 – 2015.

## 4.6 H1 Top Management team Characteristics

Cyert and March (1963) define Top Management Teams as consisting of organisational members who have formed a "dominant coalition" and that it is this dominant coalition that influences the strategic choices made by organisations irrespective of their formal title within the organisation (Cyert & March 1963). Hambrick and Mason (2007) define the top management team based on their hierarchy within the organisation, and that decision-making authority is as a result of formal positions within the organisation. The majority of literature reviewed has been based on the definition as developed by Hambrick and Mason (2007) and although the "dominant theory coalition" is of interest, qualitative interviews would need to be conducted with relevant CEO's to determine these coalitions. In line with the quantitative nature of this research, the top management team has been defined in line with Hambrick and Mason's (2007) definition to include all C-Suite executives who are active members of the board of directors for the sample frame selected.

Quantitative data relating to top management team demographics, based on Hambrick and Mason's model (Hambrick and Mason, 2015), was collected on 92 C-level executives, using secondary data sources, namely annual financial reports. Where information was not available, additional secondary sources were used including organisational websites and INET BFA using the director search function.

All data relating to organisational demographics has been assessed using regression analysis to determine possible causal relationships between each demographic and organisational financial performance, as measured by both ROE and ROA.

Demographic data of top management teams to be included in this study consist of team size, age, experience and education each of which is discussed in detail in the section to follow.

### 4.6.1 Top Management Team Education

Education has been identified as a key construct in Upper Echelon Theory in that higher levels of education improve management's abilities to interpret complex environments resulting in improved decision-making abilities (Alessandra Colombelli, 2015; Carmen Díaz-Fernández et al., 2014; Hambrick, 2007).

Similar research conducted by Pegels et al. (2000) assigned educational values from one to eight, depending on the level of education, with one representing secondary school education only, and eight a doctoral degree. A more formal approach has been adopted in this research, similar to work done by Taljaard (2014), and is based on South Africa's National Qualification framework to rank levels of qualifications from one to ten as presented in Table 2 below (Taljaard, 2014).

**Table 1 - NQF Qualifications Levels**

| NQF Level | Qualification |
|---|---|
| 10 | Doctoral Degree |
| 9 | Masters Degree |
| 8 | Honours Degree, Bachelors Degree, Postgraduate Diploma, Professional Qualifications |
| 7 | Bachelors Degree, Advanced Diploma, Professional Accreditation |
| 6 | Diploma, Advanced Certificates |
| 5 | Higher Certificates |
| 4 | Grade 12, National Certificates Level 4 |
| 3 | Grade 11, National Certificates Level 3 |
| 2 | Grade 10, National Certificates Level 2 |
| 1 | Grade 9 |

Source: South African National Qualifications Framework

Mean TMT values as per the NQF Qualifications levels have been used and where executives have more than one accreditation the higher-ranking qualification has been utilised in the calculation of mean values.

### 4.6.2 Top Management Team Age

Top Management Team mean age levels will be utilised in this research as previous research has found that firms characterised by youthful management teams are characterised by high growth rates associated volatile earnings, while higher mean ages correlate with organisational stability and lower rates of growth (Hambrick & Mason, 1984; Norburn & Birley, 1988)

The research uses the mean age of the top management team in this investigation and the analysis of data.

### 4.6.3 Top Management Team Tenure

Top management team experience specifically relating to years in current positions is of particular interest as tenure may influence an executive's ability to scan the environment as well as make adaptive changes (Hambrick & Mason, 1984). Hannan and Freeman (1984) discuss that longer-term executive tenures improve organisational performance as firm-specific skills are acquired. However, in their investigation into Structural Inertia and Organisational Change, they suggest that the longer the tenure, the more reluctant management may be to implement structural changes. This may threaten the survival of themselves as well as the organisation (Hannan & Freeman, 1984). Due to the nature of the organisations in this research, high growth firms' executive tenure is of particular interest as boards may have acquired new executives who still need to gain firm-specific experience. Alternatively, long-standing members of the management team may not necessarily implement the required organisational changes needed to transition to the next phase of growth. Experience will be measured based on the numbers of years a particular executive has spent in the position, and mean values will be used in the analysis.

### 4.6.4 Size of Management Team

The size of the management team is of relevance as previous research has found that the size of the management team is a determining factor on firm performance. Haleblian and Finkelstein (1993) found that top management team size is positively correlated to firm performance (Haleblian & Finkelstein, 1993) while Pegels et al. (2000) conclude that increased group heterogeneity improves decision-making in dynamic, complex environments (Pegels et al., 2000). Team size will be measured by the number of C-suite executives in each firm and has not been adjusted for firm size and or industry type. Actual values of top management team size will be used for analysis of data.

## 4.7 H2 CEO/Founder Involvement

Upper Echelon Theory posits that it is the TMT in firms that influence decision-making and that organisational performance are as a result of the team's actions. In a revised edition of the theory Hambrick and Mason (1984) introduce a moderator based on the level management discretion and their actual influence on the firm decision-making process. As a result, research suggests that firms with dominant CEO's reduce the overall effectiveness of TMT's impacting firm performance. In turbulent environments,

firms with dominant CEO's perform less well than companies with less dominant CEO's as the TMT heterogeneity and management discretion improve the decision-making process (Alessandra Colombelli, 2015; Haleblian & Finkelstein, 1993). The Altx environment is characterised as being turbulent, based on the high levels of growth as well as firms making the transition from a private to a public entity.

The measurement of CEO dominance based on quantitative data would require a detailed analysis of each organisation. Due to time constraints, CEO dominance has been measured based on the whether or not the founder is the firm's current CEO. Organisational Life Cycle theory suggests that founders need to appoint competent managers (CEO's) for organisations to successfully transition from early to later growth phases of the organisational lifecycle. In line with this theory, Colombelli (2015) researched the relationship between founders being the CEO's of listed companies on London's Alternative Exchange and firm financial performance. Her findings suggest that firms whose founders are the current CEO's underperform in comparison to their peers.

CEO dominance will be measured by establishing if the current CEO is the firm's founder. Where the current CEO is the company's founder, a value of one has been allocated, while if the firm's current CEO is not the founder a value of 0 has been allocated.

Financial performance of companies will then be analysed using regression analysis in order to determine if any causal relationships exist between financial performance of firms whose founders are the current CEOs and those firms who have appointed external CEO's.

## 4.8 H3 Growing Pains and TMT Composition

Further quantitative data was gathered using primary data from an electronic questionnaire consisting of ten questions identifying "growing pains" as developed by Flamholtz and Randle (E. G. Flamholtz & Randle, 2012). The questionnaire was distributed to 125 individual within the sample frame across various levels throughout the organisation with a total of 24 responses received. This success rate of only 9.8% represented only eleven organisations within the sample frame.

The combination of questions relating to both design characteristics and the identification of growing pains seek to determine the level of organisational fit between organisational structures and the environment. The ten questions asked related to growing pains on a Likert scale and linked to appropriate values for regression analysis. The Likert scale and associated values have been provided in the table below.

**Table 2 - Likert Scale**

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Each question was equally weighted with a maximum possible score of fifty. A mean score of fifty would represent perfect representation of symptoms relating to growing pains while a score of five would represent no growing pain symptoms.

Growing pains have been identified as an indicator of organisation design and appropriate fit. Growing pains are representative of the organisation's ability to meet market demands with high levels of growing pains expected to produce lower profits (Eg Flamholtz & Randle, 2009). Based on the low response rates, an exploratory analysis was undertaken in order to determine possible relationships between growing pains and organisational performance.

Organisational design has been identified as being the responsibility of top management teams and as such one would expect some relationship between top management team composition and the level of growing pains experienced. The relationship between organisation design and top management team composition is therefore of particular interest, and exploratory analysis was done using Smart PLS to determine if in fact any such relationship exists and or is statistically significant.

## 4.9 Synthesis

Based on the literature reviewed, there is significant evidence to suggest that both Upper Echelon and Organisational Lifecycle Theories impact firm financial performance. No literature has however been identified which combines both theories into a single model to determine firm performance based on quantitative analysis of both theories.

To develop a better understanding and to expand existing knowledge on antecedents to organisational performance, two sets of multiple regression analysis of all independent variables will be used to test the dependent financial variable in relation to independent variables and the statistical significance of each. The multiple regression analysis will result in data which could explain the percentage variation of the dependent variable as a direct consequence of changes within the combined set of variables (Albright, Winston, & Zappe, 2006).

The following multiple regression models will be used to test the causal relationships between each of the independent and dependent variables.

1. Financial performance (ROA) = S+Ed+A+EX+FI+G
2. Financial performance (ROE) = S+Ed+A+EX+FI+G

S = TMT Team Size
Ed = TMT Mean Education
A = TMT Mean Age
Ex = TMT Mean Experience
FI = Founder Involvement
G = Growing Pains

## 4.10 Rationale

The rationale supporting the chosen research design method is to empirically test causal relationships between various independent variables and firm performance (dependent variable). Secondary data relating to financial results has been used both from an ease of use perspective as well allowing the researcher to include larger data sets (Saunders & Lewis, 2012). This data is independently audited before publication, and it is therefore assumed to be of high quality. Primary data on organisational life cycle theories has been used due to the specific requirement of the research question (Wegner, 2012).

## 4.11 Data Collection

Data on organisational performance and top management team composition have been collected using both primary and secondary sources. This was a manual process,

as no single database existed with access to the relevant information for purposes of this research.

To determine the alignment of organisational structures with relative stages of growth, primary data was collected from an electronic questionnaire using Survey Monkey, which was distributed, to top executive teams within the sample frame. The questionnaire made reference to Galbraith's ten factors (Galbraith, 1982) relating to the presence of growing pains, which signify organisational alignment with environmental requirements. Electronic questionnaires were used for ease of use for both the researcher and potential respondents.

Longitudinal secondary data on firm financial performance as measured by ROA and ROE has been collected and ranked according to financial performance within the sample frame.

## 4.12 Limitations

The research was limited to firms which are currently listed on the JSE and which have no less than three years worth of uninterrupted financial data between for the period 12012 – 2015. Surprisingly of the 63 firms currently listed only 31 had sufficient financial data with the balance of firms either having suspended trading statuses, newly listed or recently re-instated on the exchange. Despite testing for validity and the robustness of the methodology used in the analysis results from the larger sample sizes would have resulted in increased validity of the analysis conducted. This is confirmed by the Kaiser-Meyer-Olkin results obtained for measure of sampling Adequacy (KMO) with a value 0.588 suggesting that the sample is not adequate, although at a marginal level.

The sample used consisted of organisations currently listed on the Altx based on pre-defined qualification criteria and excludes the 30 organisations which have successfully graduated from the Altx to the JSE Mainboard (Cheyne, 2015; Keith McLachlan, 2010). The exclusion of successful organisations form the sample may have introduced negative bias potentially impacting the results obtained from the statistical analysis. Future research should include organisations, which have successfully managed this transition.

Survey response rates of 9.8% relating to the level of growing pains experienced within organisations were extremely low negatively impacting the size and quality of the sample data and results obtained from the statistical analysis. Increased response rates will be required in order to develop a more comprehensive understanding of growing pains and their relationship to TMT composition. Based on the relatively small sample size alternative approaches to data gathering should be considered including interviews with relevant line managers within each firm.

Financial performance has been measured using both return on assets and return on equity each of which is important in assessing company performance. The period over which the financial data was selected detailed high levels of volatility based on standard deviations for both measures of financial performance. The volatility in financial performance may have impacted results obtained during regression analysis. The unit of measure in determining firm performance was restricted to ROA and ROE both of which are affected by capital structuring and leverage which directly impact both ROA and ROE. Including firm-specific leverage, calculations may provide additional insights as to firm performance based on risk appetite and TMT characteristics, which influence choices in capital structuring.

# Chapter 5 : Data Analysis and Research Results

## 5.1 Introduction

The following chapter details the results from various analyses, which were conducted on the sample frame in testing the three hypotheses, presented in Chapter 3.

The sample frame is discussed in terms of the total population, qualification criteria and the presentation of all organisations included in the sample.

Initial analysis consisted of descriptive statistics relating to each of the variables, both dependent and independent, in order to understand the individual characteristics of each which may provide additional insights in interpreting results in the following chapter.

More detailed analysis was then conducted and presented in order to determine any possible causal relationships using regression analysis between dependent and independent variables relating specifically to the first and second hypotheses, which investigates TMT characteristics and whether the organisations founder is the current CEO.

Due to low response rates exploratory analyses was conducted on the third hypotheses relating to organisational growing pains and firm financial performance.

## 5.2 Sample Frame

**Table 3 - Sample Frame**

| Company Name | 3 Years Financial Data | 5 Year Financial Data | Suspended Trading Status |
|---|---|---|---|
| ACCENT | Yes | Yes | No |
| AFDAWN | Yes | Yes | No |
| AHVEST | Yes | Yes | No |
| ALARIS | Yes | Yes | No |
| ANSYS | Yes | Yes | No |
| BEIGE | Yes | Yes | No |
| BSI STEEL | Yes | Yes | No |
| BUFFALO | Yes | No | No |
| CENRAND | Yes | Yes | No |
| CHROMETCO | Yes | Yes | No |
| CSG | Yes | Yes | No |
| DIAMONDCP | Yes | Yes | No |
| GIYANI | Yes | No | No |
| GLOBAL | Yes | No | No |
| GOODERSON | Yes | Yes | No |
| IMBALIE | Yes | Yes | No |
| IPSA | Yes | No | Yes |
| JUBILEE | Yes | Yes | No |
| KIBO | Yes | No | No |
| MINERESTI | Yes | No | Yes |
| MONEYWEB | Yes | Yes | No |
| NUTRITION | Yes | No | No |
| OASIS | Yes | Yes | No |
| PSV | Yes | Yes | No |
| RARE | Yes | Yes | No |
| RBA | Yes | Yes | Yes |
| SILVERB | Yes | Yes | No |
| TELEMASTER | Yes | Yes | No |
| BLACKSTAR | Yes | No | No |
| WEARNE | Yes | Yes | No |
| WORKFORCE | Yes | Yes | No |

Source: McGregor BFA Research Domain

Table 3 is representative of all organisations that have met the predefined qualification criteria to be included in the research. Qualifying criteria was based on Altx listings with the availability of no less than three years of uninterrupted, audited and published financial data. As a result, the sample frame consists of 31 organisations, which represents only 50.8% of all firms currently listed on the Altx with firms excluded including those with suspended trading status and or limited availability of financial data.

Of the 31 qualifying organisations included in the research, three (9.6%) organisations currently have suspended trading statuses for not meeting certain listing requirements including but not limited to the presentation of financial statements. The three organisations with current suspended trading status include;

- IPSA an independent power producer with dual listings on the London AIM and the South African Altx.
- Mine Restoration Investments an environmental services company specialising in the mining sector and
- RBA Investments a property development company providing domestic housing solutions throughout South Africa.

## 5.3 Descriptive Statistics

### 5.3.1 Company Performance

Return on Assets (ROA) and Return on Equity (ROE) have been chosen in this research as important indicators of overall company financial performance each of which has been assessed individually and will be discussed further in the next two subsections. The financial performance will be used as the dependent variable in further analysis of the sample in line with the research.

Although both ROA and ROE are both measures of financial performance, each measure focuses on different aspects relating to organisational performance. ROA specifically relates to how well organisations make use of assets within the organisation in order to generate returns irrespective of how assets have been funded. ROE looks specifically to how well organisations make use of shareholder funds to generate returns, which is dependent on how assets are financed. In the Altx environment, this is of particular interest as organisations have access to equity funding to facilitate growth, equity funding is however significantly more expensive than debt finance, which may impact returns to shareholders negatively impacting ROE

#### *5.3.1.1 Return on Assets*

Table 4 below represents descriptive statistics relating to the mean ROA values for the sample during the financial period 2012 to 2015. With minimum returns of -547.86% a maximum of 36.6% and mean values of -36.52% overall financial performance of the sample supports concerns regarding the financial performance of Altx listed firms.

**Table 4 – Mean ROA**

| Descriptive Statistics - Mean ROA | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Average ROA | 31 | -547.86 | 36.69 | -36.52 | 107.78 |
| Valid N (listwise) | 31 | | | | |

Source: SPSS Statistics

With a large standard deviation of 107.78%, the sample may have contained outliers, which could impact the reliability and validity of the results and further regression analysis to be conducted. In order to address these concern, outliers were removed from the sample using the Thompson Tau method, resulting in the removal of two organisations from the original data set. Descriptive statistical analysis was then conducted on the revised sample frame and is presented in presented in table 5 below.

**Table 5 - Mean ROA Thompson Tau**

| Descriptive Statistics ROA Outliers Removed | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Average ROA | 29 | -97.83 | 36.69 | -11.37 | 27.51 |
| Valid N | 29 | | | | |

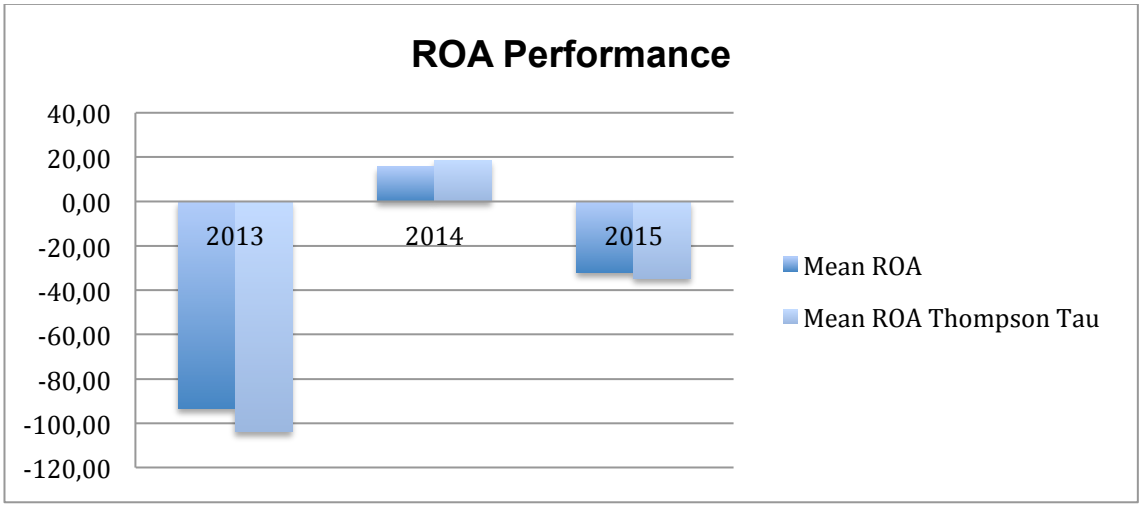
Source: SPSS Statistics

After adjustment, the results reduced the overall standard deviation but increased the minimum returns and mean values of the sample.

In order to better understand the relatively poor performance in terms of ROA annual mean values were calculated and presented in table 6 below comprising of both the original sample as well as the revised sample with the outliers removed. During the 2014 financial year, ROA values for the sample were significantly lower than later years with the minimum ROA values at -93.31%. Although ROA values have improved in later years overall financial performance over the three-year period of the sample under review, have showed negative returns of assets.

The removal of outliers from the sample set had no significant impact on the statistical results and has been included here for comparative purposes only. The original sample set, including outliers, has been used for all statistical analysis conducted as part of this research.

**Table 6 - ROA Performance Mean Values Annually**




### *5.3.1.2 Return on Equity*

Analysis of ROE for the sample frame has been conducted over the same period and has been presented in tables 7 through 9. Descriptive statistics relating to the return on equity are presented in table 7, with higher standard deviations in ROE than that of return on assets with maximum ROE values of 298.74% and minimum values of -707.30%. Mean values over the period confirm that organisations within the sample frames on average have provided negative returns on equity for the financial period used in the research. Once again in order to determine the effects of outliers on the sample frame, the Thompson Tau method was used to calculate outliers and two organisations were removed from the descriptive statistics presented in table 8. Removing the outliers resulted in decreases in most descriptive values. Mean returns over the period have increased from -22.3% to – 9.75%.

**Table 7 – Mean ROE**

| Descriptive Statistics - Mean ROE | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Average ROE | 31 | -707.30 | 298.74 | -22.30 | 162.80 |
| Valid N (listwise) | 31 | | | | |

Source: SPSS Statistics

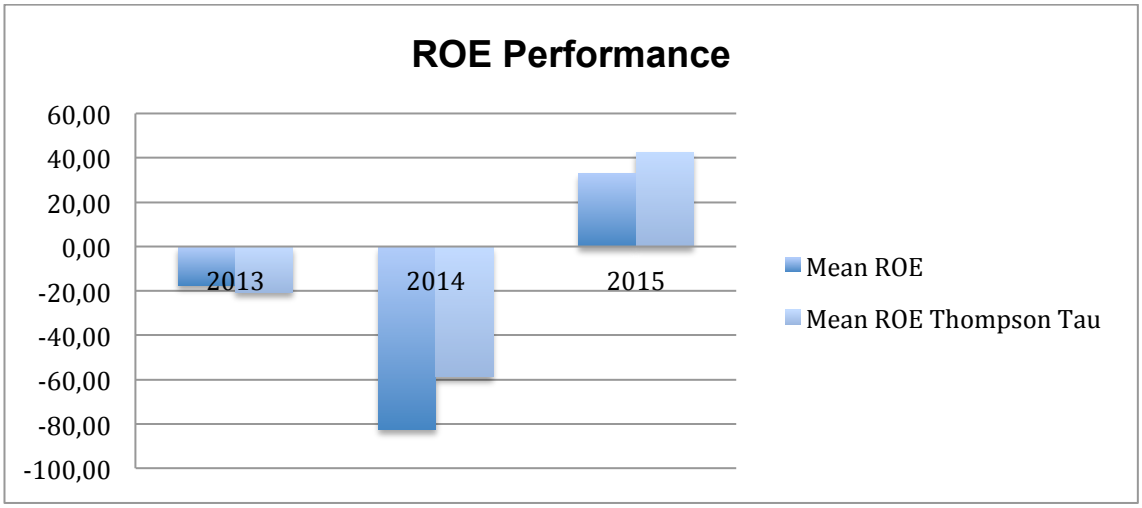
**Table 8 – Mean ROE Outliers Removed**

| Descriptive Statistics ROE Outliers Removed | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Average ROE | 29 | -307.00 | 268.77 | -9.7525 | 88.29 |
| Valid N | 29 | | | | |

Source: SPSS Statistics

In order to better understand the performance values presented in both sets of statistics, ROE performance was analysed further detailing mean ROE values for each of the financial years under review. Table 9 details the financial performance of the sample on both the original set of organisations as well as the revised set based on the removal of outliers. The graph below provides insights into the relative closeness of both sets of data, which supports the decision to use the original set of data in the research and statistical analysis. Unlike ROA analysis the ROE performance of the sample details lowest performance values in 2013 with mean values of the sample generating positive returns in the 2015 financial year. Differences between ROA and ROE performance are however expected based on the nature of the financial measured used in each.

**Table 9 – ROE Performance Mean Values Annually**




### 5.3.2 Executive Team Characteristics

Demographic data on a total of 93 C-suite executives was gathered using secondary data sources. C-suite executives have been selected based on Upper Echelon theory, which posits that Top Management Team Demographics may to some extent influence firm performance.

#### *5.3.2.1 TMT Education*

Values for executive education have been allocated according to the South African National Qualifications Framework as discussed in chapter 4. Results presented in table 10 relate to mean education values of executive teams within across all organisations in the sample. Mean values within each organisation are calculated by

averaging individual levels of education within executive teams across the number of executives within the top management teams. Overall mean values are then calculated based on mean organisational values across all organisations within the sample. From the descriptive statistics presented in table 10, mean levels of education of 7.66 suggest that, on average, executives have obtained higher forms education with either a bachelor's, honours degree and or other professional qualification.

**Table 10 – Mean Level Executive Education**

| Descriptive Statistics - Mean Education Level | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Mean Education | 31 | 4.67 | 9.00 | 7.66 | .95 |
| Valid N (listwise) | 31 | | | | |

Source: SPSS Statistics

To further understand the construct of the executive teams within the sample a frequency analysis was conducted and the results of which are presented in table 11 below. Although the lowest level of education within the group is a grade 11 this was a single occurrence and represented only 1.1% of the sample. The mean levels of education presented in table 11 suggest that the majority of executives would have obtained either a bachelor's and or honours degree. This is confirmed in the frequency tables with 43.5% of the sample having obtained an honours degree and a further 21.7% having a bachelor's qualification. The third most frequent level of qualification is that of master's degree represented by 18.5% of the sample with a total of two executives having obtained doctorates.

**Table 11 - Frequency Table - Executive Education Levels**

| NQF Level - Frequencies | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percentage | Valid Percentage | Cumulative Percentage |
| Valid | Grade 11 | 1 | 1.1 | 1.1 | 1.1 |
| | Grade 12 | 7 | 7.6 | 7.6 | 8.7 |
| | Higher Certificate | 1 | 1.1 | 1.1 | 9.8 |
| | Diploma | 4 | 4.3 | 4.3 | 14.1 |
| | Bachelors Degree | 20 | 21.7 | 21.7 | 35.9 |
| | Honours Degree | 40 | 43.5 | 43.5 | 79.3 |
| | Masters Degree | 17 | 18.5 | 18.5 | 97.8 |
| | Doctoral Degree | 2 | 2.2 | 2.2 | 100.0 |
| | Total | 92 | 100.0 | 100.0 | |

Source: SPSS Statistics

#### *5.3.2.2 TMT Age*

The total executive team of Altx listed organisations within the sample consists of 92 individuals. Of the 92 executives, the mean age of executives is 49.42 with minimum values of 30 and maximum values of 79 years of age as presented in table 14. Of the 92 executives included in the study 14 are over the age of 60, five of which are over the age of 70. This is of particular interest as South African retirement ages are generally between 60 and 65 years of age.

**Table 12 - Descriptive Statistics Executive Ages at an Individual Level**

| Descriptive Statistics Mean Age Individual Level | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Age | 92 | 30.00 | 79.00 | 49.42 | 10.04 |
| Valid N (listwise) | 92 | | | | |

Source: SPSS Statistics

Table 15 represents the mean ages of executive's teams of the 31 organisations included in the sample. Minimum, maximum and mean values represent the combined average ages of executive teams within each organisation. The youngest management teams have mean ages of 35 with 62.5 years of age representing the maximum combined board ages. Mean values remain similar to that of the mean values at an individual executive level of 49.42 years of age. Mean age at the organisational level will, however, be used for further statistical analysis.

**Table 13 - Mean Age of Executive Team at Organisational Level**

| Descriptive Statistics - Mean Age Organisational Level | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Mean Age | 31 | 35.00 | 62.50 | 49.36 | 6.58 |
| Valid N | 31 | | | | |

Source: SPSS Statistics

#### *5.3.2.3 TMT Tenure*

Tenure, in this research, is representative of positional experience measured in years of service that executives have completed in their current roles as part of top management teams. Table 16 provides insights into mean tenures of executive teams of each of the thirty-one organisations in the sample. Mean values across each of the organisations show than on average top management teams have a combine's average tenure 5.78 years. Maximum team tenures in the sample set is 15.4 years while surprisingly minimum top management team tenures equate to a total of 1.33

years. This is less than the minimum required years of available financial data to be used in the research.

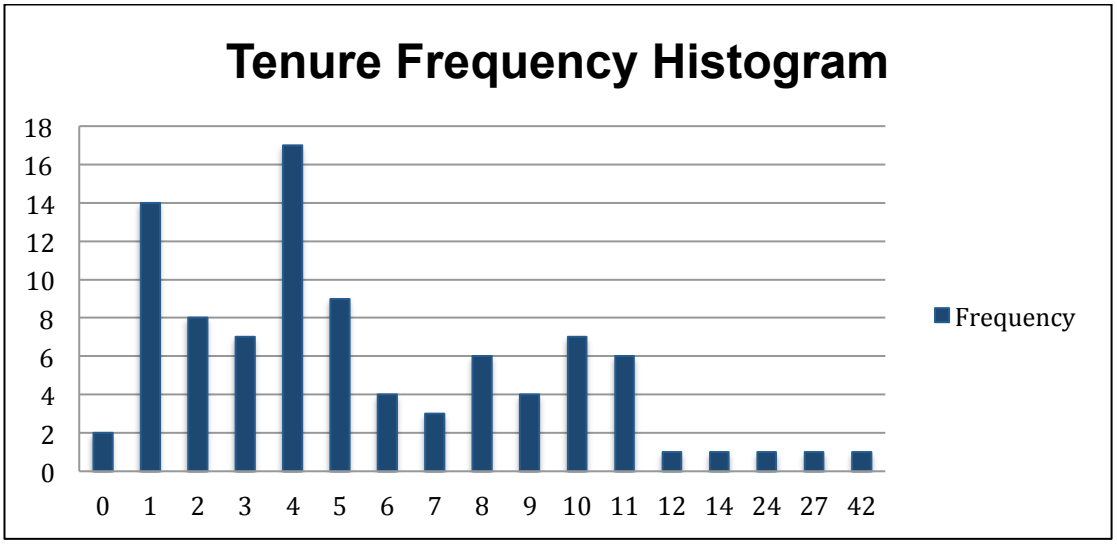
**Table 14 – Mean Level Executive Tenure**

| Descriptive Statistics - Mean Tenure | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Mean Experience | 31 | 1.33 | 15.40 | 5.78 | 3.43 |
| Valid N (listwise) | 31 | | | | |

Source: SPSS Statistics

Of the 92 executives included in the research a surprisingly high percentage, 15.2%, of executives have only been in their current executive roles for a period of one year as detailed in table 18 suggesting churn at a senior management level. Table 17 presents a histogram of the frequency tables detailing relatively short tenures for executives within the sample. Although the maximum tenure of executives is 42, tenures of one to four years represent 50% of the group with four years tenure being the most frequently observed.

**Table 15 - Tenure Frequency Histogram**




Source: SPSS Statistics

**Table 16 - Frequency Tables Tenure**

| Tenure – Frequency Table | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percentage | Valid Percentage | Cumulative Percentage |
| Valid | 0 | 2 | 2.2 | 2.2 | 2.2 |
| | 1 | 14 | 15.2 | 15.2 | 17.4 |
| | 2 | 8 | 8.7 | 8.7 | 26.1 |
| | 3 | 7 | 7.6 | 7.6 | 33.7 |
| | 4 | 17 | 18.5 | 18.5 | 52.2 |
| | 5 | 9 | 9.8 | 9.8 | 62.0 |
| | 6 | 4 | 4.3 | 4.3 | 66.3 |
| | 7 | 3 | 3.3 | 3.3 | 69.6 |
| | 8 | 6 | 6.5 | 6.5 | 76.1 |
| | 9 | 4 | 4.3 | 4.3 | 80.4 |
| | 10 | 7 | 7.6 | 7.6 | 88.0 |
| | 11 | 6 | 6.5 | 6.5 | 94.6 |
| | 12 | 1 | 1.1 | 1.1 | 95.7 |
| | 14 | 1 | 1.1 | 1.1 | 96.7 |
| | 24 | 1 | 1.1 | 1.1 | 97.8 |
| | 27 | 1 | 1.1 | 1.1 | 98.9 |
| | 42 | 1 | 1.1 | 1.1 | 100.0 |
| | Total | 92 | 100.0 | 100.0 | |

Source: SPSS Statistics

#### *5.3.2.4 TMT Size*

Team size is presented in table 12 below with mean executive team sizes consisting of approximately three executives per organisation with minimum values of 1 and maximum values of 7.

**Table 17 – Mean Level Team Size**

| Descriptive Statistics - TMT Size | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| TMT Size | 31 | 1 | 7 | 2.90 | 1.221 |
| Valid N | 31 | | | | |

Source: SPSS Statistics

In terms of board composition table, 13 details the frequency of the top management team sizes for each of the organisations within the sample frame. Average board size is echoed in the frequency table, with 48.4% of organisations having a board size consisting of three executives closely followed by boards consisting of two executives representing 35.5% of the sample. Surprisingly board sizes consisting of 1, 4, 5, 6 and 7 executives occurred only once each within the sample frame. Of particular interest in the board size consisting of only one executive, as per Altx listing requirements, the minimum criteria for acceptance to the Altx is the appointment of a qualified financial director.

**Table 18 – Frequency Table Team Size**

| TMT Size | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percentage | Valid Percentage | Cumulative Percentage |
| Valid | 1 | 1 | 3.2 | 3.2 | 3.2 |
| | 2 | 11 | 35.5 | 35.5 | 38.7 |
| | 3 | 15 | 48.4 | 48.4 | 87.1 |
| | 4 | 1 | 3.2 | 3.2 | 90.3 |
| | 5 | 1 | 3.2 | 3.2 | 93.5 |
| | 6 | 1 | 3.2 | 3.2 | 96.8 |
| | 7 | 1 | 3.2 | 3.2 | 100.0 |
| | Total | 31 | 100.0 | 100.0 | |

Source: SPSS Statistics

### 5.3.3 CEO as Founder

Table 19 below represents a summary of listed organisations relating to the second hypothesis, which states that organisations, where the CEO is the founder, will not perform as well as those organisations that have CEO's who were not the firm's original founders. Of the 31 organisations included in the research only 22.6% currently have a CEO, which was the organisations founder while the remaining 77.4% have external CEO's, which are not the firm's original founders. This is of particular interest as firm listing on the Altx are generally owner managed suggesting that a large percentage of founders relinquish control when entering the listed environment.

**Table 19 - CEO/Founder**

| CEO/Founder | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percentage | Valid Percentage | Cumulative Percentage |
| Valid | No | 24 | 77.4 | 77.4 | 77.4 |
| | Yes | 7 | 22.6 | 22.6 | 100.0 |
| | Total | 31 | 100.0 | 100.0 | |

Source: SPSS Statistics

### 5.3.4 Growing Pains

Primary data on growing pains was collected through the distribution of an electronic survey, using both Survey Monkey and direct email, as well as telephonic interviews. A total of 125 questionnaires were distributed with regular follow-ups either by email and or telephonic conversations. Of the 125 questionnaires distributed a total of 24 responses were received equating to a 19.2% response rate and with responses

limited to only eleven (35.4%) of the 31 organisations included in the research. Figure 18 presents the descriptive results on mean values of growing pains from the responses received. A maximum value of fifty could be achieved for growing pains representing organisations with no alignment to current environmental requirements while a score of zero would represent perfect organisational alignment with individuals within each of the firms experiencing none of the growing pains identified in the questionnaire. Table 20 provides descriptive data of the responses received with minimum scores of 22 and maximum scores totalling 37. Mean values of the group of 29.19 suggest that organisations within the sample are experiencing levels of growing pains above median values of the scores achievable suggesting some level of discomfort relating to growing pains.

**Table 20 - Growing Pains**

| Growing Pains Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Growing Pains | 11 | 22.00 | 37.00 | 29.19 | 3.95 |
| Valid N (listwise) | 11 | | | | |

Source: SPSS Statistics

The survey consisted of ten questions, and it was, therefore, necessary to further analyse the individual scores for each of the questions asked and rank the types of growing pains experienced by organisations within the sample. Descriptive statistics of individual responses are presented below in table 21 below and have been ranked from highest to lowest in terms of mean values for each of the 10 questions asked.

The most prominent growing pains experienced within the groups is the feeling that there are not enough hours in the day with a mean score of 3.88 nearing the maximum achievable score of five. The second and third highest ranked questions relating to growing pains are “good managers are few and far between” and “If I don’t do it myself it won’t get done correctly”. The lowest mean values were scored on there “is no time for follow-up, so things don’t get done” with a score 2.63. Both the highest and lowest scoring questions relating to growing pains are time dependent with the responses seemingly contradicting each other.

Interestingly none of the mean scores recorded were below 2.5 representing the mid scoring range suggesting that organisations within the sample are to some degree experiencing growing pains and that there is some misalignment between organisational structures and the external environment.

**Table 21 - Growing Pains Individual Responses**

| Descriptive Statistics - Growing Pains | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| There are not enough hours in the day | 24 | 1 | 5 | 3.88 | 1.154 |
| Good managers are few and far between | 24 | 1 | 5 | 3.33 | 1.274 |
| If I don't do it myself, it won't be done correctly | 24 | 1 | 5 | 2.96 | 1.197 |
| Most meetings are a waste of time | 24 | 1 | 5 | 2.88 | 1.191 |
| I spend too much time putting out fires | 24 | 1 | 5 | 2.75 | .989 |
| The firm has continued to grow in sales but not in profits | 24 | 1 | 5 | 2.75 | 1.032 |
| People feel insecure about their positions in the business | 24 | 1 | 5 | 2.71 | 1.122 |
| People are not aware of what others in the organisation are doing | 24 | 1 | 5 | 2.67 | 1.129 |
| There is a general lack of understanding about where the business is going | 24 | 1 | 5 | 2.67 | 1.129 |
| There is no time for follow-up, so things don't get done | 24 | 1 | 5 | 2.63 | 1.135 |
| Valid N (listwise) | 24 | | | | |

Source: Survey Monkey

## 5.4 Hypothesis Testing

### 5.4.1 Top Management Team Characteristics and Organisational Performance

In order to test whether top management team characteristics impact firm financial performance a regression analysis was conducted to test each of the independent variables against the dependent variable in this case both average ROA and ROE.

Analysis of TMT characteristics and their impact on both ROA and ROE has been conducted separately the results of which are presented below.

#### *5.4.1.1 ROA Performance and TMT Characteristics*

Results presented in table 20 below relate specifically to correlations between each of the top management team characteristics and average ROA of organisations within the sample frame. From the regression analysis conducted, p-values are well above the 0,05 level of significance for all independent variables tested confirming that there are no significant relationships between each of the top management team characteristics assessed and financial performance. Pearson correlation coefficients test the strength of the relationships between dependent and independent variables with scores ranging from minus one to positive one. A score of one equates to a perfectly correlated positive relationship while a score of minus one represents a perfectly correlated negative relationship. From the results in the table below all correlations between dependent and independent variables is relatively week with only TMT size positively correlated to average ROA performance. Mean education, age and tenure are all negatively correlated to financial performance.

Significant relationships do however exist between independent variables namely mean education and team size as well as mean age and tenure. This is not surprising as age and tenure suggest that the older an executive is, the more likely they are to have higher tenures. The correlation between mean education and TMT size is, however, surprising as the data suggests that as team sizes within the sample frame increase that mean levels of education decreases.

**Table 22 - Top Management Team Characteristics and ROA**

| Correlations – ROA and TMT Characteristics | | | | | | |
|---|---|---|---|---|---|---|
| | | Average ROA | TMT Size | Mean Education | Mean Age | Mean Tenure |
| Average ROA | Pearson Correlation | 1 | .083 | -.287 | -.110 | -.018 |
| | Sig. (2-tailed) | | .659 | .118 | .557 | .924 |
| | N | 31 | 31 | 31 | 31 | 31 |
| TMT Size | Pearson Correlation | .083 | 1 | -.488** | .042 | .156 |
| | Sig. (2-tailed) | .659 | | .005 | .823 | .402 |
| | N | 31 | 31 | 31 | 31 | 31 |
| Mean Education | Pearson Correlation | -.287 | -.488** | 1 | -.144 | -.297 |
| | Sig. (2-tailed) | .118 | .005 | | .439 | .104 |
| | N | 31 | 31 | 31 | 31 | 31 |
| Mean Age | Pearson Correlation | -.110 | .042 | -.144 | 1 | .490** |
| | Sig. (2-tailed) | .557 | .823 | .439 | | .005 |
| | N | 31 | 31 | 31 | 31 | 31 |
| Mean Tenure | Pearson Correlation | -.018 | .156 | -.297 | .490** | 1 |
| | Sig. (2-tailed) | .924 | .402 | .104 | .005 | |
| | N | 31 | 31 | 31 | 31 | 31 |

** Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Statistics

Based on the regression analysis presented in table 23 a model summary is presented in table 24 confirming the weak correlation relationships of the dependent with independent variables. The adjusted R-squared value of 0.112 suggests that the only 11.2% of the variation in average ROA performance is attributable to changes in independent variables.

**Table 23 – ROA Regression Analysis Model Summary**

| Regression Analysis Model Summary - ROA | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .334a | .112 | -.025 | 109.11 | .112 | .819 | 4 | 26 | .525 |

a Predictors: (Constant), Mean Experience, TMT Size, Mean Age, Mean Education

Source: SPSS Statistics

#### *5.4.1.2 ROE Performance and TMT Characteristics*

A regression analysis was conducted on average ROE performance and top management team characteristics the results of which are presented in table 25. As per the analysis of ROE and independent variables, no significant relationships exist between the average ROE performance and various top management team characteristics represented by p-values above the 0.05 level of significance. Correlations between all independent variables and average ROE performance are week with none of the independent variable achieving a score of higher than 0.1. Two of the four characteristics tested, mean education and mean age, have week but negative correlations while mean tenure and TMT size both have week but positively correlated relationships. It must, however, be noted that these correlations are well below the level of significance to be considered as having an impact of average ROE performance.

Significant relationships again exist between independent variables namely mean education and team size as well as mean age and tenure. This is not surprising as age and tenure suggest that the older an executive is, the more likely they are to have higher tenures. The correlation between mean education and TMT size is, however, surprising as the data suggests that as team sizes within the sample frame increase that the mean level of education decreases.

**Table 24- Top Management Team Characteristics and ROE**

| Correlations – ROE and TMT Characteristics | | | | | | |
|---|---|---|---|---|---|---|
| | | Average ROE | TMT Size | Mean Education | Mean Age | Mean Tenure |
| Average ROE | Pearson Correlation | 1 | .109 | -.078 | -.017 | .152 |
| | Sig. (2-tailed) | | .558 | .676 | .928 | .413 |
| | N | 31 | 31 | 31 | 31 | 31 |
| TMT Size | Pearson Correlation | .109 | 1 | -.488** | .042 | .156 |
| | Sig. (2-tailed) | .558 | | .005 | .823 | .402 |
| | N | 31 | 31 | 31 | 31 | 31 |
| Mean Education | Pearson Correlation | -.078 | -.488** | 1 | -.144 | -.297 |
| | Sig. (2-tailed) | .676 | .005 | | .439 | .104 |
| | N | 31 | 31 | 31 | 31 | 31 |
| Mean Age | Pearson Correlation | -.017 | .042 | -.144 | 1 | .490** |
| | Sig. (2-tailed) | .928 | .823 | .439 | | .005 |
| | N | 31 | 31 | 31 | 31 | 31 |
| Mean Tenure | Pearson Correlation | .152 | .156 | -.297 | .490** | 1 |
| | Sig. (2-tailed) | .413 | .402 | .104 | .005 | |
| | N | 31 | 31 | 31 | 31 | 31 |

** Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Statistics

Table 26 provides a model summary of the regression analysis performed confirming that there are no significant relationships between the dependent and independent variables. The model confirms that there are weak correlations and based on the R-squared value of 0.41 suggests that the only 4.1% of the variation in average ROE performance is attributable to changes in independent variables.

**Table 25 - ROE Regression Analysis Model Summary**

| Regression Analysis Model Summary - ROE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
| | | | | | R Square Change | F Change | df 1 | df 2 | Sig. F Change |
| 1 | .203 a | .041 | -.106 | 171.24 | .041 | .279 | 4 | 26 | .889 |

a Predictors: (Constant), Mean Experience, TMT Size, Mean Age, Mean Education
Source: SPSS Statistics

#### *5.4.1.3 Kruskal-Wallace Test*

Data within the sample set was not normally distributed so additional non-parametric tests were conducted using Kruskal-Wallace summaries of which have been presented below in tables 26 and 27.

Based on the results from the tests conducted on both average ROA and ROE performance the tests confirm that no significant relationship exists between top management team characteristics and organisational performance with p-values beyond the range of acceptance at the 0.05 level.

**Table 26- Kruskal-Wallace ROA**

| Average ROA | Mean Age | Mean Tenure | Team Size | Mean Education |
|---|---|---|---|---|
| Kruskal-Wallace Test | | | | |
| Chi-Square | 17.841 | 7.981 | 8.412 | 3.002 |
| df | 17 | 11 | 6 | 5 |
| Asymp. Sig. | .399 | .715 | .209 | .700 |
| a Kruskal-Wallis Test | | | | |

Source: SPSS Statistics

**Table 27 - Kruskal-Wallace ROE**

| Average ROE | Mean Age | Mean Tenure | Team Size | Mean Education |
|---|---|---|---|---|
| Kruskal-Wallace Test | | | | |
| Chi-Square | 16.220 | 10.377 | 4.783 | 3.385 |
| df | 17 | 11 | 6 | 5 |
| Asymp. Sig. | .508 | .497 | .572 | .641 |
| a Kruskal-Wallis Test | | | | |

Source: SPSS Statistics

In addition to the analysis presented above a factor analysis was conducted which returned Kaiser-Meyer-Olkin measure of sampling Adequacy (KMO) yielded a value 0.588 below the 0.6 level suggesting that the sample used is not adequate, at a marginal level, and that the results may be impacted.

Based on the above analysis the Null Hypothesis, which states that demographic characteristics of Top Management Teams listed on the Altx do not impact organisational performance, is accepted.

### 5.4.2 CEO/Founder and Organisational Performance

Founder involvement and organisational performance has been discussed as an important element in organisational life cycle theory. The theory posits that as organisations grow and transition through the various growth stages that the founder's role becomes less involved in daily activities and becomes more strategic. Additionally, the theory suggests that this is a necessary step in order to ensure the on-going sustainability of the organisation and that external CEO's are appointed in order to implement the required structures and processes to ensure organisational alignment to environmental context.

This research tests this theory by assessing financial performance against instances where the founder is the current CEO and instances where external CEO's, who are not the firms founders have been appointed.

#### *5.4.2.1 CEO/Founder and Financial Performance*

In order to test the if any correlation exists between differences in performance between organisations who's founders are their current CEO's and those who have appointed alternates regression analysis was conducted on both ROA and ROA performance and weather the current CEO is the organisations founder or not.
Tables 28 and 29 present the results of the analysis with both ROA and ROE mean performance having no significant relationship with whether the CEO is the firms founder or not with p-values above the 0.05 level of significance at 0.296 and 0.214 respectively.

**Table 28 - Regression Analysis ROA and CEO/Founder**

| Regression Analysis ROA and CEO Founder | | | |
|---|---|---|---|
| | | Average ROA | CEO/Founder |
| Pearson Correlation | Average ROA | 1.000 | .194 |
| | CEO/Founder | .194 | 1.000 |
| Sig. (2-tailed) | Average ROA | . | .296 |
| | CEO/Founder | .296 | . |
| N | Average ROA | 31 | 31 |
| | CEO/Founder | 31 | 31 |

Source: SPSS Statistics

**Table 29 - Regression Analysis ROE and CEO/Founder**

| Regression Analysis ROE and CEO/Founder | | | |
|---|---|---|---|
| | | Average ROE | CEO/Founder |
| Pearson Correlation | Average ROE | 1.000 | .229 |
| | CEO/Founder | .229 | 1.000 |
| Sig. (2-tailed) | Average ROE | . | .214 |
| | CEO/Founder | .214 | . |
| N | Average ROE | 31 | 31 |
| | CEO/Founder | 31 | 31 |

Source: SPSS Statistics

**Table 30 - Descriptive Statistics CEO is Founder**

| CEO is Founder Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Mean Education | 7 | 6.00 | 8.50 | 7.54 | .84280 |
| Mean Age | 7 | 35.00 | 56.50 | 50.0476 | 7.49488 |
| Mean Tenure | 7 | 3.50 | 11.00 | 6.8429 | 3.05667 |
| TMT Size | 7 | 2 | 6 | 3.14 | 1.345 |
| Valid N (listwise) | 7 | | | | |

Source: SPSS Statistics

**Table 31 - Descriptive Statistics CEO is not Founder**

| CEO not Founder Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Mean Education | 24 | 4.67 | 9.00 | 7.69 | .98 |
| Mean Age | 24 | 37.50 | 62.50 | 49.17 | 6.46 |
| Mean Tenure | 24 | 1.33 | 15.40 | 5.47 | 3.53 |
| Valid N (listwise) | 24 | | | | |

Source: SPSS Statistics

Additional exploratory, descriptive analysis was however conducted on differences in organisational performance based on the CEO being the founder and or if an alternate has been appointed results of which are presented in tables 32 and 33.

In terms of average ROA performance where the founder is not the CEO within the sample, returns are negative with mean ROA values of -47.63%. Alternatively in instances where the firm CEO is the founder returns are positive with mean a mean ROA value of 1.59%.

**Table 32 Exploratory Descriptive Statistics ROA Performance and CEO/Founder**

| Descriptive Mean ROA Performance and CEO/Founder | | | | | |
|---|---|---|---|---|---|
| | CEO/Founder | | | Statistic | Std. Error |
| Average ROA | CEO is not the Founder | Mean | | -47.6390 | 24.60179 |
| | | 95% Confidence Interval for Mean | Lower Bound | -98.5317 | |
| | | | Upper Bound | 3.2536 | |
| | CEO is the Founder | Mean | | 1.5957 | 5.61623 |
| | | 95% Confidence Interval for Mean | Lower Bound | -12.1467 | |
| | | | Upper Bound | 15.3381 | |

Source: SPSS Statistics

Average ROE performance of the group suggests that firms that have appointed alternate CEO's perform less well than those firms whose CEO's were the original founders.

Results between the two groups vary significantly with average ROE returns where the CEO is not the founder generative negative mean returns of -42.14% while firms who's CEO's are the original founders perform significantly better with mean positive returns of 45.72%

**Table 33 Exploratory Descriptive Statistics ROE Performance and CEO/Founder**

| Descriptive Mean ROE Performance and CEO/Founder | | | | | |
|---|---|---|---|---|---|
| | CEO/Founder | | | Statistic | Std. Error |
| Average ROE | CEO is not the Founder | Mean | | -42.1438 | 35.03196 |
| | | 95% Confidence Interval for Mean | Lower Bound | -114.6129 | |
| | | | Upper Bound | 30.3254 | |
| | CEO is the Founder | Mean | | 45.7243 | 42.49672 |
| | | 95% Confidence Interval for Mean | Lower Bound | -58.2614 | |
| | | | Upper Bound | 149.7100 | |

Source: SPSS Statistics

The results of the exploratory analysis do not in any way impact the proposed hypothesis which states that organisations in which the firms founders are also the CEO that these firms will perform less well in comparison to firms who have appointed CEO's who are not the firms original founders.

Based on the results of the statistical analysis the Null hypothesis presented in chapter 3 must, therefore, be rejected and that no significant relationships exist between firm founders being the current CEO's and financial performance.

### 5.4.3 Growing Pains and TMT Characteristics

Data on the level of growing pains experienced within each organisation was limited to survey results received from individual respondents within each organisation. Of the 125 surveys distributed only, 24 completed forms were returned representing only 1 of the 31 organisations included in the research.

Based on the small sample size specifically relating to growing pains statistical analysis was conducted using Smart PLS into possible relationships which may exist between the level of growing pains experienced and TMT characteristics within each of the firms included in the research.

Table 35 details results obtained when conducting analysis of the sample using Smart PLS. Based on the p-values presented no significant relationship has been found between each of the TMT characteristics and the level of growing pains within organisations with T statistics above 0.05 level of significance. P values presented confirm that no significant relationships exist between TMT characteristics and growing pains within the sample group.

**Table 34 - TMT Characteristics and Firm Growing Pains**

| PLS Bootstrap Analysis TMT Characteristics and Growing Pains | | | | | |
|---|---|---|---|---|---|
| | Original Sample | Sample Mean | Standard Deviation | T Statistics | P Values |
| TMT Mean Age | 4,409 | 3,857 | 10,402 | 0,424 | 0,672 |
| TMT Mean Education | -4,657 | -3,925 | 10,644 | 0,437 | 0,662 |
| TMT Mean Size | 0,217 | 0,104 | 1,254 | 0,173 | 0,863 |
| TMT Mean Tenure | 0,008 | -0,038 | 1,084 | 0,007 | 0,994 |

Source: Smart PLS

Although no significant relationships exist between growing pains and TMT characteristics the R-square results presented in table 35 are of particular interest. Based on these results 58.8% of changes in the level of growing pains as a result of changes within TMT characteristics.

**Table 35 - Smart PLS-R Square Values**

| Smart PLS-R square TMT Characteristics and Growing Pains | | |
|---|---|---|
| | R Square | R Square Adjusted |
| Growing Pains | 0,588 | 0,314 |

Source: Smart PLS

# Chapter 6 : Discussion of Results

## 6.1 Introduction

Chapter 6 further discusses the findings presented in the previous chapter in line with the hypotheses proposed. The results are further discussed with possible insights presented as to the results obtained in line with previous research and relevant literature. The chapter concludes by summarising results of the findings as well as presenting limitations of the research.

## 6.2 H1: TMT characteristics of on the Altx listed organisations do not impact organisational performance.

The first hypothesis relates to upper echelon theory, which posits that top management team demographics in terms of age, education, tenure and team size act as proxies to individual decision making which in turn impacts group decision making and ultimately organisational financial performance. Results based on each of the characteristics tested have been presented below and discussed individually.

### 6.2.1 TMT Mean Education

Education is seen to increase executive cognitive abilities in order to deal with complex sets of data and make more informed decisions thereby improving the overall quality of decisions which will be reflected in financial performance (Hambrick & Mason, 1984).

Regression results presented in figures 23 and 24 relating to regression analysis conducted in terms of organisational performance and mean levels of education suggest that no significant relationships exist between firm performance and mean levels of education within the sample frame.

In terms of ROA and mean education levels table 23 details significance levels, which were measured at 0.118 at the 0.05 level of significance with a weak but negative correlation of -.287. The negative correlation suggests that within the sample group mean levels of education, in fact, have a negative impact on firm performance. R-squared results presented in table 36 below do however suggest that only 8.2% of the variation in ROA performance is as a result of changes in levels of mean education.

**Table 36 - Model Summary Mean Education and ROA**

| Regression Analysis Model Summary Mean Education and ROA | | | | |
|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| | | | | |
| 1 | .287a | .082 | .050 | 105.03332 |
| a Predictors: (Constant), Mean Education | | | | |

Source: SPSS Statistics

Results on ROE performance and the impact of mean education levels are similar with no significant relationships between the independent and dependent variables. With P-values of 0.676 and weak with negative correlations. The mean levels of educatio, do not impact firm performance as measured by mean ROE. In terms of R-square values changes in mean education levels explain only 6% if the variation in firm performance.

**Table 37 - Model Summary Mean education and ROE**

| Regression Analysis Model Summary Mean Education and ROE | | | | |
|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .078a | .006 | -.028 | 165.07783 |
| a Predictors: (Constant), Mean Education | | | | |

Source: SPSS Statistics

The level of Education is seen as proxy to firm performance as it increases the individual's cognitive ability to process complex sets of information thereby improving the individual's decision-making ability. The theory is supported by research conducted by Pegels et al. (2000), Salim Darmadi (2013) and, Colombelli (2015) who find statistical evidence to support upper echelon theory and that TMT education impacts firm performance as per dependent variables used in their research. Research conducted by Diaz-Fernandez et al. (2013) who expand the literature on TMT educational and firm performance find that educational level heterogeneity is in fact negatively correlated to a firm's performance while educational level homogeneity is positively correlated to performance again providing evidence to support the theory posed by Hambrick and Mason (1984).

Possible insights into why no significant differences in firm performance could not be derived from the data is that mean values for the group in terms of levels of education presented in table 10 are relatively high at 7.66 with a standard deviation value of only 0.96. The low level of standard deviation suggests that less than one level of variance,

in terms of level of education, exists, and that mean levels of education within the sample are relatively homogenous. Based on the results and the relative homogeneity of mean education levels it is unlikely to find significant relationships between organisational financial performance and mean education levels within the group.

### 6.2.2 TMT Mean Age

Results from TMT age presented in tables 22 and 23 and suggest that based on the sample obtained that no statistical relationship exists between mean TMT age and organisational performance measured as either ROA or ROE.

The original theory developed by Hambrick and Mason (1984) discusses various TMT characteristics, which impact firm performance of which age is a key construct. Research, which was available and included in the development of the theory, suggests that age impacts both growth in revenues and organisational performance (Child, 1974). More recent research conducted by Colombelli (2015) find similar results suggesting that youth increases the propensity for risk taking which improves firm performance (Alessandra Colombelli, 2015). The results support the theory and that youthful managers are less risk averse and that this leads to the implementation of news ideas, which leads to volatility in performance. Adversely youthful management is negatively correlated with the ability to assimilate information which may result in less considered decisions being made. Older management teams, on the other hand, may be less likely to take risky decisions based on having less mental and physical stamina as well as lacking in the ability to grasp new concepts and accept change (Hambrick & Mason, 1984). Research conducted by Norburn and Birley (1998), however, find no statistical significance between age and firm performance

Additional research conducted by Taljaard (2014) on financial performance of South African listed companies, finds that a statistical relationships does exist and that in the research conducted organisations comprising of youthful management teams outperform those consisting of older management teams of firms listed on the Johannesburg Stock Exchange (Taljaard, 2014).

Table 15 provides descriptive analysis into the mean age values of TMT groups across all organisations, which may provide insights into the results of the statistical analysis conducted. Although there are significant differences between minimum and maximum ages of the TMT, mean values of 49.36 and a standard deviation of 6.58, suggest that

there is very little variability in terms of average ages of each TMT at an organisational level within the sample while significant variability is evident in terms of financial performance within the sample. In additions team sizes are relatively small which may impact mean ages amongst the sample impacting the results obtained.

### 6.2.3 TMT Mean Tenure

The research data presented in table 22 on average ROA performance and mean tenure suggests that no relationship exists between mean executive tenure and firm financial performance within the sample with p-values of 0.924 above the statistically significant value of 0.05. Similarly, table 23 provides the results of the regression analysis between ROE and mean executive tenure with P-values at 0.413 again suggesting that no significant relationship exists between tenure and ROE performance within the sample.

TMT tenure is described in the literature as being an important consideration in that tenure increases firm-specific experience, and that as a result decisions are based on past experience, which improves organisational performance. Research conducted by Geletkanycz and Hambrick (1997) does, however, find that both short and long term tenure result in the adoption of “conformist” strategies negatively affecting firm financial performance (Carpenter et al., 2004; Geletkanycz & Hambrick, 1997). Long tenure executives may be less willing to make risky decisions, which will threaten their status while short tenure executives may be reluctant to make changes to the status quo, which will affect their acceptance into the group.

Both instances may result in organisational inertia preventing the required change in order to meet changing market demands (Hannan & Freeman, 1984). Research conducted by Pegels et al. finds a negative correlation between performance, measured as occupancy rates in the airline industry, and mean executive tenure while find that length of tenure and financial stability have statistically significant relationships (Pegels et al., 2000). Norburn and Birley (1988) add to this research by investigating tenure and firm performance in both stable and dynamic environments. Their research finds that in stable environments length of tenure is positively correlated to firm performance and that in dynamic or turbulent environments that a negative relationship exists. Based on previous research conducted variations in the results achieved suggest that there are factors beyond tenure which need to be considered in order to develop a model which is able to predict performance.

Although no statistical relationship could be found between TMT age and firm performance Norburn and Birley (1988), suggest that tenure and firm performance is dependent on whether industries are in turbulent or stable environments.

### 6.2.4 TMT Mean Size

Analysis conducted on TMT size and organisational performance presented in tables 22 and 24 suggest that TMT size thin the sample frame has no impact on firm performance with p-values of 0.659 and 0.558 for ROA and ROE performance respectively.

Upper echelon theory suggests that TMT size does impact on firm performance and that as board size increases so does, board level diversity and that board diversity improves firm decision-making process within firms (Hambrick & Mason, 1984). Haleblian and Finkelstein (1993) do however suggest that team optimal team size is to a large extent dependent on the operational environment and whether these are stable or dynamic (Haleblian & Finikelstein, 1993). In dynamic or turbulent environments larger TMT sizes perform better than those in stable environments and that an optimal levels exists where TMT size increase the potential for conflict negatively impacting board productivity resulting in reduced levels of financial performance. Their research distinguishes between the computer and gas industries providing empirical evidence that in turbulent (computer) environments organisations with larger TMT sizes outperform those with smaller team sizes (Haleblian & Finikelstein, 1993). Colombelli (2015), Norburn and Birley (1988) and Yuang-qiong et al. (2009) provide statistical evidence, which suggests that a statistically significant relationship exists significant between team size and organisational performance (Norburn & Birley, 1988; Yuan-qiong, Wen, & Yun, 2009). Colombelli (2015) further provides evidence that team size is dependent on organisational size.

Previous literature provides evidence that TMT size influences executive level diversity which improves firm decision making and ultimately performance. The sample used in this research suggests that on average board sizes are small consisting of only three executives on average. The relatively small board sizes may have resulted in decreased levels of diversity across all TMT characteristics used impacting results of the research.

An interesting insight into this particular research is that Altx listed organisations are classified SME's and that there TMT sizes may be limited by the relative size of their organisations limiting the extent to which diversity can be diversity incorporated negatively impacting firm performance. This is however outside the scope of this research but may be of interest in future research relating to Altx listed firms.

### 6.2.5 Conclusion TMT Characteristics and firm performance

None of the independent variables tested showed any significant relationships between firm financial performance, measured as either return on assets and or return on equity. In addition the overall models ability, when combining each of the TMT characteristics with firm performance, to predict firm performance is not significant with only 11.2% of ROA performance and 0.41% of ROE performance affected by changes in independent variables.

Based on the data obtained and analysis conducted the first hypotheses, which states that TMT characteristics does not impact firm performance is not rejected for firms listed on the JSE Altx included in the sample.

Limitations to the current research on TMT education and firm performance again relate to the relatively small sample size consisting of only 31 organisations. Previous research conducted consisted of far larger sample sizes with Salim Darmadi (2013) including 160 firms, Colombelli (2015) 665 organisations, Diaz-Fernandez et al. (2014) research sample consisting of 147 organisations (Alessandra Colombelli, 2015; Carmen Díaz-Fernández et al., 2014; Darmadi, 2013). Further limitations included the period of longitudinal financial data used with previous studies using no less than 5 years' worth of performance related data in their research. The sample used has used in the research has limitations relating to size and potential negative bias. In terms of size the total sample of 31 was as a result of qualification criteria to be met in the research. The availability of financial data as measure of financial performance was imperative, which is why the sample was limited to 31 qualifying organisations resulting in the small sample size. The limited sample size will have impacted on the data results despite variations in the tests performed and software used.

The sample was limited to organisations currently on the JSE Altx and did not include organisations that have successfully transitioned from the Altx to the JSE main board. This may have introduced further negative bias as successful firms who have

graduated to the main board have not been included in the research. Future research should include organisations that have successfully transitioned as well as those who have de-listed in order to increase the sample frame and improve the validity of the data presented.

Volatility relating to the financial performance of firms in the sample may have impacted the statistical of causal relationships between TMT characteristics and financial performance. The majority of firms performed poorly over the period with relatively few comparative results available for firms performing well in the same environment. In additional, the financial, economic considerations have been excluded relating to specific industry types, which may impact the quality of the results presented. Future research may consider industry specific comparative analysis, although Altx firms are relatively few, and conducted over a longer period of time resulting in more stable mean financial values to test independent against the various independent variables.

Firm size has been excluded from the research, however, previous research provides evidence that firm size influences the size of TMT's which in turns influences diversity and firm performance (Alessandra Colombelli, 2015). Moderating for firm size in relation to TMT size would improve the accuracy of the model.

## 6.3 H2: CEO as Founder negatively impacts financial performance

Based on the statistical analysis of the sample presented in tables 29 and 30 no significant relationships were found to exist between financial performance and whether or not the CEO is also the firm's founder. These results, based on the selected sample, although not contradictory do not provide enough evidence to support lifecycle theories presented by various authors.

Lifecycle theories suggest that sustainable growth and financial performance is to a large extent dependent on an organisation's ability to adapt internal structures and processes with external environmental demands. Phases of growth are described as stage gate processes with structural changes within the organisation required at each phase of growth in order to transition through each phase of growth.

Galbraith presents a five-stage model and identifies six factors for consideration when developing the required capabilities to transition between each phase (Galbraith, 1982)

successfully. Dodge and Robins investigate organisational lifecycle specifically relating to small and medium-sized enterprises and based on their research developed a four-stage life cycle model. Hanks developed an integrative growth model based on the synthesis of ten previous models on organisational life cycle resulting in the formulation of 5 distinct growth phases (Hanks, 1990).

Although each of lifecycle models discussed vary in terms of the number of stages, commonality exists in that significant changes are required at an organisational level to transition from one stage to the next successfully. Of particular interest in this research is the on-going role of the role of the founder.

Similar research conducted by Colombelli (2015) on firms listed on the AIM exchange based in London found that firms who's CEOs were the original founders performed less well than those who's CEO's were not founders (Alessandra Colombelli, 2015). The research findings support lifecycle theories suggesting that firms listing on an alternative exchange environment are in growth phases of their lifecycles and should consider replacing founders with professional CEO's who are able to impellent the required structures and processes required to operate in more complex environments. Research conducted by Haleblain and Finkelstein (1993) provide insights into possible reasons for the differences in firm performance. In their research, they discuss CEO dominance as impacting on the ability of the TMT managerial discretion in the decision-making process and that the benefits obtained from having well-structured management teams is lost in environments where CEO dominate the decision-making process. In line with previous discussions on TMT characteristics including tenure, education and team size Haleblian and Finkelstein (1993) find that in turbulent environments firms with less dominant CEO's experience improved financial performance while in stable environments the effects of CEO dominance are less significant.

Additional exploratory analysis presented in tables 31 and 32 does, however, find that a firm who's CEO's were the original founders perform better on average than firm's who's CEO's were not original founding members. The results confirm that no discernable differences between each of the variables measured. This could explain to a certain extent why no significant discernable differences could be found in terms of firm performance between the two groups. Upper echelon theory suggests that differences in each of the characteristics may result in differences in firm performance. However, mean education, age, tenure and team sizes for both groups are similar

which could be a possible reason for there being no significant differences in firm performance as measured in regression analysis.

In terms of the exploratory analysis as presented in tables 32 and 33, both ROA and ROE performance is improved in instances where the CEO is the firm's original founder. Organisational lifecycle theory may to a certain extent explain these differences in terms of growth phases of the organisations. It may be that organisations listed on the Altx are in earlier developmental phases than originally hypothesised and that high levels of CEO involvement are required to drive firm performance (Galbraith, 1982; Greiner, 1998). Dodge and Robins provide additional explanations in that during early lifecycle stages that the firm's founders are focused on delivering on short-term performance, driving growth and enabling market penetration (Dodge & Robbins, 1992). Alternatively, a key consideration for the appointment of external CEO's is to implement organisational structures, which will enable long terms sustainability as the firm grows. Organisational life cycle theory suggests that long-term sustainability is dependent on the development of organisational structures to manage growth, which is why the appointment of external CEO's is of importance. It may be that firms in the sample having appointed external CEO's are in the process of developing these structures to deliver long-term profitability and that there may be a lag in terms of financial performance where external CEO's have been appointed. Alternatively, research conducted by it may be that the chosen CEO for replacement of the founder is ineffective,

The above analysis is however very much exploratory with no empirical evidence in the research to support the explanations provided. The exploratory analysis does, however, suggest that research gaps exist within our existing knowledge and that additional research may be needed to understand better the impacts of founders as CEO's and the appointment of external CEO's is determining firm performance.

Based on the data obtained from the sample the null hypotheses is rejected with no empirical evidence to support the hypotheses that firm performance is increased by the appointment of an external CEO for organisations operating in the Altx environment.

This research has suggested that in cases where the founder is the firm's CEO that founders will be naturally dominant, which is why life cycle theory suggests that the appointment of external CEO's to development organisational structures to sustain growth, is important. From the sample frame, however, no statistically significant

relationship could be found suggesting that firms with externally appointed CEO's perform better than those with CEO's who were the firms, original founders.

Limitations to the current research include the relatively small sample size used and the assumption that in cases where the firm's founders are the CEO's that these CEOs will display dominant behaviour and that externally appointed CEO's are suitable to the enterprises to which they have been appointed.

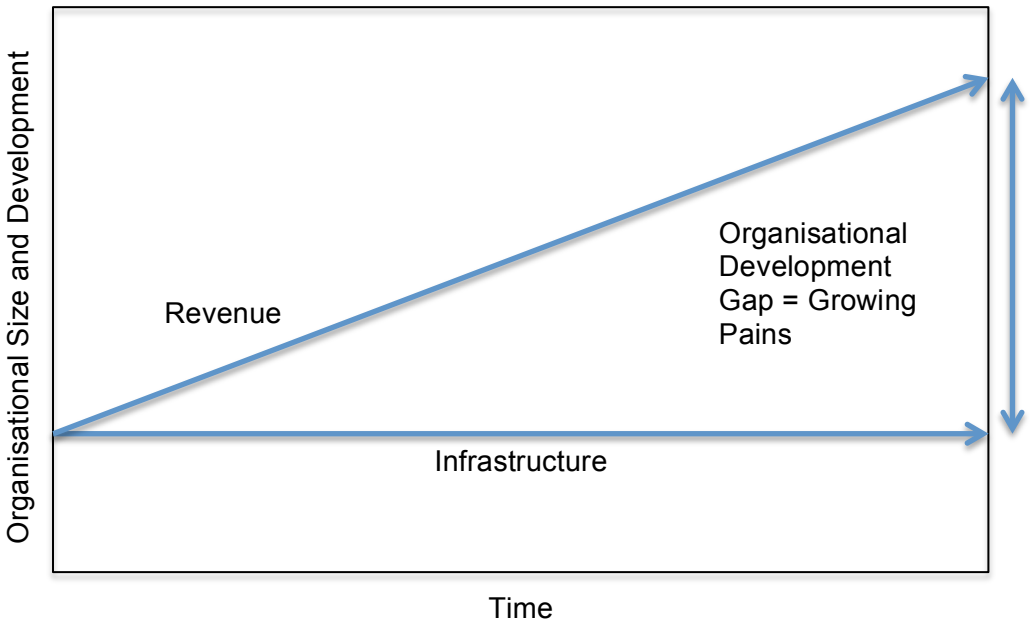
Additionally, the research conducted does not take into account individual characteristics relating to CEO's of either. The research is therefore limited to a single dimension excluding factors, described in upper echelon theory, impacting individual cognitive biases, decision-making and performance.

## 6.4 Top Management Teams characteristics impact the level of growing pains within organisations Growing Pains

Statistical data presented in table 34 finds that no statistical relationship exists between TMT characteristics and firm level growing pains. Data presented in table 35 does, however, provide interesting insights into the impact of TMT characteristics on organisational growing pains suggesting that 58.8% of the variance in the levels of growing pains is as a result of TMT characteristics. However based on the results obtained it must be concluded that TMT characteristics do not influence the level of growing pains experienced of organisations in the sample and that the null hypotheses must be rejected.

No previous research could be found which measures growing pains experienced at a firm level based on TMT characteristic. Flamholtz and Randle (2007) describe growing pains as the gap, which develops as revenues continue to grow but that are not supported by the required infrastructure to manage increasing complexity within the organisation. Figure 2 presented below provides a graphical representation of the organisational gap proposed by Flamholtz and Randle as a result of increasing revenue with the required infrastructure.

**Figure 2 - Organisational Development Gap**




Source: Flamholtz and Randle (2007)

As the gap between infrastructure and revenue increases the level of growing pains experienced increases, which is measured, based on results from ten questions as presented in chapter 4 and attached in appendix two.

Research conducted by Flamholtz and Randle (2009) found that a statistically significant relationship existed between growing pains and financial performance at the 0.05 level while additional research conducted by Flamholtz and Hau (2002) find no significant relationship at the 0.05 level but that statistical significance exists at the 0.07 level (Flamholtz & Randle, 2009; Eric Flamholtz & Hau, 2002). Their research suggests that a healthy level of growing pains exist. Based on the significance of these findings growing pains is a potential precursor to determining financial performance.

The current research methodology has been based explanatory analysis of data within the sample frame. Future research may include more explanatory analysis on the relationship between individual TMT characteristics and growing pains and the relationship between growing pains and financial performance.

## 6.5 Conclusion

The aim of the research was to integrate upper echelon and organisational lifecycle theories in order to develop a model incorporating the two theories in understanding possible factors, which may influence firm performance of firms listed on the JSE Altx.

TMT compositions and growing pains have yet to be researched presenting interesting questions relating to the causality of firm financial performance. Both TMT characteristics and growing pains have been proven to have significant impacts on firm performance. The impact of TMT characteristics on growing pains has however not been researched and it may be that firm performance is impacted by “growing pains” and that TMT characteristics impact the level of growing pains experienced.

Although no statistically significant relationships could be found, previous research, limitations of the current research and insights discussed suggest that additional research is required specifically relating to TMT characteristics and financial performance of firms listed on the JSE Altx .

# Chapter 7 : Conclusion

The following chapter provides a summary of the research objectives, the results obtained and the management implications of each. In Addition research limitations are identified and recommendations made for future research, which may increase the validity of the results obtained, adding to existing knowledge on the topics explored.

## 7.1 Introduction

The aim of the research was to integrate existing theories in order to provide a predictive model in determining firm financial performance on the JSE Altx. This was to be achieved by firstly investigating TMT characteristics with firm financial performance, secondly the impact of two theories on organisational lifecycle theories and firm financial performance and lastly the impact of TMT Characteristics on the suitability of organisational design measured by what is referred to as “growing pains”. The value of a predictive model would allow organisations to structure Top Management Teams in order to increase maximise the possibilities of firm financial success.

The Alternative Exchange (Altx) was established in order to provide access to capital, outside of traditional markets, to small to medium sized entrepreneurial firms. The creation of the Altx allowed, for firms in the growth phases of their lifecycles, access to equity finance in order to pursue growth strategies, which may have been beyond sustainable growth rates based on traditional finance mechanisms.

The limited success of the Altx in terms of returns to shareholders has been disappointing with the decreases in the amount of new listings over the past 5 years and relatively stagnant market capital inflows The limited success may negatively influence the attractiveness of the exchange from both an investor perspective seeking alternative channels for investments and an entrepreneurial perspective requiring capital to fund growth.

Given the growing importance of SME’s in providing economic growth developing an understanding of factors which influence financial performance, of Altx listed firms, in order to develop strategies to ensure sustainability of the Altx is of particular interest.

## 7.2 Principle Findings

### 7.2.1 TMT Characteristics and Financial Performance

Upper echelon theory suggests that individual characteristics influence cognitive biases of individuals and therefore have an influence on the decision-making process. In terms of Top Management Teams, the combined characteristics of individuals are believed to influence team decision-making and therefore impact firm performance. Research on the topic is limited but findings suggest that potential relationships do exist and that to some extent TMT characteristics influence firm performance.

Based on the research conducted and the results obtained no significant relationships could be found within the sample frame to suggest that differences in TMT characteristics result in differences in firm performance measured as either Return of Assets and or Return on Equity.

### 7.2.2 CEO as Founder and Financial Performance

Although no statistical relationship was found between firms who have appointed external founders, research conducted by Colombelli (2008) provides evidence to support organisational lifecycle theories and that there is a statistically significant relationship. Based on the sample obtained and the adequacy of the sample the results are not conclusive, and that additional research may be required. Of particular interest is exploratory analysis conducted on the sample frame suggesting that on average firms who have founders are the current CEO's outperform those firms, which have appointed external CEO's. Although exploratory the results suggest that a potential relationship exists and that eliminating research limitations may improve statistical results adding to existing knowledge in the South African context.

### 7.2.3 TMT Characteristics impact on firm-level growing pains

Statistics relating to the level of growing pains experienced and TMT characteristics provided no conclusive evidence that a statistically significant relationship exists between the two variables. Exploratory analysis conducted using PLS statistical analysis software, which adjusts for sample size does, however, provide some evidence of relationships between TMT characteristics and growing pains. When using regression analysis to determine causality, R-squared results suggest that 58% of the variability in the levels of growing pains experienced is a result of differences in TMT characteristics. The results were however not statistically significant but suggests that

further research may provide insights into possible causal relationships between TMT characteristics and growing pains.

## 7.3 Implications for Management

The research conducted does not provide conclusive evidence supporting any of the three hypotheses presented limitations however in terms of sample size and adequacy of the sample used may have impacted results and therefore management implications. Each of the theories presented is supported by previous research, which suggests that each of the hypotheses posed influences organisational outcomes to some extent and that each of the independent variables identified should be considered. The discussion below presents findings as well as insights into possible implications for management based the date presented.

Implications of the research and the data obtained suggest that where firm founders are the CEO's or whether external CEO's have been appointed that financial performance is not a dependent variable. Organisational lifecycle theorists who suggest that founders need to appoint external CEO's to sustain growth is not supported by the research conducted. The research conducted considered only if the founder was the CEO or if the CEO was externally appointed. TMT characteristics relating to each group were however not considered including education, which with mean levels very high and low standard deviations suggest that the two groups are similar. The research suggests that given the sample CEO's as founders and or externally appointed is not significant in determining firm performance but that additional factors including individual characteristics, may influence leadership styles and therefore firm performance. This is purely hypothesised, and additional research into CEO characteristics and firm performance may provide additional insights into the topic.

There is much research on Upper Echelon Theory with statistically significant causal relationships between TMT characteristics, firm performance. The characteristics identified influence individuals cognitive abilities and in an increasingly dynamic business environment the ability to interpret complex sets of information and make informed decisions is growing in importance. Although the research presented does not find significant relationships within the sample used the results are not conclusive. Previous research would suggest that TMT characteristics are an important management consideration.

Organisational life cycle theory suggests that as organisations grow move through growth stages that new systems and processes are required to ensure sustainability. When growth in revenues outpaces development of the systems and processes firms experience growing pains with Greiner (1998) suggesting that increased levels of growing pains impact financial performance (Greiner, 1998). No research could, however, be found which investigates the relationship between TMT characteristics and levels of growing pains

## 7.4 Research Limitations

The research was limited to firms which are currently listed on the JSE and which have no less than three years worth of uninterrupted financial data between for the period 12012 – 2015. Surprisingly of the 63 firms currently listed only 31 had sufficient financial data with the balance of firms either having suspended trading statuses, newly listed or recently re-instated on the exchange. Despite testing for validity and the robustness of the methodology used in the analysis results from the larger sample sizes would have resulted in increased validity of the analysis conducted. This is confirmed by the Kaiser-Meyer-Olkin results obtained for measure of sampling Adequacy (KMO) with a value 0.588 suggesting that the sample is not adequate, although at a marginal level.

The sample used consisted of organisations currently listed on the Altx based on pre-defined qualification criteria and excludes the 30 organisations which have successfully graduated from the Altx to the JSE Mainboard (Cheyne, 2015; Keith McLachlan, 2010). The exclusion of successful organisations form the sample may have introduced negative bias potentially impacting the results obtained from the statistical analysis. Future research should include organisations, which have successfully managed this transition.

Survey responses rates of 9.8% relating to the level of growing pains experienced within organisations were extremely low negatively impacting the size and quality of the sample data and results obtained from the statistical analysis. Increased response rates will be required in order to develop a more comprehensive understanding of growing pains and their relationship to TMT composition. Based on the relatively small sample size alternative approaches to data gathering should be considered including interviews with relevant line managers within each firm.

Financial performance has been measured using both return on assets and return on equity each of which is important in assessing company performance. The period over which the financial data was selected detailed high levels of volatility based on standard deviations for both measures of financial performance. The volatility in financial performance may have impacted results obtained during regression analysis. The unit of measure in determining firm performance was restricted to ROA and ROE both of which are affected by capital structuring and leverage which directly impact both ROA and ROE. Including firm-specific leverage, calculations may provide additional insights as to firm performance based on risk appetite and TMT characteristics, which influence choices in capital structuring.

## 7.5 Suggestions for Future Research

Based on the results obtained and the research limitations identified the following recommendations are provided to increase the validity of the research conducted and add to existing knowledge on each of the independent variables discussed and firm performance.

Based on the relatively small sample, and the inability to significantly increase the sample size based on Altx listed organisations, more exploratory based approach to the research may provide additional insights into TMT characteristics, levels of growing pains within organisations and financial performance. Including firms, which have made the transition from the Altx to the JSE main board would provide additional data for statistical analysis eliminating potential negative biases within the sample.

Financial performance of the sample during the period under analysis demonstrated significant levels of volatility in both ROA and ROE performance. Future research should consider longer time frames, which may reduce performance volatility improving the quality of the results obtained.

The inclusion of firm-specific leverage ratios' would provide additional insights into factors, which influence firm financial performance based on ROA and ROE measures. Capital funding decisions directly impact the weighted average cost of capital, which in turn impacts firm specific financial performance. Results from this research would provide additional insights not only to financial performance but potential relationships between TMT characteristics and funding decisions reached.

## 7.6 Concluding Remarks

Although the results presented in this research did not find any significant relationships between each of the independent variables tested and firm financial performance the results are not unexpected. If firm performance were predicted based on TMT characteristics alone, the likelihood of a model having previously developed and implemented at an organisational level would be high with very few organisations performing poorly. However various factors, in addition to those identified in this research, are believed to impact firm financial performance with Pegels et al. (2000) suggesting that TMT characteristics and firm performance may not be universal and that TMT characteristics and financial performance may be dependent on the environmental context in which individual firms operate.

Previous research conducted on TMT characteristics and firm performance does, however, suggest that statistically, significant relationships do exist and that the TMT characteristics are a valid consideration in determining strategic choices and therefore firm performance. Based on the limitations identified and the suggestions for future research a more comprehensive sample and exploratory type analysis may provide additional insights into TMT characteristics, which are able to manage organisational growth better, reduce the levels of growing pains experienced and improve financial performance. Research findings may assist organisations considering listing on the Altx with the required knowledge to effectively manage in the new environment.

Given the importance of SME's to economic growth research in understanding dynamics, which impact firm performance, are of particular importance. The research conducted used existing theories on Upper Echelon and Lifecycle theories to increase our knowledge of factors influencing firm performance of Altx listed firms in the South African context.

Although research on TMT characteristics and Growing Pains and their impact on financial performance are available, no previous research could be found which investigates the relationship between the level of growing pains and TMT characteristics. This research investigated causal relationship between each, and although no statistically significant relationship could be found, there is evidence to suggest that the relationship is worth researching further.

A key question resulting from the research is whether TMT characteristics impact financial performance directly or if TMT characteristics impact organisational level growing pains which intern result in differences in financial performance.

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# Appendices

## Appendix 1 – Sample Frame of Altx Listed Companies

| Company Name | 3 Years Financial Data | 5 Year Financial Data | Suspended Trading Status |
|---|---|---|---|
| ACCENT | | Yes | |
| AFDAWN | | Yes | |
| AHVEST | | Yes | |
| ALARIS | | Yes | |
| ANSYS | | Yes | |
| BEIGE | | Yes | |
| BSI STEEL | | Yes | |
| BUFFALO | Yes | | |
| CENRAND | | Yes | |
| CHROMETCO | | Yes | |
| CSG | | Yes | |
| DIAMONDCP | | Yes | |
| GIYANI | Yes | | |
| GLOBAL | Yes | | |
| GOODERSON | | Yes | |
| IMBALIE | | Yes | |
| IPSA (suspended) | Yes | | |
| JUBILEE | | Yes | |
| KIBO | Yes | | |
| MINERESTI (suspended) | Yes | | Yes |
| MONEYWEB | | Yes | |
| NUTRITION | Yes | | |
| OASIS | | Yes | |
| PSV | | Yes | |
| RARE | | Yes | |
| RBA (suspended) | | Yes | Yes |
| SILVERB | | Yes | |
| TELEMASTER | | Yes | |
| BLACKSTAR | Yes | | |
| WEARNE | | Yes | |
| WORKFORCE | | Yes | |

## Appendix 2 – Survey Monkey Questionnaire

**Top management team composition, organisational design and sustained firm performance in the transition from privately owned to publically traded companies on the JSE Altx**

1. There are not enough hours in the day

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

2. I spend too much time putting out fires

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

3. People are not aware of what others in the organisation are doing

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

4. There is a general lack of understanding about where the business is going

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

5. Good managers are few and far between

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

6. If I don't do it myself, it won't be done correctly

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

7. Most meetings are a waste of time

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

8. There is no time for follow-up, so things don't get done

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

9. People feel insecure about their positions in the business

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

10. The firm has continued to grow in sales but not in profits

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

## Appendix 3 – Ethics Approval

Dear Mr Jason McNeil

Protocol Number: Temp2016-01488

Title: Top management team composition and sustained firm performance in the transition from privately

owned to publically traded companies on the JSE Altx

Please be advised that your application for Ethical Clearance has been APPROVED.

You are therefore allowed to continue collecting your data.

We wish you everything of the best for the rest of the project.

Kind Regards,

Adele Bekker