

Creating value in private equity investments

A Research Proposal submitted by:

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ABSTRACT

Private equity has shown persistence in creating value in underlying portfolio investments as evidenced from its outperformance of corporate counterparts. The superior returns that these investments achieve have been attributed to a combination of quantitative and qualitative factors, including financial engineering, operational improvements and strong capabilities in composing and effectively structuring the management function of underlying investments.

This research set out to identify and quantify the relative importance and preferred levels of features, both quantitative and qualitative, that are deemed by private equity practitioners to create value in underlying private equity investments. The research was conducted using a mixed-method approach with conjoint analysis, which is often used in decision-making research, as the main tool and basis for the design and data analysis.

The quantitative results of the research showed that the quality of a management team is the key feature that private equity professionals deem important and together with Corporate Governance and Incentive structures, is the management platform that drives value creation. The results also showed that Financial value engineering continues to play a strong role, but that Operational improvements take a small leading position in creating value. Finally, the composition of each category's underlying features appears to have distinct features when compared to the literature reviewed.

Keywords: private equity, value creation, financial engineering, governance engineering, operational engineering

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at 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.

Andriëtte Richards

Date

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ACRONYMS and ABBREVIATIONS

EBITDA	Earnings before interest, tax, depreciation and amortisation
EV	Enterprise Value
GP	General Partner
IPO	Initial Public Offering
IRR	Internal Rate of Return
LBO	Leveraged Buyout
LP	Limited Partner
MBI	Management Buy-In
MBO	Management Buy-Out
PME	Public Market Equivalent
ROA	Return on Assets
SAVCA	Southern African Venture Capital and Private Equity Association
U.S.	United States of America

1 Chapter 1: Introduction to the Research Problem

1.1 Introduction

Private equity as an asset class emerged in the form of Leveraged Buy-outs (“LBO”) in the eighties (Kaplan & Strömberg, 2009) and has gained significant growth over the past 20 years whilst outperforming public equity markets since its emergence (Gompers, Kaplan, & Mukharlyamov, 2015b). Consequently, the success and resilience of private equity strategies that create value in investments resulting in this outperformance attract interest from corporates, investment banks, investors and academics.

At its core, private equity is an asset class in terms of which shareholder funds are invested in private firms, not listed on any stock exchange, through a platform structure called a fund (KPMG & SAVCA, 2015). Funds typically invest in opportunities in early stage, growth and mature businesses. Definitions may vary across the world, but for purposes of this research, the broad classification by KPMG and the Southern African Venture Capital and Private Equity Association (SAVCA) (2015) of venture capital, development capital and buyout funding will be followed.

In private equity, investors are referred to as Limited Partners (LP) who appoint fund management, referred to as General Partners (GP), to invest on their behalf. The relationship between the GP and LP can take on various forms which are formalised through contracts, but a driving characteristic in this relationship is the absolute return that LPs expect to realise out of their investment. Implicitly, this creates pressure for GPs to add the necessary value to portfolio companies not

only in order to honour their contracted return, but also to earn their management fees and carried interest, which are normally substantial. The resultant capabilities that GPs have developed to create value forms the core of the proposed research.

1.2 Research Problem and Motivation

1.2.1 Evidence of Private Equity's contribution to economies

The contribution of the private equity asset class to a national economy has often been a controversial discussion as a result of perceptions of LBO firms as corporate raiders that focus on streamlining the organisation through stripping assets, downsizing staff complements and maximising debt to achieve optimal efficiency and returns (Klein, Chapman, & Mondelli, 2012; Metrick & Yasuda, 2011). Various research studies have included a review of the broader economic effect of Private Equity activity (Klein et al., 2012; Metrick & Yasuda, 2011; Wright, Gilligan, & Amess, 2009), but the main points emphasised have been focused on employment and productivity.

Although some contradictory studies have found that high buy-out activity correlates positively with growth in employment and productivity (Metrick & Yasuda, 2011), it is widely cited that employment levels at private equity managed companies initially reduces to make the organisation more efficient, but increases after a focused strategy is in place and new opportunities for the investee firm have been identified (Appelbaum & Batt, 2012; Metrick & Yasuda, 2011; Wright et al., 2009). Productivity of investee firms is generally found to be enhanced after the entry of private equity investors (Appelbaum & Batt, 2012;

Clark & Ambler, 2011; Klein et al., 2012). Klein, Chapman and Mondelli (2012) refer to private equity's role as "Schumpeterian creative destruction" (Klein et al., 2012, p. 42) whereby the initial restructuring of the investee firm may destruct jobs at first, but after the firm is repositioned to become more focused and innovative in its strategy going forward, positive employment and productivity effects are found.

Other benefits that Private Equity brings to an economy relate to greater efficiency of allocation of resources (financial, human and productive capital), improved corporate governance, and access to capital, liquidity and diversified investment opportunities in the private investment market (Klein et al., 2012).

Accordingly, a better understanding of the Private Equity industry and the strategies its players employ to enhance the performance of underlying investments has importance at a national level.

1.2.2 Evidence of Performance of Private Equity Investments

Harris, Jenkinson and Kaplan (2014) found that on average buyout fund investments outperformed public markets, as measured by the Dow Jones listed S&P500 Index, by 20% to 27% in total over the life of a fund or in excess of 3% per annum after deduction of fees and carried interest. In their study, they compared a new dataset of U.S. private equity funds' information from The Burgiss Group, LLC (a U.S. based, global provider of investment decision support tools and information) to four other U.S. commercial data bases previously used in other studies (Kaplan & Strömberg, 2009; Phalippou, 2014; Phalippou & Gottschalg, 2009). In more recent literature, further confirmation of the

outperformance of private equity investments compared to public market equivalents (PME) has been respectively cited as 30% (Puche, Braun, & Achleitner, 2015) and 27% (Lopez-de-Silanes, Phalippou, & Gottschalg, 2015).

Accordingly, a multitude of positive private equity performance analyses provide strong motivation as to why public and private market participants should endeavour to understand, not only the success strategies of private equity investors, but also the underlying risks and associated premiums that drive required performance and returns, to establish ways of improving own performance (Harris et al., 2014).

1.2.3 Evidence supporting the need to understand underlying value creation drivers and strategies in private equity

An empirical breakdown of the contributors to value creation by Puche et al. (2015) shows that the proportional contributions of the traditional value levers, being leverage, multiple expansion and operating improvements, have been changing over time. The trend indicates that in recent times leverage and multiples have been declining in importance whilst operating improvements have increased significantly. The importance of this evolution is that mechanical value creation in the form of leverage and multiple expansion can no longer be relied on to ensure repeat performance, but that potentially more specific skill-sets and expertise are needed, which may not be as easily replicated (Lopez-de-Silanes et al., 2015).

Further, in turbulent and changing times, the need to find strategies that are potentially repeatable and scalable for deal origination, evaluation and value creation has become ever more important to remain competitive in a globally maturing industry surrounded by generational evolution, high valuations, a growing preference for established, large top-performing funds by investors and threats of economic recession (Bain & Company Inc, 2016). In terms of value creation, Bain & Company's (2016) global survey revealed that only half of the operating partners of U.S. private equity firms have a clear value creation strategy for their investment portfolios, clearly highlighting an area for improvement within the industry and an area that requires further research.

1.2.4 The African Perspective

In the above sections, all the writers referenced focused on the analysis of large datasets out of North America, Europe and Asia. Within the realm of Private Equity, the African market is still considered nascent and miniscule where investment opportunities of acceptable magnitude and scale are difficult to find outside of Kenya, Nigeria and South Africa (Babarinde, 2012; Mendoza, 2016). Albeit small in an international context of \$527 billion funds raised in 2015 (Bain & Company Inc, 2016), Sub-Saharan Africa fund managers raised \$3.6 billion in 2015, second only to \$4.3 billion raised in 2014, confirming continued interest for private equity investment in the region (Emerging Market Private Equity Association, 2016).

The economic impact of private equity investment is evident in statistics that indicate private equity-owned firms outperform JSE-listed firms in employment growth, sales growth, profitability, export growth and research and development

(Lingelbach, 2012). In addition, the outperformance of private equity funds in South Africa ranged between 8% and 25% compared to various instruments and indices, thereby confirming the strong performance of the asset class in the region, taking into account that South Africa remains a major driver of private equity in Sub-Saharan Africa (Lingelbach, 2012).

However, on a global level, interest is still limited by challenges of high risk business and legal environments, illiquid exit conditions, size and number of quality investment opportunities, and limited local management expertise (Babarinde, 2012; Johnson, 2015). Considering these differences compared to more developed markets and a lack of research on developing and emerging economies (Lingelbach, 2012), it is of interest how private equity managers in the region continue to create value in their portfolios under challenging conditions and how these strategies compare to academic reviews and international practices.

1.3 Research Scope

The purpose of this research has been to investigate which, and to what extent, levers of value creation as determined in academic literature are applied and perceived as important by private equity practitioners in Sub-Saharan funds.

1.4 Research Aim and Objectives

The research set out to focus on the perceptions of private equity practitioners with two objectives in mind:

- Identifying the major value creation levers as prescribed and reviewed in academic literature, further confirmed and expanded through an exploratory pilot study;
- Quantifying the relative significance and preferred levels of specific levers utilised by private equity practitioners to create value in underlying portfolio companies.

2 Chapter 2: Literature Review

2.1 Introduction

Jensen's (1989) early paper titled the "Eclipse of the Public Corporation" described a new form of organisation that is privately owned, highly leveraged, that resolves the agency problem between owners and management by aligning interests through remuneration incentives and that is actively managed in ways that improve operational efficiency, productivity and create value for its investors. Since, the ability of the private equity model to buy investments, rapidly improve performance and sell at improved valuations within a limited time frame which results in superior returns compared to established public counterparts, has been a topic of interest for academics, corporates and investors (Barber & Goold, 2007; Guo, Hotchkiss, & Song, 2011; Kaplan & Strömberg, 2009).

2.2 The components and evolution of Private Equity performance

2.2.1 Evidence of the components and evolution of Private Equity performance

Recent studies (Harris et al., 2014; Lopez-de-Silanes et al., 2015; Puche et al., 2015) have indicated that Private Equity returns outperform public counterparts by between 20% and 30%. However, claims of the strong performance of private equity investment do not go unchallenged and criticisms have included the overstatement of accounting valuations, bias in performance weightings (Phalippou & Gottschalg, 2009) and the nature of private equity investments making small-cap indices more appropriate benchmarks than large, main board (such as the S&P500) indices (Phalippou, 2014). In addition, it is questioned

whether outperformance can persist in a private equity environment that is growing more competitive (Sensoy & Kaplan, 2015), which in turn places pressure on private equity funds to refine their efforts for value creation in portfolio companies.

Analyses of performance indicators have identified the drivers of private equity returns to comprise the three main categories of financial leverage; multiple expansion, and operational and strategic improvements. Financial leverage contributes approximately one third, while multiple expansion adds 15% to value created in buyout transactions. The composition of operational and strategic improvements is different between researchers, but in essence contributes between 45% and 50%, while any remaining portions are accounted for as combination effects of financial leverage and multiple expansion, movements in market returns or sales and margin effects (Puche et al., 2015; Vester, 2011). Accordingly, the contributions of financial engineering and operational improvements each approximate half of the value created in private equity investments.

Interestingly, in the more comprehensive dataset of Puche et al (2015), there has been an evolution of the value contributors over time, indicating greater focus on operational improvements and less on leverage and multiple expansion in recent times. It can be argued that this move away from replicable mechanical value engineering demands a better understanding of more refined value creation competencies and strategies that are needed to remain competitive in the private equity arena.

2.2.2 The theoretical drivers behind the evolution and components of Private Equity performance

Originally characterised as an industry that was driven by financial engineering in the form of high leverage, in particular, the financial crises in 2000/2001 and 2007/2008 were major drivers in the evolution of private equity firms' value creation strategies. Unfriendly debt and volatile equity capital markets meant that private equity firms had to shift their focus, and develop the necessary capabilities, to improve the operational performance of their underlying investments to be able to achieve the superior level of returns they had delivered in the past (Appelbaum & Batt, 2012; Hoskisson, Shi, Yi, & Jing, 2013).

Hoskisson, Shi, Yi and Jin (2013) propose that two theories underlie this evolution. Firstly, resource dependency theory argues that firms aim to control relationships with, and their dependency on, parties outside the firm in order to mitigate the risk and uncertainty these relationships pose to the firm. Accordingly, changes in the external ecosystem of a private equity firm will drive them to proactively adapt their strategy to avoid uncertainty and risk. This appears to be a reasonable explanation for the evolution from financial-engineering focus to include greater operational improvement objectives and capabilities when capital markets no longer facilitated mechanical methods of value creation in private equity.

Secondly, but not necessarily isolated from the above point, is resource-based theory, which proposes that a firm's competitive lead can only be sustained through resources that are "valuable, rare, inimitable and non-substitutable

(VRIN)” (Hoskisson et al., 2013, p. 25). As such, in order to extend a differentiated offering that maintains or enhances the firm’s competitive advantage, the firm needs to build and adapt the necessary resource-base and competencies that underpin their competitive position (Hoskisson et al., 2013; Mahoney & Kor, 2015; Prahalad & Hamel, 1990). In the evolution of private equity, it can be seen in how private equity firms broadened their competencies to include operational value creation in underlying investments, which appears to have mainly been driven by changes in the external environment.

2.3 The levers that create value in Private Equity investments

A simplistic explanation by Barber and Goold (2007) ascribes the success of private equity to three approaches to building economic value: - making ‘smart’ investments, investing and then influencing management efforts, and investing, influencing management and building portfolio synergies. Kaplan and Strömberg (2009) as well as Gompers et al. (2015b) refer back to Jensen’s financial, corporate governance and operational engineering applications to build value in private equity investments.

Lopez-de-Silanes et al. (2015) highlight divergent opinions on the make-up of private equity returns. On the one hand, opponents of the asset class attribute returns to the leverage benefits gained from the tax deductibility of debt as well as the differential between the cost of equity and debt. On the other hand, the view is proposed that “non-mechanical” (Lopez-de-Silanes et al., 2015, p. 378) interventions to create value are an advantage flowing from the expertise and experience of private equity professionals which is not easily replicated.

It is clear that two streams contribute to value creation: on the one hand, mechanical value engineering normally found in the financial levers of private equity, and on the other hand, non-mechanical interventions that require human expertise and motivation to drive value creation, such as management efforts and operational improvements. It is the combination of these competencies that are not easily copied and which enable private equity professionals to create value for investors and investees that underlies the subject of this research (Prahalad & Hamel, 1990).

The following grouping of elements is proposed for further discussion:

- i) Management levers will focus on the selection of a quality executive team and how they are incentivised, effective governance of the management relationship and the role of private equity expertise;
- ii) Financial levers will include leverage and valuation considerations, incorporating the exit route decision; and
- iii) Operational levers will focus on cash flow, profitability and productivity considerations.

2.3.1 Management levers

2.3.1.1 Quality of the management team

Although less discussed in private equity academic writings focused on quantifying the contributors to value creation, the importance of the quality of the management team in an underlying private equity portfolio company remains integral to the private equity model (Millson & Ward, 2005; Vester, 2011). This does not mean that potential investments with weak incumbent management

teams are automatically disqualified. Instead, private equity teams are known for their ability to build strong management teams, whether incumbent, externally sourced or supplemented with private equity team expertise, that can execute a predefined value creation strategy (Barber & Goold, 2007; Gompers, Kaplan, & Mukharlyamov, 2015a). Although there appears to be a preference for, and evidence of the success of, incumbent management teams, the practices of private equity practitioners to change management at or soon after investment appears to be as prevalent (Gompers et al., 2015b; Guo et al., 2011; Kaplan & Strömberg, 2009; Vester, 2011).

Klein et al. (2012) attribute private equity successes in building strong management teams to their competencies in “judgement of judgement” (Klein et al., 2012, p. 44); therefore being able to effectively assess the decision-making capabilities of the management team and selecting the most appropriate individuals to form an optimal combination of people, business and market dynamics.

2.3.1.2 Alignment of interests through management incentives and governance

The importance of governing this management relationship can be traced back to Jensen’s (1989) description of the emergence of private equity as a reaction to the agency problem that existed in public organisations where the interests of management and shareholders were misaligned leading to “widespread waste and inefficiency of the public corporation” (Jensen, 1989, p. 65). Grounded in agency theory, the misalignment of management and shareholder interests are

premised on the assumption that individuals in their capacities as agents are self-interested beings that will pursue economic goals for their own benefit; that these goals differ from those of shareholders, being their principals; and that the principals are not fully informed or aware of the agendas of their agents. Supplementary to the agency problem is the theory of asymmetric information whereby, in context, it suggests that people may report, share, represent, or omit to do so, such information that supports their self-interested aims (Millson & Ward, 2005).

The private equity industry has been particularly successful in addressing the issue of alignment of interests by using mechanisms such as management performance incentives, including own equity contribution and participation to ensure management's "skin in the game", and board structures that private equity funds control and actively participate in to ensure management discipline (Gompers et al., 2015b; Guo et al., 2011; Kaplan & Strömberg, 2009; Millson & Ward, 2005).

In terms of equity participation, varying levels ranging between 12% and 18% that are allocated to management and/or employees and of which the CEO receives between 3% and 8% have been found in previous research (Gompers et al., 2015a; Guo et al., 2011; Kaplan & Strömberg, 2009). Gompers et al. (2015a) report that these levels are significantly higher than CEO holdings in public companies.

In terms of Corporate governance measures Guo et al. (2011) found that private equity firms hold an average 50% of board seats, while Millson and Ward (2005) found that at least a proportional right to representation of the private equity fund's shareholding was reflected in the board composition, but that the preferred structure was to include a permanent board-seat and active involvement in strategy design.

2.3.1.3 The role of private equity practitioners in management

The experience of private equity fund professionals cannot be removed from the equation and is integral in determining both the nature of the management relationship and the focus of the value creation strategy. Acharya, Gottschalg, Hahn & Kehoe (2013) found a positive correlation between performance and alignment of private equity practitioner expertise and value creation strategy, implying that private equity background will determine which type of value creation levers will predominate for underlying portfolio investment strategies. This is in line with both resource-based theory and dynamic competency arguments which ultimately indicate that private equity firms will develop and refine their capabilities in order to remain competitive and achieve their strategic objectives (Hoskisson et al., 2013; Mahoney & Kor, 2015; Prahalad & Hamel, 1990).

As much as the human capital perspective is important in a knowledge-based environment such as private equity, it should be acknowledged that private equity firm structure and processes are not removed from the competency base of the firm and may influence the successful execution of value creation strategies.

Lopez-de-Silanes et al. (2015) found that private equity returns were not correlated with the scale of the organisation and instead, that the learning curve gained in larger organisations was offset by inefficient communication and information flows. Ultimately, larger organisations were unsuccessful in maintaining consistent high levels of return due to increasingly complex structures (Lopez-de-Silanes et al., 2015). However, for the purposes of this research, the unit of analysis is private equity practitioners and therefore a focus on the human capital perspectives in creating value.

The literature review indicates that the two major managerial decision themes important for value creation are choosing a strong executive team, whether internal or external, and ensuring alignment of interests through mechanisms such as management equity incentives, effective governance structures and active participation using related private equity experience.

2.3.2 Financial levers

Financial levers as evaluated by Gompers et al. (2015a) include valuation, leverage and management incentives of which one third of value created in private equity investments can be attributed to leverage and 15% to multiple expansion (Puche et al., 2015; Vester, 2011). For the purpose of this research, management incentives have been grouped under the Management lever and the focus will remain on valuation and leverage determinants in this section.

2.3.2.1 Valuation components and drivers

Private equity valuations are typically driven by IRR on the basis of an absolute return that can be paid back to investors (Gompers et al., 2015a). In practice a

multiples-based approach is taken in determining entry and exit transaction valuations, typically using an EV/EBITDA multiple (Axelson, Jenkinson, Strömberg, & Weisbach, 2013), notwithstanding International Private Equity and Venture Capital Guidelines providing recommendations covering multiple methodologies to determine “Fair Value” (IPEV Board, 2015).

Multiple expansion is seen as the increase in the EV/EBITDA multiple from entry to exit (Puche et al., 2015; Vester, 2011) and is widely purported to be driven by the ability of private equity teams to time the market, strong negotiation skills and a reflection of the enhancements to the business and its future outlook (Achleitner, Braun, Engel, Figge, & Tappeiner, 2010; Puche et al., 2015). Guo et al. (2011) attribute the main contributor to value gained in multiple expansion to market or industry movements in public-to-private transactions. As much as this may emphasise the importance of timing of the market and challenge the relevance of negotiations skills if multiples are entirely dependent on market movements, the nature of public-to-private transactions is expected to limit bargaining ability when trying to secure a fully priced, listed asset. This argument finds support in Vester’s (2011) findings that privately owned and carve-out transactions provide comparatively more value due to pricing differences compared to public-to-private and secondary private equity transactions. A combination of market factors, company specific and negotiation competencies and features therefore appear to explain the successful multiple expansion in private equity.

In terms of the levels of multiple expansion, Vester (2011) found that it can add in excess of 20% to accumulated value created while Acharya et al. (2013) found that median EV/EBITDA multiples increased by 21.5% between entry and exit. Guo et al. (2011) compared multiples in the quarter prior to the buyout date to multiples at buyout date and found a 9% increase, but this does not represent the growth between the multiple at entry and exit.

2.3.2.2 Exit route options and drivers

An important, but typically separately discussed issue is the exit decision. For purposes of this research, this will be discussed as the ultimate realisation event of valuation. The majority of exits can be categorised as IPOs, trade sales and sales to other private equity funds (Jenkinson & Sousa, 2015; Kaplan & Strömberg, 2009). Although IPOs have received much attention, it appears that the prominence of secondary sales have increased (Jenkinson & Sousa, 2015). However, contradictory research show preferences for trade sales and IPOs in some studies (Kaplan & Schoar, 2005; Vester, 2011).

Jenkinson and Sousa (2015) find evidence that the main determinants of exit route decisions are capital market conditions, financial features of the investee company and experience and stage of life of the fund, which are further discussed in the theoretical foundations section below. From an African perspective, illiquid stock markets and limited sizable trade players are important considerations for private equity funds in planning their exit (Babarinde, 2012). It can therefore be concluded that the choice of exit route is determined by situational (fund- and investment-specific) and market-specific factors.

2.3.2.3 Leverage drivers

Optimising debt within the company capital structure has long been argued to be one of the main contributors to the significant returns earned in private equity (Jensen, 1989; Kaplan & Strömberg, 2009). The value of a highly leveraged capital structure has both tangible and intangible motivations: on the one hand, monetary benefits are gained from the tax deductibility of debt as well as the cost of capital differential that private equity investors earn because a reduced amount of expensive equity capital is required (Axelson et al., 2013). On the other hand, high leverage is also deemed to serve as a regulating mechanism to focus management on servicing debt and reduce unnecessary squandering of free cash flow (Kaplan & Strömberg, 2009; Vester, 2011). Considering a one third contribution to returns in private equity transactions (Puche et al., 2015; Vester, 2011), the practices and associated levels applied in attaining an optimal balance of leverage remains important in value creation principles.

The level of leverage is found to be measured using various metrics such as Debt-to-Equity ratios and coverage as either Debt to EBITDA or EBITDA to interest (Acharya et al., 2013; Axelson et al., 2013; Guo et al., 2011; Kaplan & Strömberg, 2009). It is broadly found that debt comprises an approximate 70% of the capital structure in buyout transactions with debt to EBITDA covering a broad range of between 4.0 times and 6.0 times (Acharya et al., 2013; Axelson et al., 2013; Guo et al., 2011; Kaplan & Schoar, 2005). Guo et al. (2011) report a median EBITDA to interest cover ratio of 1.87 times.

2.3.2.4 Theoretical foundations of financial lever decisions

As discussed by Axelson et al. (2013), theoretical underpinnings in the capital structure decision include the competing trade-off and market timing theories, further explained by agency theory. Trade-off theory attributes the motive for leverage to achieve a balance between the benefits gained from the tax treatment and incentives of debt on the one end of the scale and the financial distress costs associated with increasing levels of risk as leverage escalates on the other end. The level of this balance, and implicitly an optimal capital structure, is dependent on the underlying features of the company, such as type of assets, strength of cash flows and expenditure plans. Accordingly, a business with tangible assets, strong cash flows and limited expenditure plans can easily be highly leveraged, whereas on the other end of the scale, intangible assets, variable cash flows and ambitious expenditure plans will limit the use of debt (as may be observed in many venture capital investments).

The second theory of market timing implies that private equity funds are capable and experienced at taking advantage of the conditions in equity and debt capital markets. When debt is inexpensive, private equity transactions are characterised by high leverage and resultantly, a willingness to pay higher valuations. Conversely, when equity is highly valued, the drive would be to raise more equity at favourable valuations for the issuers. The imbalances in the debt and equity markets allow private equity funds to arbitrage the differential between the cost of equity and debt (Axelson et al., 2013).

Agency theory in the context of financial leverage proposes that as liability of fund general partners is restricted and they earn an “option-like” (Axelson et al., 2013, p. 2224) carry on fund profits, they are motivated to invest as much as possible, but may do so using too aggressive leverage policies. The implication is that these motivations may support market timing practices rather than reliance on the strength of the business and trade-off theory (Axelson et al., 2013)

Axelson et al. (2013) focused on the interplay between the above theories in the context of leverage and to a certain extent valuation. The findings of Jenkinson and Sousa (2015) that indicate company financial characteristics and market conditions determine the preferred route of exit can be argued to imply that the abovementioned theories can be extended to the exit route decision.

Finally, resource dependency theory is suggested by Hoskisson et al. (2013) to explain the reactions of private equity firms to changes in their external environment, such as capital markets, by repositioning their investment strategies to mitigate the risk and uncertainty of their external relationships. The resource dependency view appears to be complementary to the market timing arguments made by Axelson et al. (2013).

2.3.2.5 Concluding remarks on financial levers

The theoretical foundations reviewed provide concrete explanations for what drives private equity’s financial practices with market conditions and company financial characteristics as central decision determinants. Ancillary considerations are the reasons why GPs may be motivated to take certain

decisions (as agents of the investors and/or in reaction to changes in their external environment) and supporting competencies, such as negotiation skills, that make private equity practitioners successful in executing financial value engineering.

2.3.3 Operational levers

The importance that operational levers play in creating value in private equity returns finds wide support in academic research in terms of which its contribution to absolute returns ranges for different time periods and between studies, but is most recently indicated to be in excess of 50%, and its outperformance compared to sector peers is approximately a third (Acharya et al., 2013; Puche et al., 2015; Vester, 2011). Although generally there appears to be consensus that private equity transactions improve performance and productivity (Kaplan & Strömberg, 2009), Guo et al. (2011) provide a contradictory view that these operational improvements do not reliably outperform industry comparatives, though their sample focused on a potentially unrepresentative group of public-to-private transactions (Acharya et al., 2013). Notwithstanding, trends show a growing focus on operational improvements in practice thereby justifying the need to better understand the operational actions and strategies implemented by private equity professionals (Puche et al., 2015).

The sources of operational improvements, in order of greatest contribution value, are ascribed to varying levels of Sales growth, Free Cash Flow effects (from dividend receipts or the reduction in debt) and EBITDA margin improvements (Puche et al., 2015; Vester, 2011). Vester (2011) and Puche (2015) find that absolute EBITDA contributions to value created are comprised of approximately

three quarters Sales growth and one quarter EBITDA margin enhancement. It is interesting, however, that Acharya et al. (2013) confirm the sector outperforming contribution of EBITDA margin growth, but find that sales growth does not outperform sector comparatives, albeit at a healthy level of 8%. Free Cash Flow effects are found to contribute between 11% and 15% to transaction IRRs in separate studies (Puche et al., 2015; Vester, 2011).

Guo et al. (2011) added an asset efficiency perspective and found that private equity transactions show improvements in ROA of approximately 11%, thereby creating value and enhancing productivity. In addition, they also found that the disciplining effect of high leverage and enhanced corporate governance measures correlate positively with improvements in operations.

In evaluating the practices that drive these underlying sources of operational improvement, Vester (2011) found the most important elements to be an upfront underlying business improvement strategy, a focus on organic growth, immediate implementation of value creation strategies and a combination cost and revenue enhancement plan.

Notwithstanding varying opinions on the composition and level of contribution from the underlying operational levers of value creation, it can be concluded these include EBITDA margin as determined by sales growth and cost cuts, increasing free cash flows as a result of reducing debt and/or dividend receipts and asset efficiency initiatives as measured by ROA; all driven by a predefined, core, organic growth strategy and urgent execution.

It should further be noted that these measurements do not differ from operational growth drivers that are typically analysed in Corporate Finance theory based on the DuPont Analysis framework whereby profitability, asset efficiency and leverage (discussed as part of leverage or capital structure) determine the level of value that is created for shareholders (Ward & Price, 2006). It is rather the combination of a broader set of features and the success that private equity practitioners have achieved in effectively applying practices that result in the outperformance of private equity investments compared to public counterparts.

2.4 Conclusion

In conclusion, the main value creation levers analysed in the private equity literature reviewed include the following:

- i) Management levers:
 - a. Selection and composition of a quality management team;
 - b. Alignment of interests through performance incentives, governance structures and active private equity fund participation;
- ii) Financial levers:
 - a. Valuation, as determined multiple expansion and driven by the ability to negotiate favourable entry or exit transaction values, taking advantage of favourable market and industry multiples and an improved business case;
 - b. Exit route, being the choice between IPO, trade or secondary sales to realise value;
 - c. Optimal capital structure determined by market conditions and financial characteristics of the firm;

- iii) Operational levers
 - a. EBITDA margin enhancement through sales growth and/or cost reductions;
 - b. Free Cash Flow enhancement through reduction of debt or dividend receipts; and
 - c. Asset efficiency enhancement through sale of unproductive assets or optimisation strategies.

Whether the strategies and practices applied by private equity practitioners in their day-to-day professions correspond with post-hoc analyses of value creation contributors and academic research appears to be under-researched (Gompers et al., 2015a). In addition, research on the private equity asset class in developing and emerging countries is very limited (Lingelbach, 2012). Accordingly, the purpose of this research is to gain direct perspectives from private equity professionals operational in the Africa region on which mechanisms and strategies are applied and deemed important in creating value in their underlying portfolio investments.

3 Chapter 3: Research Questions

In line with the research objectives outlined in sections 1.4 and 2.4, the research questions derived from the literature review entailed three parts:

1. Determining which of the value creation features identified from the literature and set out section 2.4 are deemed relevant and important by private equity practitioners representing Sub-Saharan focused funds;
2. Quantifying the relative importance that private equity professionals attribute to each of the value creation attributes identified in the literature under each category of Management, Financial and Operational levers as set out in section 2.4; and
3. Quantifying the preference that private equity professionals have for specific quantitative or qualitative levels underlying each value creation feature identified in section 2.4, which levels are described in Chapter 4.

4 Chapter 4: Research Methodology

4.1 The Research Method

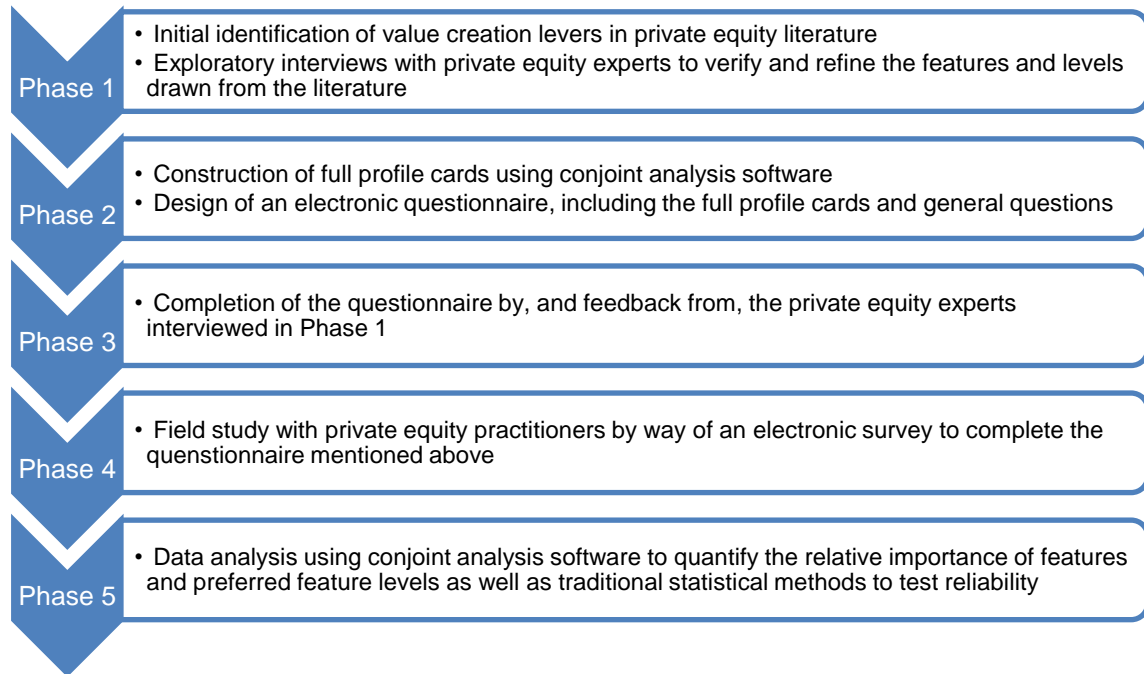
The purpose of this research is to develop methodologies to quantify the relative importance and preferred levels of value creation levers as perceived by private equity practitioners. In order to achieve this objective, the research was designed using a mixed-method approach as follows:

- initial qualitative research through a literature review and exploratory discussions with private equity experts to define the attributes and corresponding levels required to inform a conjoint analysis design;
- developing a quantitative measure to determine the relative importance of the attributes and preferred levels of value creation identified in the exploratory phase by using conjoint analysis.

The mixed-method approach with conjoint analysis as a basis is commonly used in investigating and measuring preferences in decision-making processes. Traditionally, conjoint analysis is a technique that has mainly been used in marketing research for more than 40 years (Green, Krieger, & Wind, 2001). However, its application has broadened across numerous fields such as private equity, venture capital and entrepreneurship decision-making research (Boesch, Schwaninger, Weber, & Scholz, 2013; Dawson, 2011; Hsu, Haynie, Simmons, & McKelvie, 2014; Millson & Ward, 2005; Shepherd & Zacharakis, 1999). Accordingly, this approach provided an appropriate platform from which to determine and quantify the perceptions and preferences of private equity practitioners when forming their decisions relating to value creation practices.

The research was conducted over five phases as diagrammatically illustrated below:

Figure 1 Process flow chart for the research phases



4.1.1 Rationale for the research method

With utility theory as a basis, conjoint analysis is a method to quantitatively determine the preferences and importance that respondents attach to specific features and different levels of each feature in different decision scenarios and using utility values as measurement (Boesch et al., 2013).

Boesch, Schwaninger, Weber and Scholz (2013) propose that the quantitative nature of conjoint analysis is enhanced through incorporating the richness gained from qualitative methods. The method suggested in their research is “feedback-driven exploration” (Boesch et al., 2013, p. 219), being a design whereby researchers interact and receive comment from experts or people involved in the research process. It is the resultant enhanced quality of such a design that

formed the basis for the multi-method approach followed in this research. Initial exploratory discussions identified the attributes and levels to inform the inputs for construction of the full profile cards, which in turn were tested with the same audience, thereby providing a feedback loop to enhance the validity and reliability of the research design.

The use of conjoint analysis in decision-making research finds broad support and the main advantages of this approach are discussed below. The great majority of literature reviewed for this research used what is defined as “post-hoc research methods” (Shepherd & Zacharakis, 1999, p. 205), which entail the evaluation of outcomes of decisions that were made in the past. These analyses are prone to inaccuracies, partialities and inconsistencies due to mental and intellectual restrictions when evaluating decisions in hindsight and it is suggested that conjoint analysis removes the platforms for these biases (Hsu et al., 2014; Shepherd & Zacharakis, 1999). In this research, the conjoint analysis design has therefore aimed to establish the decisions private equity professionals would make in a potential future scenario rather than evaluating retrospective decisions that were made.

As value creation is an integral part of the private equity model, the decisions that practitioners make in selecting the most appropriate levers (attributes) to execute value creation strategies are practiced on a daily basis. Accordingly, ‘theories in use’ (Dawson, 2011, p. 193) as inferred from the decision-making behaviour of private equity practitioners appear to be more informative about what is actually deemed important and practiced in the field. Conjoint analysis is useful in

collecting such information by forcing respondents to make a choice, based on their daily practices, between different features from which the relative importance and preferred levels can be empirically determined (Shepherd & Zacharakis, 1999).

One of the benefits of conjoint analysis is that it can serve as a test whether actual practices and academic theories come together (Shepherd & Zacharakis, 1999). In this research, it therefore provided an interesting approach to compare perceived private equity practices to academic research findings of post-hoc results. In addition, given the focus of academic literature reviewed on developed markets, the study also provided insight into African practices compared to the research on developed markets. A limitation of the study, however, is that dissimilarities are difficult to attribute to either a difference in general private equity practice or the nature of the African market.

4.1.2 Population and Unit of Analysis

The population of this research focused on private equity practitioners who are involved in assessing, planning and implementing value creation strategies in portfolio companies. As the underlying subject that is being analysed in the research, the unit of analysis for this study was private equity practitioners during the field study phase. During the exploratory and pilot study phases, experts with both academic experience and career backgrounds in private equity were included.

4.1.3 Size and Nature of the Sample

The major part of the sample was drawn from the SAVCA Full Member's Directory (SAVCA, 2015), being an active industry association that aims to promote, represent, develop and co-ordinate activities internally and externally for the venture capital and private equity industry in Southern Africa. Due to its active role, a major part of Southern African private equity firms are members of the association, and the members' list therefore provides a representative sampling frame as a platform.

The convenience nature of limiting the sample to SAVCA members was acknowledged and motivated on the basis that the study was conducted in South Africa and due to the difficulty of access to private equity professionals identified prior to commencing the research, it was reasoned that member firms' association with SAVCA may provide a greater willingness to participate. In addition, a part of the research objectives was to gain insight into the practices of African private equity players and South Africa draws more than 50% of the transaction activity in East, Southern and West Africa (SAVCA & Deloitte, 2015).

From the full list of 98 members, 31 firms were approached with the aim of gaining participation from more than one private equity professional per firm.

In addition to the SAVCA members, the researcher also approached companies and individuals known to be active as private equity investors in the Southern African region, albeit not members of SAVCA. An additional three companies

and three individuals were approached with the aim of gaining participation from a broader sample.

In both the approaches to SAVCA members and other target sample units, the researcher was dependent on networks to access these participants in certain instances and therefore a level of snowball sampling was practiced.

Shepherd and Zacharakis (1999) suggest that although a sample of one is sufficient to determine statistical significance, a greater sample is needed to generalise the findings to the population. They propose that a sample size larger than 60 should be adequate, but acknowledge that smaller sample sizes may be appropriate where populations are difficult to access or disinclined to participate. In conducting the field study, the researcher found severe restrictions in access to private equity firms. Of the firms contacted, a large portion did not respond, some declined outright and some indicated a willingness to participate, but the level of participation indicated did not materialise in the number of responses received. Reasons provided for those that declined included that transaction team schedules were too busy or that a policy decision had been made to refrain from research participation due to the multitude of requests received over time.

The survey was finally completed by two expert panel members during the pilot phase and 15 expert respondents during the field study phase. In the field study, 87% of the respondents specified senior associate, principal or partner level roles in their organisations, which is indicative of a high level of expertise in the private equity domain. The identity of the respondents was kept confidential and due to

the anonymity of responses, a list of the companies and individuals (only referring to their expertise in the field) is included in Appendix 1: List of private equity firms and individuals approached.

4.1.4 Data Collection Process

The research process followed the phases below:

4.1.4.1 Phase One – Exploratory discussions and refinement of attributes and levels

4.1.4.1.1 Purpose of Phase One

The purpose of Phase One of the research was to verify and refine the value creation features and levels identified from the literature review to ensure that these were representative of practices applied by private equity practitioners and did not present foreign concepts, irrelevant features or inappropriate levels in the local industry.

4.1.4.1.2 Exploratory discussions

Exploratory discussions through semi-structured interviews with two private equity experts were held. Although both interviewees are also involved in the academic field, their respective principal experience and expertise are in management consulting to the private equity industry and asset management focused on private equity funds of funds. Accordingly, they had extensive knowledge and exposure to the strategies that private equity firms take to create value in underlying portfolio investments.

The discussions were structured around the features and levels initially identified from the literature as tabulated in Appendix 2: Proposed value creation levers and corresponding levels.

4.1.4.1.3 Identification of the final attributes and levels

Guidelines provided by Shepherd and Zacharakis (1999) and found in previous studies (Dawson, 2011; Millson & Ward, 2005) suggest that between five and eight attributes or features are optimal in designing a conjoint analysis profile base. Such restriction is due to the complexity of combining a multitude of features and levels into a manageable set of profiles to prevent “respondent overload” resulting from assessing too many profiles (McCullough, 2002). A manageable set of profiles has ranged between 16 (Dawson, 2011; Hsu et al., 2014) and 20 (Millson & Ward, 2005) in private equity related studies.

For the purposes of this research, nine attributes were identified in the literature. Each of these attributes was found to have a significant foundation in the literature. Part of the purpose of the exploratory discussions was to filter the attributes and corresponding levels to a smaller number. However, the interviews confirmed the relevance and importance of all nine attributes and their corresponding levels and revealed suggestions to include further attributes. Since the attribute number was already greater than levels suggested in the literature (Dawson, 2011; Millson & Ward, 2005), the additional suggestions from interviewees were incorporated by changing the underlying levels to reflect their feedback. The table below sets out the final attributes and corresponding levels after incorporating suggestions taken from the exploratory discussions:

Table 1 Final value creation features and corresponding levels

Value creation attributes	Proposed levels
Quality of management team	<ul style="list-style-type: none"> • Keep incumbent executive team that has strong experience in the industry, market or previous private equity activity • Combine incumbent executive team with external appointments, including subject matter experts, to create team with relevant industry and market expertise • Completely change the executive team with external appointments, including subject matter experts, to create a team aligned to private equity objectives and relevant industry and market expertise
Management incentives	<ul style="list-style-type: none"> • Total of 15% equity ownership, however structured or obtained, of which 5% to CEO with a further 10% to other executives • Total of 18% equity ownership, however structured or obtained, of which 8% to CEO with a further 10% to other executives • Total of 20% equity ownership, however structured or obtained, of which 10% equity to CEO and 10% to other executives
Corporate governance measures	<ul style="list-style-type: none"> • Full control of the board with active participation in strategic direction and subcommittees;

	<ul style="list-style-type: none"> • Right to representation on the board with a strategy of fulfilling an advisory or observer role as deemed appropriate
Leverage	<ul style="list-style-type: none"> • Interest cover ratio < 1.5x of EBITDA over interest payments • 1.5x < Interest cover ratio <= 2.0x of EBITDA over interest payments • Interest cover ratio > 2.0x of EBITDA over interest payments
Valuation	<ul style="list-style-type: none"> • No reliance (0%) on increase in EV/EBITDA multiple driven by negotiation, market conditions or improved business case; • > 10% increase in EV/EBITDA multiple driven by negotiation, market conditions and/or improved business case; • > 20% increase in EV/EBITDA multiple driven by negotiation, market conditions and/or improved business case
Exit strategy	<ul style="list-style-type: none"> • IPO • Trade sale • Secondary sale
Profitability	<ul style="list-style-type: none"> • Absolute EBITDA growth driven by a focused sales growth strategy with no specific focus on EBITDA margin enhancement • EBITDA margin growth driven by a cost reduction and corporate restructuring strategy

	<ul style="list-style-type: none"> • Absolute and EBITDA margin growth driven by a combination of sales growth and a cost reduction and corporate restructuring strategy
Free cash flow improvement	<ul style="list-style-type: none"> • <10% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies • 10% < FCF improvement <= 15% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies • >15% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies
Asset efficiency (Return on Assets = EBITDA/Total assets)	<ul style="list-style-type: none"> • <10% growth in ROA attributed to either sales of non-core assets or optimisation of assets • 10% < ROA growth <= 15% attributed to either asset sales or optimisation of assets • >15% growth in ROA attributed to either sales of non-core assets or optimisation of assets

4.1.4.2 Phase Two – Construction of full profile cards and questionnaire design

4.1.4.2.1 Construction of the full profile cards using conjoint analysis

Conjoint analysis was used to generate full profile cards as hypothetical private equity investments that each comprise different combinations of attribute levels in an experimental design. The value creation features and their related levels

confirmed in Phase One formed the inputs to Excel-based conjoint analysis design software from XLSTAT-Marketing.

4.1.4.2.1.1 Description of conjoint analysis functionalities, characteristics and design

Often used in decision-making research, conjoint analysis compels respondents to make a sequence of judgements based on a defined set of attributes (Hsu et al., 2014; Millson & Ward, 2005). Through a fractional factorial design, attributes and levels are optimised resulting in a reduced and manageable number of profile cards (Dawson, 2011; Millson & Ward, 2005; Shepherd & Zacharakis, 1999). Its orthogonal array ensures that there is no correlation between the attribute levels across profiles and the sum of the utilities therefore adds up to zero (Dawson, 2011; Hsu et al., 2014; Shepherd & Zacharakis, 1999). Finally, by using concrete rather than relative values for respective attribute levels, a scenario that is closely related to actual decisions is generated which the respondent can easily relate to daily practices (Shepherd & Zacharakis, 1999).

By way of monotonic regression, conjoint analysis then quantifies the relative importance of the respective attributes and the degree of preference for each level of attribute once data has been collected. The resulting utility values provide an “efficient and effective” (Millson & Ward, 2005, p. 6) measure that quantifies the individual respondent partialities across attributes, which in turn allows comparisons between the relative importance of attributes and individual preferences. A positive utility value designates a position in favour of the

attribute, while the level of the value suggests the relative importance attached to a specific attribute or level (Millson & Ward, 2005).

The use of conjoint analysis software, therefore, enabled the researcher to:

- create a manageable set of potential scenarios that reflects real-life decisions relating to value creation in portfolio investments that private equity practitioners face on a daily basis; and
- quantify the relative importance of the respective attributes and private equity practitioner preferences for specific attribute levels based on their responses.

4.1.4.2.1.2 Methods of data collection and administration

The major types of data collection methods for conjoint research designs are as follows (Green et al., 2001):

- Full profile methods where respondents make an assessment of the entire set of attributes and levels as listed on a card and rank or rate them in accordance with their attractiveness;
- “Compositional” (Green et al., 2001, p. 58) methods where respondents first rate each set of attribute levels and then rate the importance of each attribute on a scale;
- Combination methods where full profile and compositional methods are combined; and
- “Adaptive” (Green et al., 2001, p. 59) methods which entail the interactive assessment of part-profile cards, which consist of a few attributes at a

time. These part-profile cards are then adapted based on previous responses and are customised to avoid response-overload.

As the decision-making process in assessing potential private equity investment and value creation strategies entails a multitude of factors (attributes) with each one relevant, as confirmed in Phase One of the research, the full profile approach was deemed the most appropriate. As such, the respondent was presented with a comprehensive scenario and considered all relevant factors. In addition, the purpose of this research is to determine the relative importance of, and preferences for, each attribute and attribute-levels compared to the others, which can only be inferred if all attributes are considered together.

Full profile cards for 20 private equity investment scenarios were generated, which was in line with the numbers found in previous research (Dawson, 2011; Hsu et al., 2014; Millson & Ward, 2005). Furthermore, full profile cards can be rated or ranked in order of preference. Given the complexity of the subject, a large number of profile cards and an intended electronic form of distribution, a rating method of administration was chosen with the aim of verifying the suitability thereof during the pilot study phase.

4.1.4.2.2 Conjoint analysis software

The conjoint analysis software used was XLSTAT-Marketing, which forms part of a broader range of statistical add-ins that was developed to enhance the analytical capabilities of Microsoft Excel®. The XLSTAT platform is owned by a company named Addinsoft SARL, which was founded by Thierry Fahmy, a Ph.D. graduate in statistics. Addinsoft SARL is an official Microsoft partner, which

provides comfort with regards to the quality of the product. The XLSTAT-Marketing platform was chosen on the basis of its conjoint analysis functionalities as well as cost (Addinsoft XLSTAT, n.d.).

4.1.4.2.3 Questionnaire design

The questionnaire design comprised of the following sections and the full document is included in Appendix 3: Questionnaire:

- An opening page introducing the topic title and researcher;
- A consent disclaimer in accordance with the GIBS ethical clearance approval;
- An instruction and explanatory notes page;
- A detailed profile attribute and level definitions page;
- General questions to determine the profiles of the respondents and the funds where they are employed, which included their position in the organisation, their core area of expertise, the age of the fund, the size of the fund, the number of investments in the fund, the investment stage focus and regional focus of the fund;
- A set of 20 full profile cards generated, based on the guidelines set out above, to be rated on a scale between one and nine based on the attractiveness of each profile.

Sheperd and Zacharakis (1999) suggest that the research instrument plays an important role in eliciting interest and participation from respondents. Clearly stipulated definitions and instructions, the conjoint profile card set and general questions to ascertain the profiles of respondents should be included in the

questionnaire (Shepherd & Zacharakis, 1999). The questionnaire design in this research was aligned to these guidelines as set out in the outline above.

4.1.4.3 Phase Three – a pilot field study

After the questionnaire design was finalised, a pilot study was conducted with the same private equity participants that formed part of the exploratory study in Phase One. The purpose of the pilot study was to:

- establish the time taken to complete, as well as the ease of use of the instrument;
- determine the appropriateness of a rating mode of administration;
- confirm the clarity of instructions, explanatory notes and definitions; and
- ensure the profile cards reflected the refined attributes and corresponding levels.

The two private equity experts completed the surveys without any suggestions for further changes. The content, design and mode of administration were therefore confirmed and an estimated time to complete of 20 to 30 minutes was established. However, in addition to the 20 profile cards originally included, an additional 2 “hold out” cards were added (profile cards 21 and 22 as included in Appendix 3: Questionnaire), one reflecting what is deemed to be the most attractive scenario and the other the least attractive scenario based on the literature reviewed. The purpose of these hold out cards was to test the reliability of the methodology and this will be discussed in further detail in 4.1.5 below.

4.1.4.4 Phase Four – the field study

A survey method by way of electronic distribution was chosen to execute the field study. Since the access to potential respondents was identified as a potential limitation at the start of the research process, it was deemed that the research instrument should be administered in such a way that it is easily accessible to respondents, and to allow the completion thereof in their own time in order to take up as little time as possible. An electronic as opposed to a paper-based questionnaire was also deemed to be more professional and in line with the growing use of technology in research.

As described in 4.1.3, the sample was mainly drawn from the SAVCA member's list and a few individual contacts of the researcher. The potential participants were approached in the following manner:

- i) Contacted telephonically and/or by e-mail to request their participation and inform them of the rationale and method of the research. Requests were addressed directly or through personal assistants to the Managing Partner or Director level management with a request to allow participation by multiple private equity team members;
- ii) Following an indication of their willingness to participate or as a second follow up where no response was received, a standard survey invitation e-mail was distributed. This described the purpose of the research and the estimated time to complete and also included the link to the questionnaire. The standard survey invitation is set out in Appendix 4: Survey invitation e-mail;

- iii) Weekly follow up telephone calls were made or e-mails were sent to remind potential participants about the survey. The researcher also actively made herself available to potential participants to discuss any questions or provide information if this was required.

Instructions and explanatory notes at the start of the survey aimed to give respondents a comprehensive description of the purpose and objectives of the study. It also set out to highlight areas of importance such as the fact that the general questions and profile cards were two separate sections; the profile cards each represented a potential private equity investment with features and levels unique to each scenario that required to be rated on a scale of one to nine; and a detailed table with all features and levels to place the decisions to be made in the context of the comprehensive set of features and levels that had been pre-identified. Potential participants were also encouraged to provide qualitative comment throughout the questionnaire, and each question included a comment section.

4.1.4.5 Phase 5 - Data Analysis

4.1.4.5.1 Data transformations

In order to avoid poor quality information that informed the analysis, the ratings of respondents were reviewed and analysed to identify any outlier values (Wegner, 2012). To this extent, the researcher used four methods to scan for potential outliers:

- Checked the respective hold-out cards for any anomalies in the differentiation by each respondent between the best and worst-case scenarios;
- Conducted a correlation analysis between the respondents to identify whether any respondent showed consistent and notable negative correlations to other respondents' ratings;
- Conducted a Grubbs test for outliers available in the XL-STAT Marketing software, which provides a comparative analysis of each respondent's assessment of each profile card in the form of z-scores and based on a confidence level of 95%;
- Conducted an evaluation of the attribute level utility values per respondent generated by a conjoint analysis of the full sample to identify whether any one respondent showed utility values contradicting the general trend of the sample.

The combination of methods enabled the researcher to identify consistent outliers and candidates for which data transformation was deemed necessary and prudent.

4.1.4.5.2 Respondent profile

The profiles of the respondents and the funds where they were employed were discussed and illustrated. The type of experience of the private equity practitioner as well as the strategic objectives of the fund influence the type of value creation strategies and activities that are pursued, which in turn may influence the perceptions of the individual respondents.

4.1.4.5.3 Statistical tests

According to Shepherd and Zacharakis (1999) regression analysis and analysis of variance (“ANOVA”) are the main statistical methods used in conjoint analysis. Monotonic regression enables a “main effects only” (Madansky, 1980, p. S39) analysis of variance (“MONANOVA”) which transforms the responses to better adjust the analysis of variance and linear regression (Madansky, 1980; Shepherd & Zacharakis, 1999). This results in the utility values that quantify the relative importance of the attributes and the preferred attribute levels for each respondent, which can be compared across attributes. A positive value affirms the preference for an attribute and the size of the value indicates the extent of importance attached to the specific attribute and attribute level (Millson & Ward, 2005).

A regression equation is derived from the coefficients related to each individual and attribute level, which in turn can be applied to test the predictive accuracy of the design by estimating results for the “hold-out” cards and comparing such projected results to the actual responses received (Millson & Ward, 2005; Shepherd & Zacharakis, 1999). A paired t-test and regression analysis of the predicted ratings vis-à-vis the actual ratings indicate the correlation coefficient, coefficient of determination (“R-squared”) and whether the differences between the means are significant, assuming a confidence level of 95%. The value of the model is verified by the extent of explanation provided by the regression model as reflected in R-squared, and the fit between the model and data as indicated by the p-value (Wegner, 2012).

Accordingly, conjoint analysis allows for a detailed statistical analysis of the variables by testing for differences using MONANOVA in the conjoint analysis itself and paired t-tests for the hold-out cards, determining the relationship and strength of any relationships and testing prediction accuracy based on R-squared through regression.

4.1.5 Validity and Reliability in conjoint analysis

Ensuring the validity and reliability of the research design and process is integral in any type of research (Boesch et al., 2013; Millson & Ward, 2005; Saunders & Lewis, 2012). Validity from an internal perspective refers to “the extent to which (a) data collection method or methods accurately measure what they were intended to measure and (b) the research findings are really about what they profess to be about.” (Saunders & Lewis, 2012, p. 127). External validity refers to whether the findings can be applied to a broader population. Reliability on the other hand refers to the consistency of the findings if the research design was to be replicated (Saunders & Lewis, 2012).

4.1.5.1 Validity

Conjoint analysis based research is not absolved from validity and reliability challenges, even if the quantitative rigour of the method has been tested before (Boesch et al., 2013). In particular, Shepherd and Zacharakis (1999) emphasise potential validity hazards in conjoint analysis to include “paper” (Shepherd & Zacharakis, 1999, p. 210) constructed scenarios, which may not be representative of real-life decisions; an experimental design that presents predefined features to participants and thereby ignores other information that may affect the decision; findings that may be confused through “three-way and

higher order interactions” (Shepherd & Zacharakis, 1999, p. 211); and a potential difference in the manner in which a participant evaluates an isolated scenario compared to a combination of scenarios, e.g. a single investment versus a portfolio of investments. Boesch et al. (2013) extend the last point to indicate that different viewpoints of interested parties and participants in the research process may lead to different interpretations and opinions.

In respect of the above concerns, several measures mitigate against these potential validity pitfalls. In order to ensure that respondents were presented with potential real-life situations, the attributes and attribute levels that informed the decision scenarios were selected and verified in the first three phases of the research process detailed above, which included identification from recent and relevant literature, exploratory discussions with industry experts and pre-testing through a pilot study. In addition, the researcher had the opportunity to gain further insight into value creation practices in the industry through presentation by private equity practitioners in four different class sessions separate from this research, which confirmed the attributes identified in this research. Boesch et al. (2013) propose that combining the richness of qualitative feedback with the quantitative statistical precision of conjoint analysis enhances the internal as well as external validity of the research, which was the purpose of the multi-method approach in this research.

With respect to the argument that pre-defined profiles in conjoint analysis remove other prompts from the decision-making process, the researcher counter argues that the purpose of an experimental design is to isolate specific independent

variables (the attributes and attribute levels) to determine the effect of variations in these independent variables on the dependent variable (being the perceived desirability of a scenario in this research) (Zikmund, Babin, Carr, & Griffin, 2009). Accordingly, the choice of research methodology is appropriate to ensure the internal validity of the research, being to measure the relative importance and preference that private equity practitioners attach to specific value creation strategies and mechanisms as measured by varying scenarios that are presented to the respondents.

In terms of the potential confounding effects of more than two interactions, the design of the software and underlying MONANOVA analysis transforms the data to focus on main-effects only and the XLSTAT software specifically limits interactions to two.

Finally, the potential danger of varying interpretations and isolated scenarios versus a broader collection of scenarios is offset to a large extent by firstly, the exploratory discussions to ensure interpretations of attributes and attribute levels are in line with industry practices and secondly, the narrow focus of the research questions on the value creation strategies and practices that private equity practitioners follow in specific underlying portfolio investments vis-à-vis a portfolio approach.

4.1.5.2 Reliability

In determining the reliability of a research design, the consistency of results when replicating the study can be tested by the use of a “hold-out” card. Such a card

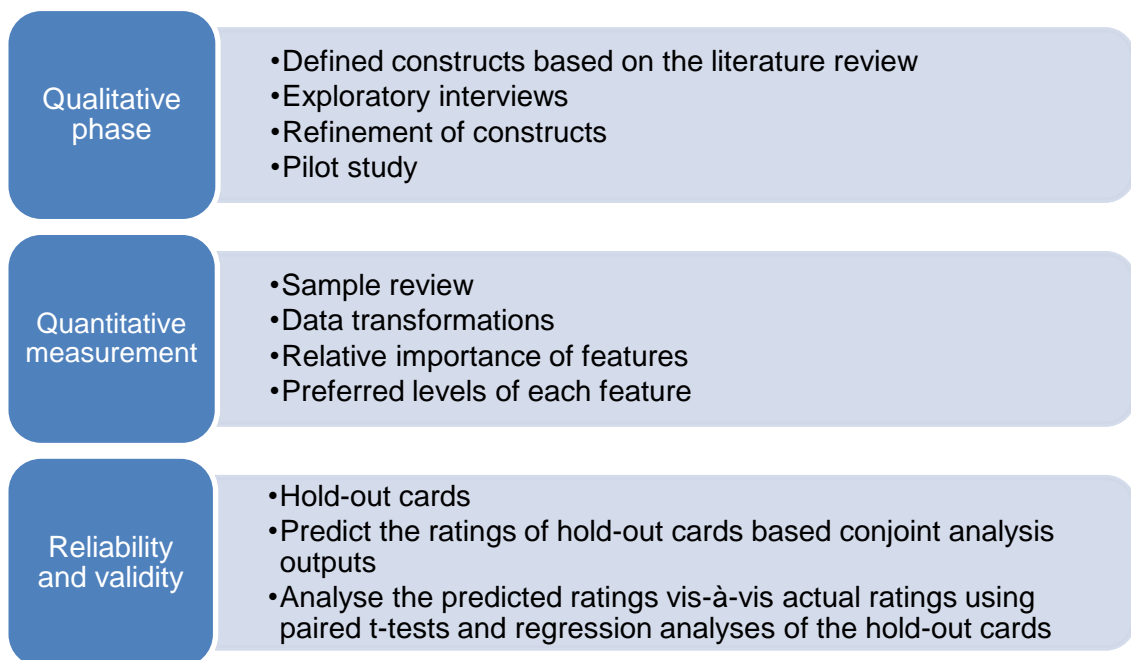
complements the software generated profiles, but is generated separately and not as part of the fractional factorial design. It is also excluded when calculating the utility values and regression coefficients, which enables the researcher to test the design by predicting the individual ratings of the “hold-out” card based on the regression coefficients. The relationship between the projected and actual ratings are compared by way of a correlation coefficient, whereby a high correlation coefficient signifies the reliability of the research design and data (Millson & Ward, 2005). Two “hold-out” cards; a most attractive scenario and a least attractive scenario were included in this research, providing two opportunities to test the predictive accuracy of the research design.

5 Chapter 5: Results

The results to be discussed in this chapter relate to both the qualitative exploratory and pilot study stages in Phases one to three and the quantitative measurement of the questionnaire responses obtained during the field study as analysed using a conjoint analysis approach and supplementary statistical analysis.

The diagram below illustrates the flow of discussion of the data collected, analyses conducted and outputs generated:

Figure 2 Diagrammatic flow of results discussion



5.1 Qualitative phase

5.1.1 Defined constructs based on the literature review

As described in Chapter 4, the basis of conjoint analysis is to define a set of features or attributes and corresponding levels for each attribute which are then compiled into scenarios and presented to an audience to make judgements as to

the attractiveness of each scenario. As a first step in this research, nine attributes or features were identified as major contributors to, and drivers of, value creation practices in private equity. Then a further review of the literature was undertaken to identify specific levels or trends for each attribute. Eight of the attributes were allocated three levels, whilst one had two levels. In order to simulate a real-life private equity investment scenario as closely as possible, the attribute levels were predominantly numeric in nature, but certain decisions of a qualitative nature required corresponding qualitative levels. The list of attributes and levels is included in Appendix 2: Proposed value creation levers and corresponding levels.

5.1.2 Exploratory interviews

The interviews conducted were with two experts with extensive experience in the private equity field and each session took approximately 40 minutes. Each interviewee was asked to sign a letter of consent that granted the researcher clearance to record the discussion. The first interviewee's (Interviewee 1) experience focused on management consulting services to private equity firms in executing their value creation strategies, whilst the second interviewee (Interviewee 2) was a fund of funds manager at a large South African based investment bank, specifically offering access to private equity investments to high net-worth clients.

The main purpose of the interviews was to gain insights from professionals active in the industry to ensure that the predefined attributes and levels accurately represented factors considered in the day-to-day operations of private equity

practitioners, thereby strengthening both the internal and potential external validity of the research. The interviewees also served to provide the researcher with a greater understanding of the private equity environment and its internal and external complexities, both behavioural and structural.

The interviews were semi-structured with the predefined list of attributes and levels (Appendix 2: Proposed value creation levers and corresponding levels) serving as the discussion document. As an introduction, the interviewees were given an overview of the purpose as well as process of the research to place the discussion document in context. The interviews were recorded and transcribed, and were used to refine the attribute and level inputs. Although the discussions were rich with information about the private equity industry and broader aspects of the attributes, which highlighted some further areas for research, the feedback related in this report focuses on the objectives of this research. The interviewees generally concurred with the proposed attributes and attribute levels, but the following pertinent discussions and suggestions were noted. For ease of referencing in later sections, the relevant suggestions are labelled alphabetically.

Interviewee 1:

- a) The interviewee suggested that the researcher should ensure that a clear argument should be made as to why the levers used in private equity are different from creating value in general corporate practice, as quoted below:

“I just think what you must make clear is that you know ... are these any different to you know improving corporate performance....? Cos there’s something that private equity does that corporates don’t do internally”

- b) With regard to the Quality of Management attribute, two of the three levels included made reference to the appointment of external parties with relevant industry experience. The interviewee suggested as follows:

“I think maybe just where you haven’t put in is subject matter experts so you might find that private equity guys you know whatever three avenues they’ve taken there, they generally will put in an SME subject with an expert somewhere in the board or somewhere”

- c) In terms of the Management incentives attribute, the interviewee suggested that the wording could be interpreted to include incentives across all management levels, whereas this was not the practice in private equity. The researcher sought to clarify the issue as follows:

“Interviewer. Ok, would you refine the management as top management, maybe let me, are the percentages more or less in line and then number two, is it CEO is it just the C suite that we talking about?”

Respondent. Ya it’s just the exco, group exco...”

It should be further noted that the interviewee emphasised Management incentivisation is a field of study on its own in a broader corporate context and

that various non-financial incentives, structures of financial incentives and performance requirements that could be considered in the field, but acknowledged that for the purposes of this research it may be too broad.

d) In terms of operational improvement, the interviewee pointed out the absence of corporate restructuring as part of the mechanics practiced by private equity practitioners to create value. In particular, the following comments were made:

“...I think that is a big part of private equity is around corporate restructuring.”

“...a lot of private equity guys are good at corporate structuring and they realise this is not an efficient way to run a corporation and we gona go and restructure the corporate, that could be getting rid of management it could be whole, putting certain assets into a hold co”

“Restructuring can also be from a P and L point of view, it can be management accounts, it can be your income statement balance sheet, are they three or they one, are they consolidated, something like three sets of management accounts and one income statement and so there’s different ways of corporate structures is kind of both the account side as well as the physical holding company, the legal entity, there’s a lot of upside on doing corporate structuring, you know what you doing, there’s some corporate structuring experts out there and they really good you know in term of just.”

All other attributes were confirmed by Interviewee 1, but extensive discussions indicated that the factors that influence the strategies and practices to create value in private equity have many, complex underlying drivers that could be further researched.

“...I wouldn’t take anything away, I wouldn’t add anything either beyond maybe the corporate structuring piece so you can find something around corporate structuring you know you could add that in...”

Finally, the interviewee also cautioned the researcher on the difficulties of conducting research in the private equity industry.

“It’s probably the hardest industry to research in South Africa...I’m just warning you getting private equity people, they very arrogant, they hard to deal with, some of them might be great but some of them might be really really challenging so you can make that kind of questionnaire process really really convenient for them...”

Interviewee 2:

The interviewee largely confirmed the attributes and attribute levels that were predefined and also offered valuable insights into how these were considered and implemented in practice, as well as how the private equity industry has evolved in terms of these practices. Comments and suggestions relevant to the objectives of the research were as follows:

- e) *“...there are two other reasons in my opinion and I think it’s fairly widely shared why private equity has outperformed public equity and I would almost try and break down on the out performance on the three things. So the one you mentioned which is value creation from either operational improvements, financial engineering or negotiation skills you know so that’s and that’s what the private equity house brings to the party but there’s two other things, the one is compensation for illiquidity so you know if I have a choice between a public equity investment and a private equity investment absent any value add from the private equity house, I still want a higher return because my money is locked up for at least five probably ten years...”*

In terms of management incentives, like Interviewee 1, the Interviewee pointed out the incentive structures were a more complex field that were influenced by deal structures, performance requirements and deal dynamics. However, no changes were suggested.

- f) In relation to Valuation which is measured in terms of the EV/EBITDA multiple per the defined levels, the Interviewee suggested as follows:

“they don’t do their modelling based on a change in their you know or any kind of multiple expansion in other words they go in on the assumption that they buy and sell at the same multiple, sometimes even a lower multiple and the reason why they would consider an acquisition where they’d exit as a multiple is because they feel they can grow Ebitda so strongly that the fact that they exit at a multiple quite frankly doesn’t matter”

- g) In terms of profitability enhancement strategies, the initial attributes were defined as quantitative target levels that were driven by a combination of sales growth and cost reductions. The interviewee suggested as follows:

“I would have thought the more important one is just pure growth so I’m saying we comfortable with the existing Ebitda margin but we wanna double sales and I’m surprised that’s not here or am I missing it?”

“...the point is that you don’t need to widen the margin, you can keep the margin, your margin can grow by zero but you just double your sales, double your costs and double your profits and I certainly see a lot of that where the strategy is not about making the business more efficient, its actually about growing it.”

- h) In terms of the Free Cash Flow attribute, the original levels were explained as different percentages of contribution to IRR from either debt reduction or dividend receipts. The interviewee made the following suggestion:

“one thing that you missed on the free cash flow I would have thought, is working capital improvement because I mean you could argue that working capital is part of your return on assets but usually when you look at return on assets its actually fixed assets so I might under free cash flow improvement talking about working capital because the guys do spend time negotiating with creditors, negotiating with debtors to improve payment terms etcetera and they do spend a lot of time

trying to reduce inventory, levels of these inventory costs and all of that is working capital which is about the cash, free cash flow improvement.”

5.1.3 Refinement of constructs

Following the interviews, the attributes and attribute levels were refined taking into consideration comments and suggestions from the interviewees. Changes are highlighted in bold and the numbering below corresponds to the comments noted in the section above.

- a) The researcher refined the literature review to clarify the reasons why private equity is perceived to create more value than general corporate organisations;
- b) Quality of Management - the levels were redefined as follows:
 - Keep incumbent executive team that has strong experience in the industry, **market** or previous private equity activity
 - Combine incumbent executive team with external appointments, **including subject matter experts**, to create team with relevant industry **and market** expertise
 - Completely change the executive team with external appointments, **including subject matter experts**, to create a team aligned to private equity objectives and relevant industry **and market** expertise
- c) Management incentives - the redefined levels were as follows:
 - Total of 15% equity ownership, **however structured or obtained**, of which 5% to CEO with a further 10% to other executives
 - Total of 18% equity ownership, **however structured or obtained**, of which 8% to CEO with a further 10% to other executives

- Total of 20% equity ownership, **however structured or obtained**, of which 10% equity to CEO and 10% to other executives
- d) Corporate restructuring was included in the attribute levels under Profitability enhancement strategy as it directly relates to solving inefficiencies within the operation, which can be directly reflected in profits. The changes were as follows:
- EBITDA margin growth driven by a cost reduction and **corporate restructuring strategy**
 - Absolute and EBITDA margin growth driven by a combination of sales growth and a cost reduction and **corporate restructuring strategy**
- e) Illiquidity discounts as driver of value in private equity was noted and is deemed to be indirectly accounted for in the Valuation attribute, albeit that the chosen method of measurement of the attribute focuses on multiple expansion rather than discounts or premiums paid. In addition, an already extensive list of attributes limited the researcher in adding any additional features, particularly where no support was found in the literature reviewed;
- f) Valuation is measured through the expansion of the EV/EBITDA multiple. The interviewee's suggestion was incorporated by redefining the numeric levels and incorporating a specific level as follows:
- **No reliance (0%)** on increase in EV/EBITDA multiple driven by negotiation, market conditions or improved business case;
- g) Profitability enhancement strategies were originally proposed to be measured as numeric levels. However, the suggestion from Interviewee 2 highlighted that different strategies rather than numeric levels may be more relevant and the levels were redefined as follows:

- **Absolute EBITDA growth driven by a focused sales growth strategy with no specific focus on EBITDA margin enhancement**
 - **EBITDA margin growth driven by a cost reduction and corporate restructuring strategy**
 - **Absolute and EBITDA margin growth driven by a combination of sales growth and a cost reduction and corporate restructuring strategy**
- h) The Free Cash Flow attribute levels were changed to incorporate net working capital changes as follows:
- **<10% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies**
 - **10% < FCF improvement <= 15% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies**
 - **>15% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies**

The updated attributes and attribute levels then served as inputs into conjoint analysis software, which generated 20 scenarios or full profile cards. In addition, an electronic questionnaire which included both the full profile cards and a set of general questions was created to be presented in the pilot study.

5.1.4 Pilot study

The purpose of the pilot study was to present the two interviewees with a draft, but almost final, version of the intended questionnaire to verify both the content which reflected their suggested changes, but also the mode of administration and

expected time to complete. Neither participant suggested any further changes and completed the survey within the indicated 20 to 30 minutes. The questionnaire responses of the two interviewees were excluded from the quantitative analysis.

5.2 Quantitative measurement

The quantitative aspects of the research questions set out in Chapter 3 detailed the aim to, firstly, develop a quantitative measure of the relative importance of different value creation levers and secondly, the preferred levels of each value creation driver as perceived by private equity practitioners.

5.2.1 Sample review and profile

Although 34 private equity firms and three individuals were approached with the request for multiple private equity practitioners from each firm to participate in the survey, only a total number of 15 responses were received during the field study phase. As the anonymity of each respondent was maintained to encourage their participation, the responses could not be traced back to any particular firm or individual. One response was eliminated due to the respondent having a primarily academic interest in private equity.

5.2.2 Data transformations

The methods as described in section 4.1.4.5.1 were used to identify and analyse potential outlier values in the ratings and yielded the results as follows. It should be noted that respondent numbers are quoted in sequence of the responses received and have not been adjusted for responses that were excluded for the two pilot study participants and one field study participant:

- Hold-out card differentiation: one respondent (respondent 12) showed a negative difference when the worst case rating was subtracted from the best case rating. The expectation was that the best-case rating would exceed the worst-case rating. However, respondent 12's rating which was contradictory to other respondents and indicative that the respondent could have perceived the rating scale incorrectly. Two other respondents (respondents 4 and 13) showed no differentiation in ratings between the worst case and best case scenarios. Appendix 5: Holdout card differences sets out the differences for all respondents;
- Correlation analysis of respondent ratings: two respondents (respondents 4 and 12) showed frequent negative correlations compared to other sample units. However, the values of respondent 12's correlation coefficients were notably greater than those of respondent 4 with an average correlation coefficient of -0.33 vis-à-vis -0.10. All other respondents had positive correlation coefficients as set out in Appendix 6: Correlation analysis of respondent ratings;
- Grubbs test for outliers: three respondents showed z-scores outside of the confidence level of 95%, these were Respondents 10, 12 and 13. Appendix 7: Grubbs test for outliers in profile cards illustrate the specific profile cards where outliers were identified;
- Attribute level utility value comparison: the utility values of the varying levels of each respective attribute showed several respondents to have contradicting perceptions compared to the mean utility values. In the context of the conjoint design having the objective to determine the preferences of private equity practitioners, a certain extent of variation between respondents

could be expected. However, level utility values for Respondent 12 appear to show contradicting results compared to other respondents on important attributes and relatively high contributing level utilities such as the Quality of the Management team, Corporate Governance measures, Free Cash Flow improvements and Asset Efficiency. The relative importance of attributes as well as the most notable differences in Respondent 12's utility values are set out in Appendix 8: Level utility comparisons.

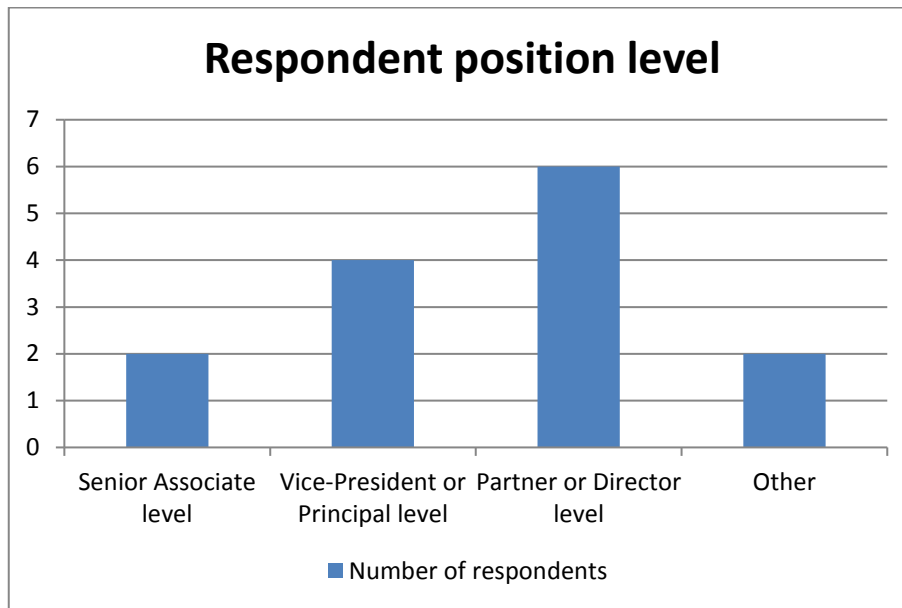
The above comparative analyses across respondents, profiles and factors indicated that Respondent 12 stood out as a consistent outlier in the dataset and may have incorrectly perceived the rating scale as one representing a most desirable option and nine as a least desirable option. Accordingly, his/her responses were transformed by subtracting the actual rating from 10 to more accurately reflect the rating scale.

5.2.3 Individuals

Data collected relating to the individual profiles of each respondent included their position within the organisation and the main focus of their career background to establish both their level of experience and area of expertise.

The diagram below indicates the position levels of the respondents. Only two respondents were below a senior level within their organisation as reflected in the Other category. The overwhelming majority of respondents were senior management as Partners or Directors or at senior deal-making levels as Senior Associates or Vice-Principals:

Figure 3 Respondent position level



In terms of expertise, 13 out of the 14 respondents' primary experience was in the fields of Private Equity, Corporate Finance and Mergers and Acquisitions, whereas only one respondent had an Actuarial background.

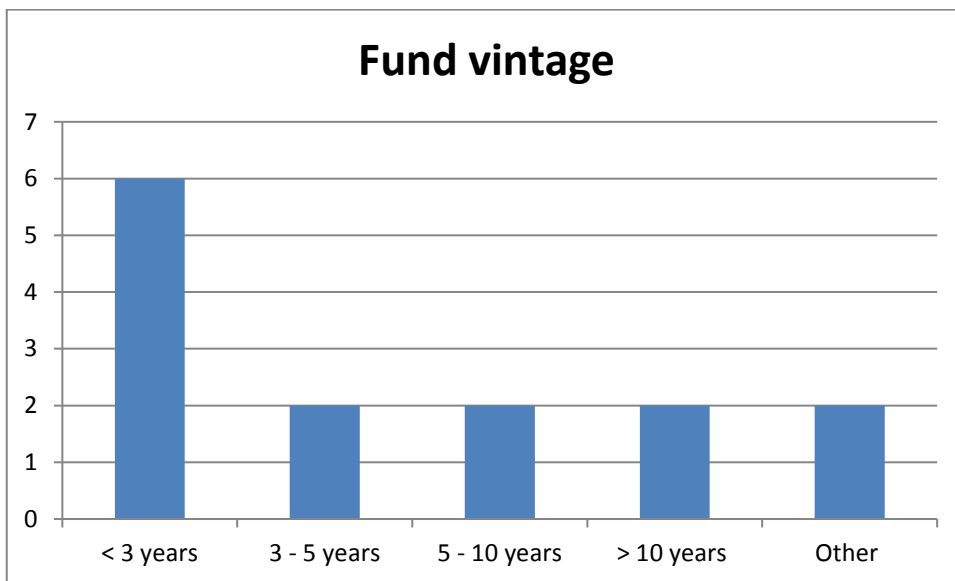
The above feedback confirmed a high level of industry specific expertise and private equity oriented roles for the sample of respondents.

5.2.4 Private Equity firms

Questions to ascertain the profile of the private equity firms where the respondents were employed were included in order to gain an understanding of the size, age and investment focus of these funds, and to ensure that the activities of these funds largely corresponded with traditional private equity activities found in the literature and that these funds were active in the private equity asset class in the region. To this extent, the below diagrams set out the profiles of the funds.

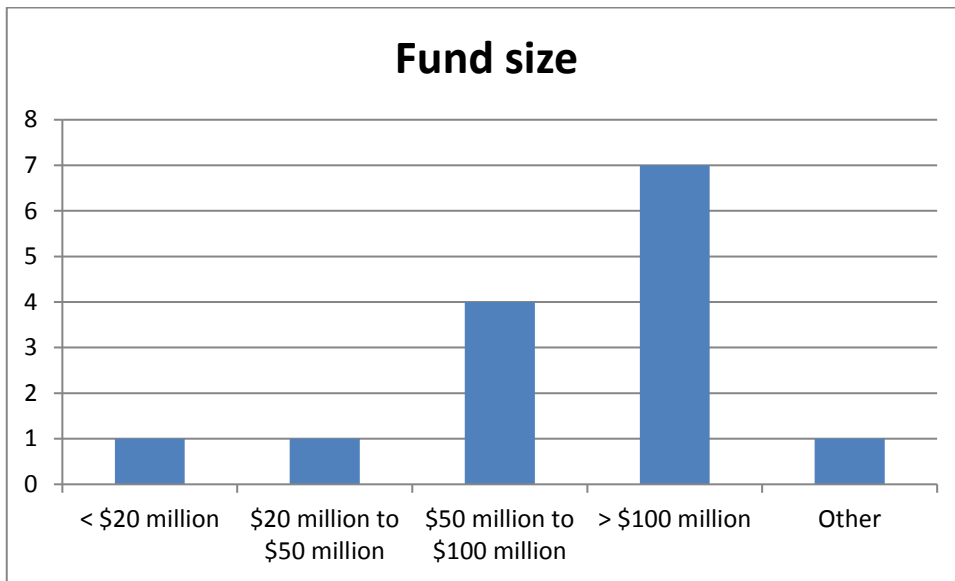
In terms of the fund vintage, the age varied between the majority of funds being in operation for less than three years, but also represented funds at various stages. “Other” included a captive fund with an infinite life, as well as multiple funds with multiple vintages.

Figure 4 Vintage of funds where respondents are employed



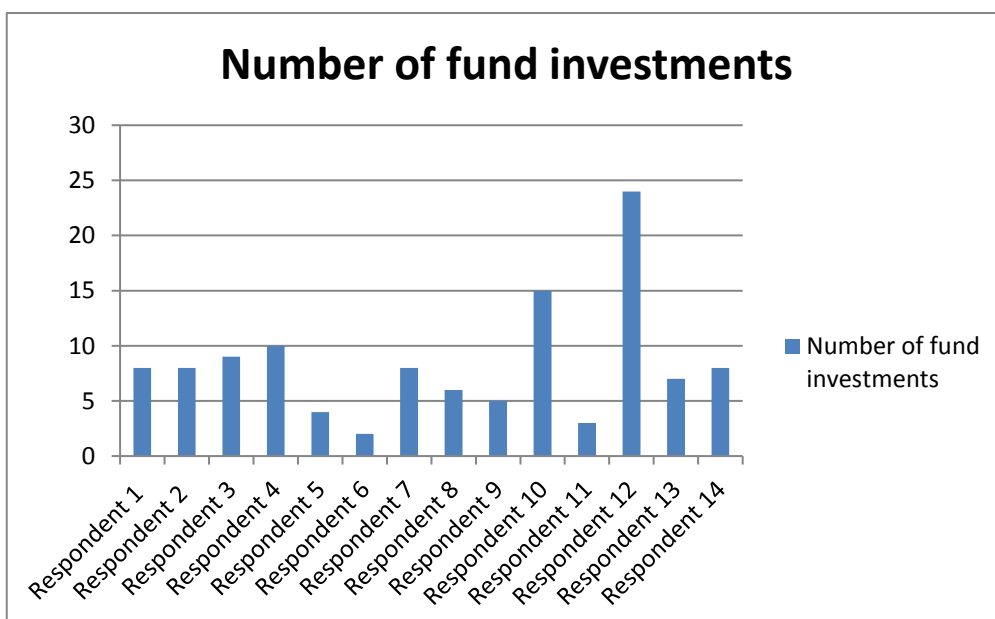
As per the diagram below, 11 out of the 14 respondents reported medium to large operations with funds under management between US\$ 50 million and US\$ 100 million or in excess of US\$ 100 million.

Figure 5 Size of funds where respondents are employed



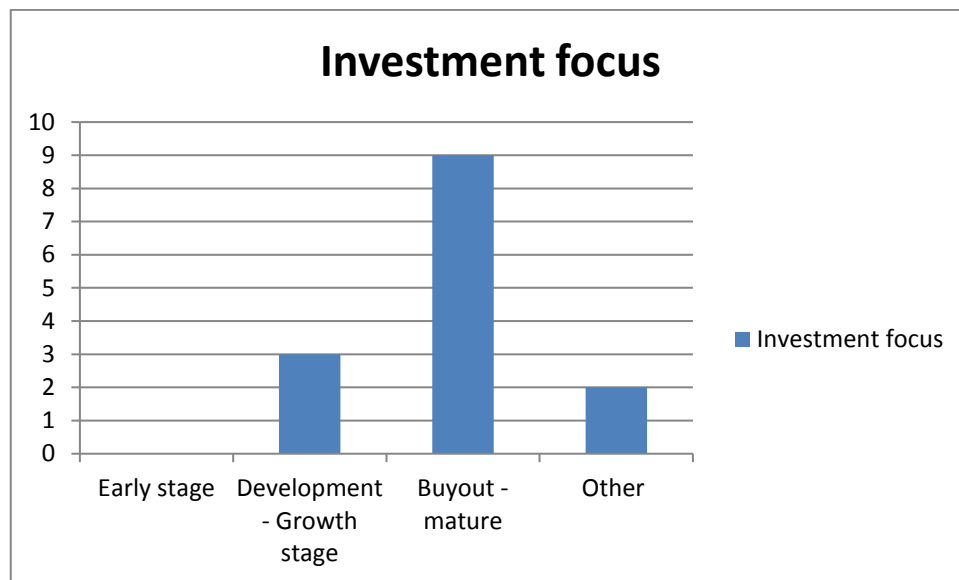
Correspondingly, the respondents were asked to indicate the number of investments currently in the fund where they are employed. Only two respondents indicated investments equal to or greater than 15 and three respondents investments less than five. The majority of nine indicated between five and ten investments were under the fund’s management at the time.

Figure 6 Number of fund investments where respondents are employed



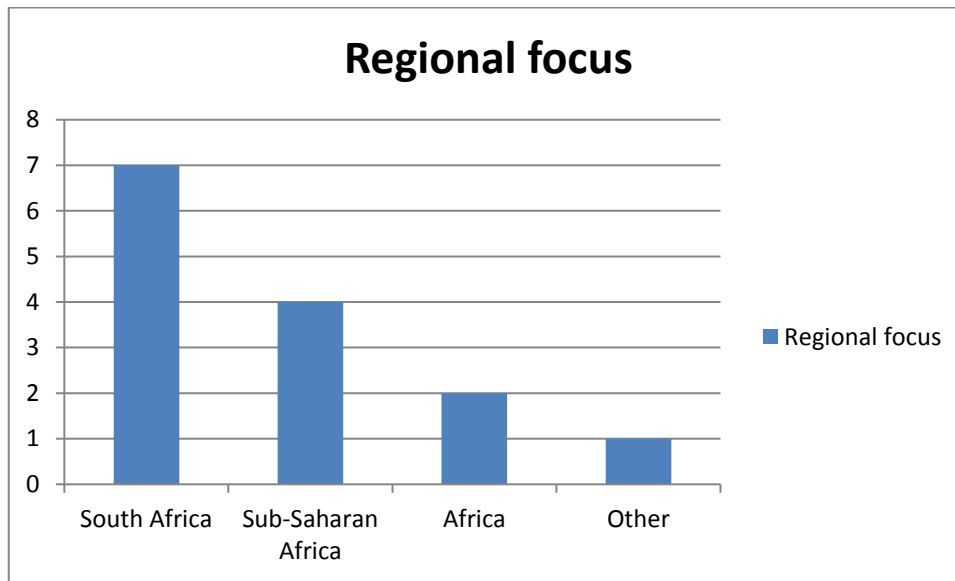
The investment focus of the funds was requested to ascertain both the sub-class of private equity as well as the region of focus as illustrated in the diagrams below. All of the firms were active with investments in Growth or Mature stage businesses. The “Other” category included a firm with both Development and Buy-out funds as well as an Infrastructure fund focused on Development or Mature opportunities.

Figure 7 Investment focus of funds where respondents are employed



The regional focus of the funds set out in the diagram below were all on the African continent with the “Other” indicated as “SADC”, which corresponds with the consideration that this research will be limited to private equity activities in the African region.

Figure 8 Regional focus of funds where respondents are employed



5.2.5 Conclusion

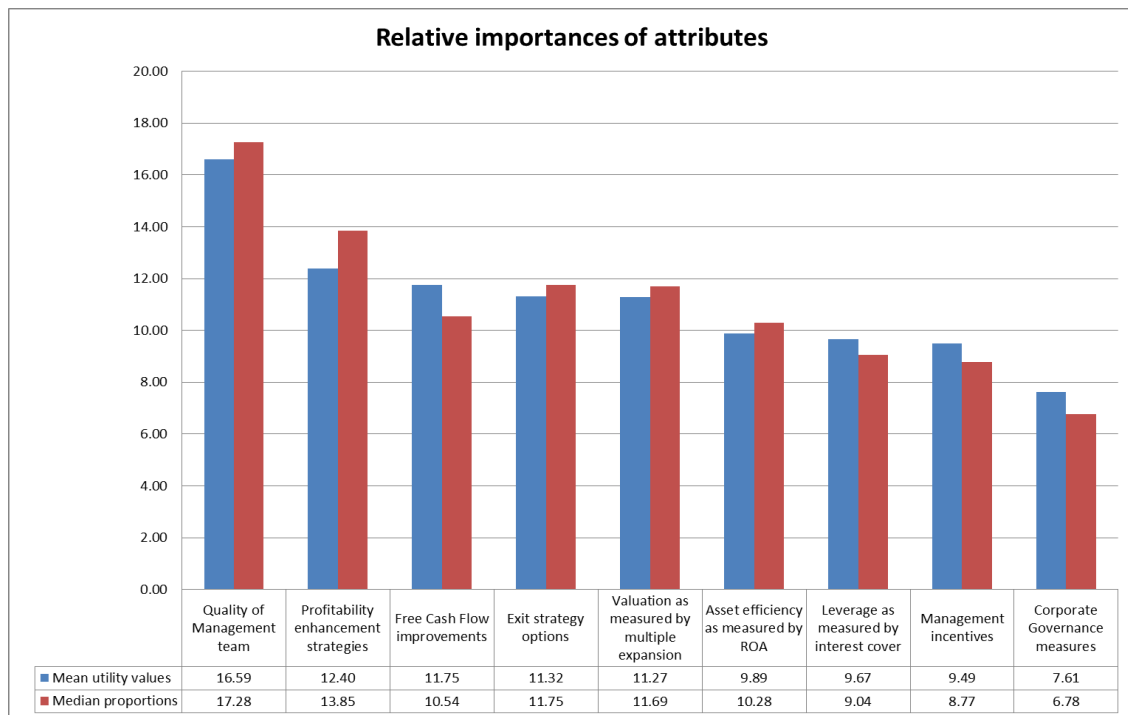
The review of the sample above served to confirm that the private equity practitioner responses that were included in the sample were from individuals who have the necessary experience and expertise to make judgements with regard to value creation activities in portfolio investments and who were employed in funds that are active players in private equity within sub-classes that are comparable to traditional private equity activities reviewed in the literature. Although the size, age and number of investments can indicate the significance of the firm in the industry, these are only expected to provide an indication of whether the sample included a spread of different organisations.

5.3 Research questions analysis

5.3.1 A quantitative measure of the relative importance of the value creation features

Conjoint analysis quantifies the relative importance of attributes or features by assigning a utility value to each feature with the total utilities adding up to 100 (Sawtooth Software, n.d.). The diagram below sets out the relative importance, with the utility values that could be interpreted as percentages.

Figure 9 Relative importance of value creation attributes



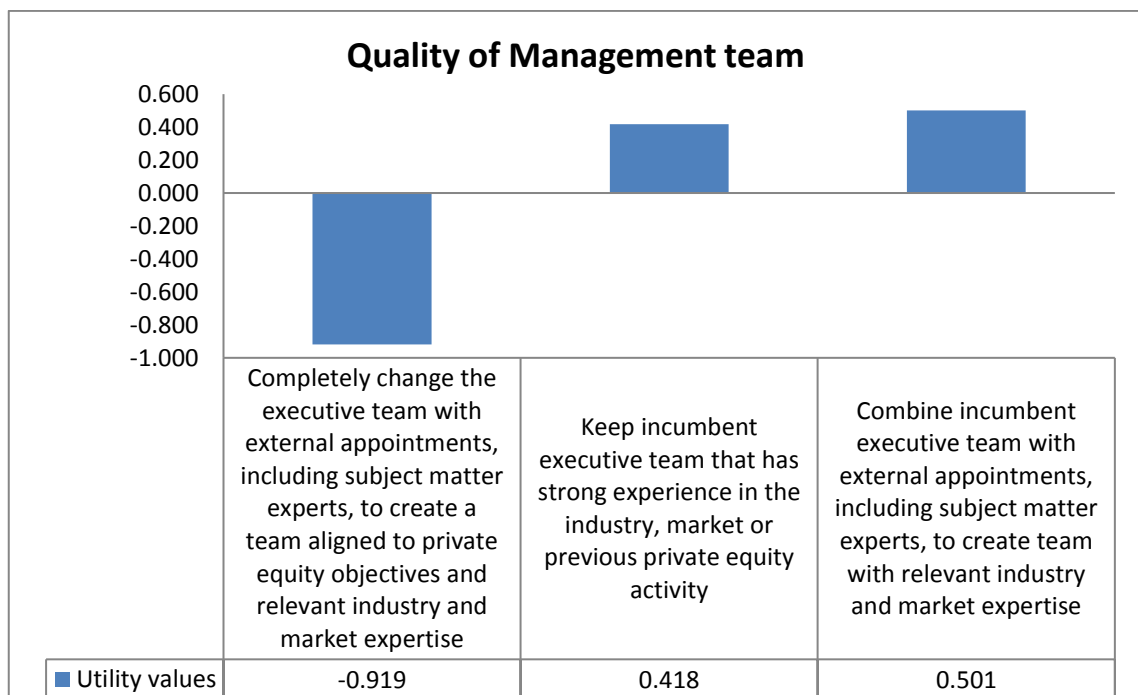
Due to the small sample achieved in this research, the researcher had concerns regarding the use of means and the effect further outliers may have on such means (Wegner, 2012). Accordingly, a comparative check of the median values was included to identify any notable differences. Due to the underlying conjoint computation that reflects utilities as part-worths of a whole (100), the median values were adjusted to reflect percentages of the aggregated median value.

5.3.2 A quantitative measure of the preferred levels of each value creation feature

An orthogonal array in conjoint analysis ensures that there is no correlation between the attribute levels across profiles and therefore the sum of the utilities adds up to zero. A positive utility value indicates a preference for a particular attribute level, whereas the extent of the value indicates the importance of a particular level (Dawson, 2011; Hsu et al., 2014; Millson & Ward, 2005). The diagrams below set out the utility values and therefore the preference and importance for each level for each attribute. The results are based on mean values and have not been adjusted to consider median results to maintain the integrity of the underlying orthogonal array design that ensures no correlation between levels. The results are reflected in order of the relative importance found in section 5.3.1.

5.3.2.1 Quality of Management team

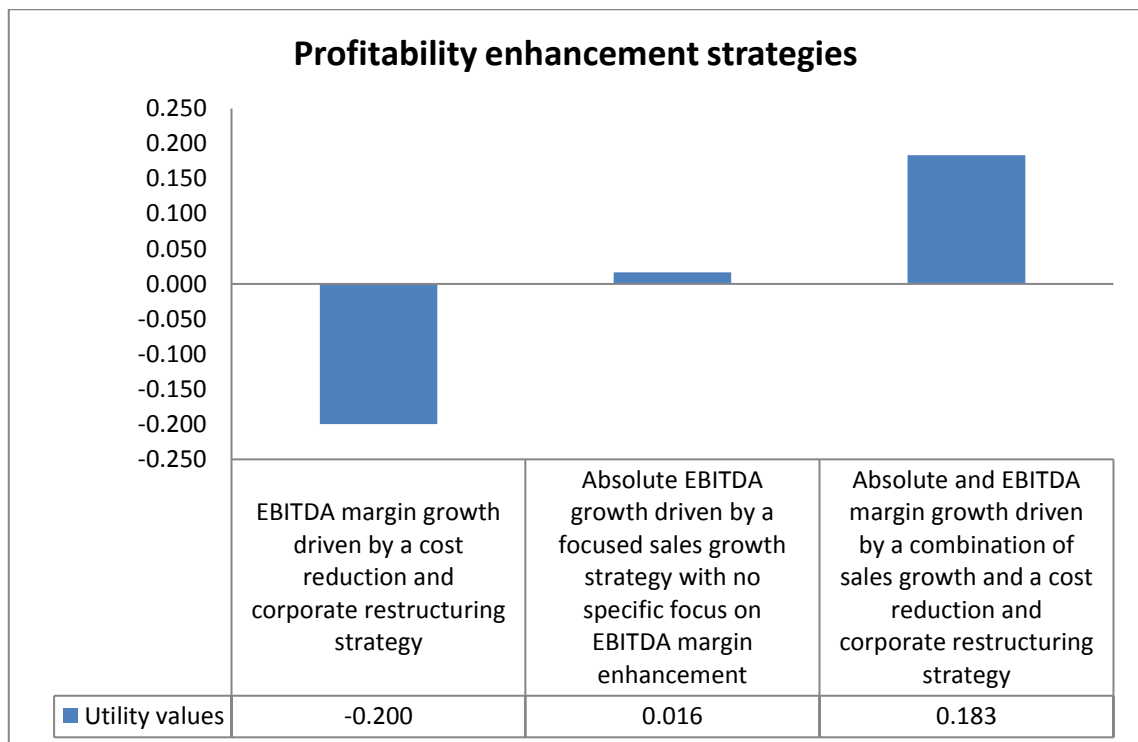
Figure 10 Quality of Management team level utilities



The above indicates that respondents have a negative disposition towards an entirely new management team, while an incumbent team or a combination of incumbent and new team members are preferred. The greater utility value of a combination team indicates a slightly greater preference for this level.

5.3.2.2 Profitability enhancement strategies

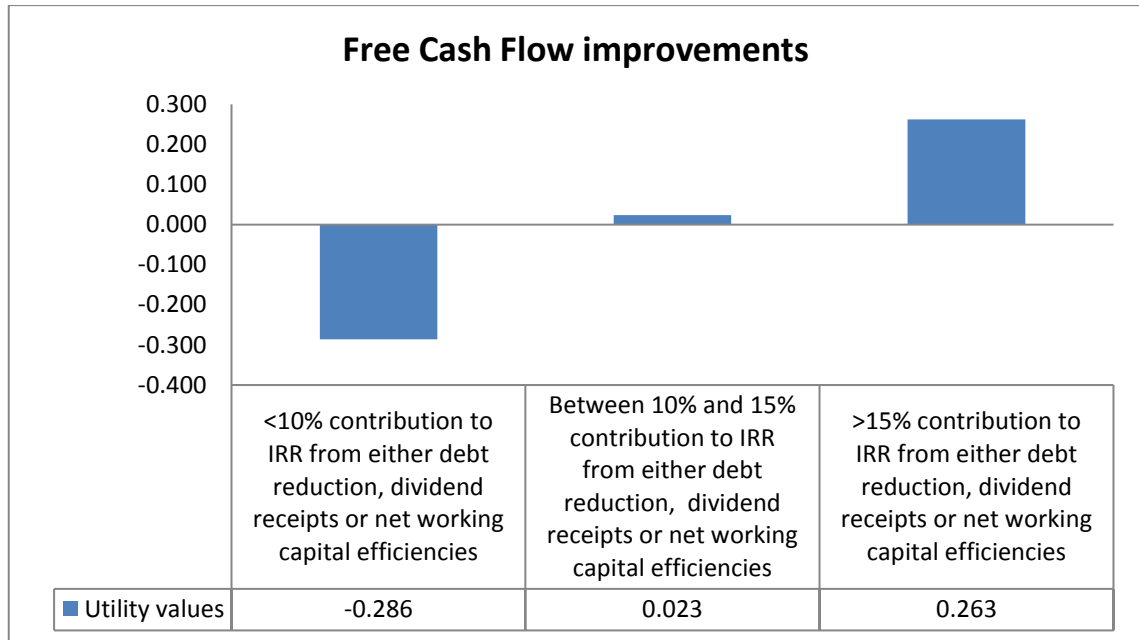
Figure 11 Profitability enhancement strategies level utilities



The above utilities are based on a more qualitative assessment of strategy rather than a concrete numeric target or estimate. The results indicate a negative sentiment towards a sole margin enhancement strategy, while a sales growth focused strategy has small positive support and a combination sales growth and margin enhancement strategy is indicated as the preferred option.

5.3.2.3 Free Cash Flow improvements

Figure 12 Free Cash flow improvement level utilities



The utilities above indicate a negative disposition for contributions to IRR less than 10%, with a strong trend towards positive and greater utilities as the contribution to IRR increases.

5.3.2.4 Exit strategy options

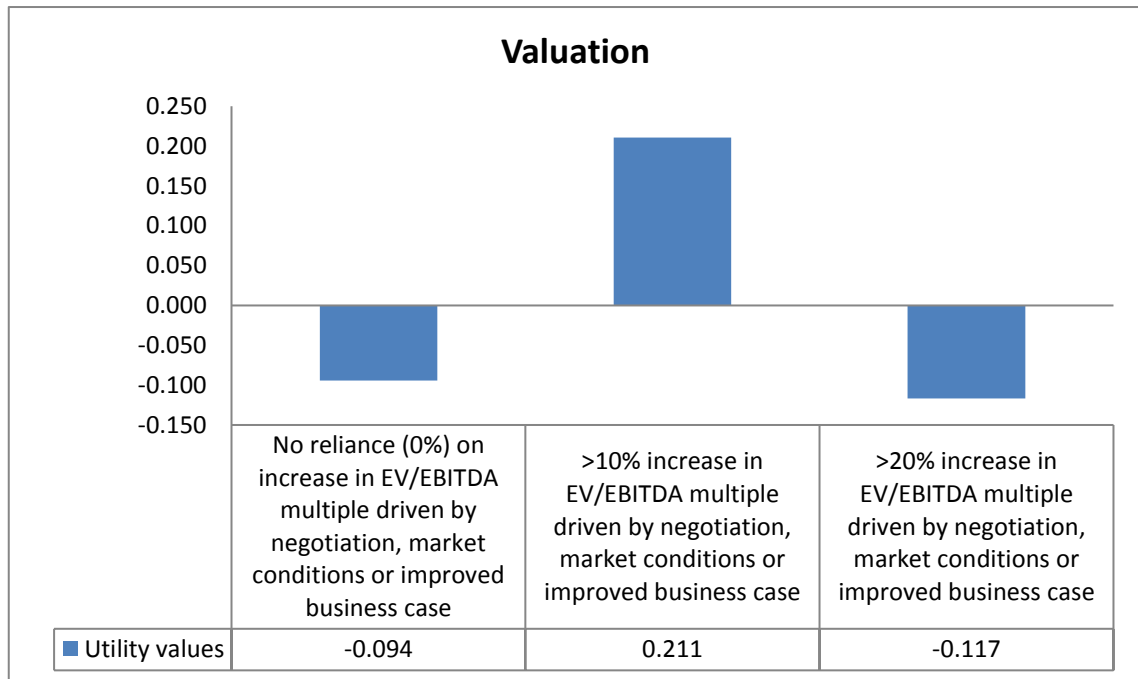
Figure 13 Exit strategy option level utilities



The above utilities indicate that private equity practitioners do not favour IPOs, but are partial towards a secondary sale and even more so a trade sale.

5.3.2.5 Valuation as measured by multiple expansion

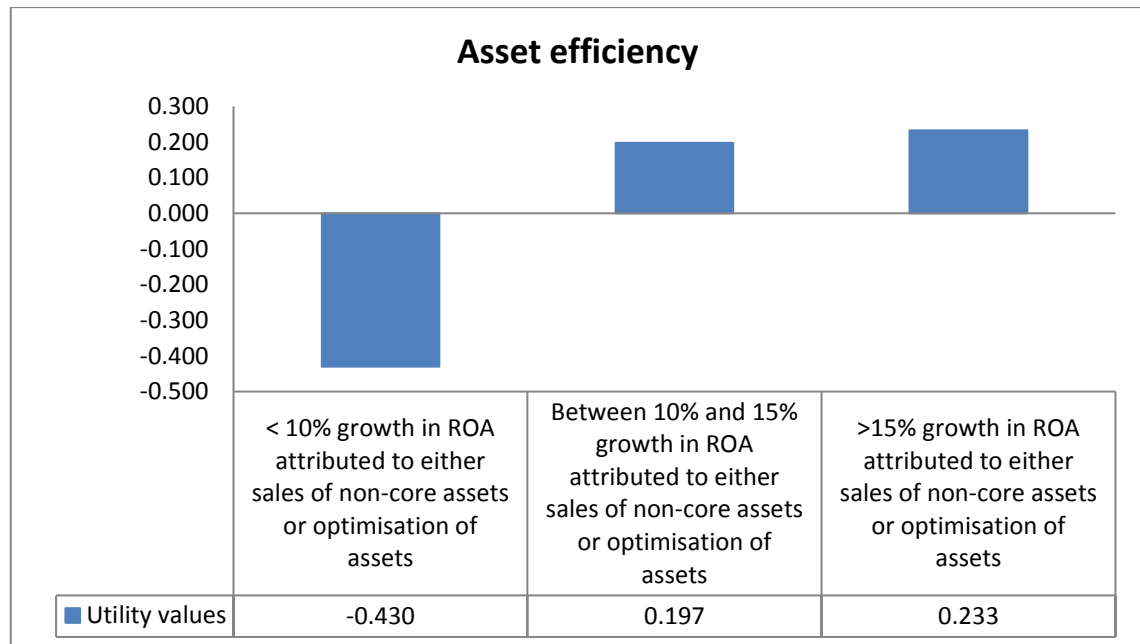
Figure 14 Valuation as measured by multiple expansion level utilities



No clear trend is evident from the utilities for the Valuation attribute levels, but there is a clear positive disposition towards the mid-level of multiple expansion, being a greater than 10% increase in the EV/EBITDA multiple. No multiple expansion or such expansion exceeding 20% is viewed negatively.

5.3.2.6 Asset efficiency as measured by ROA

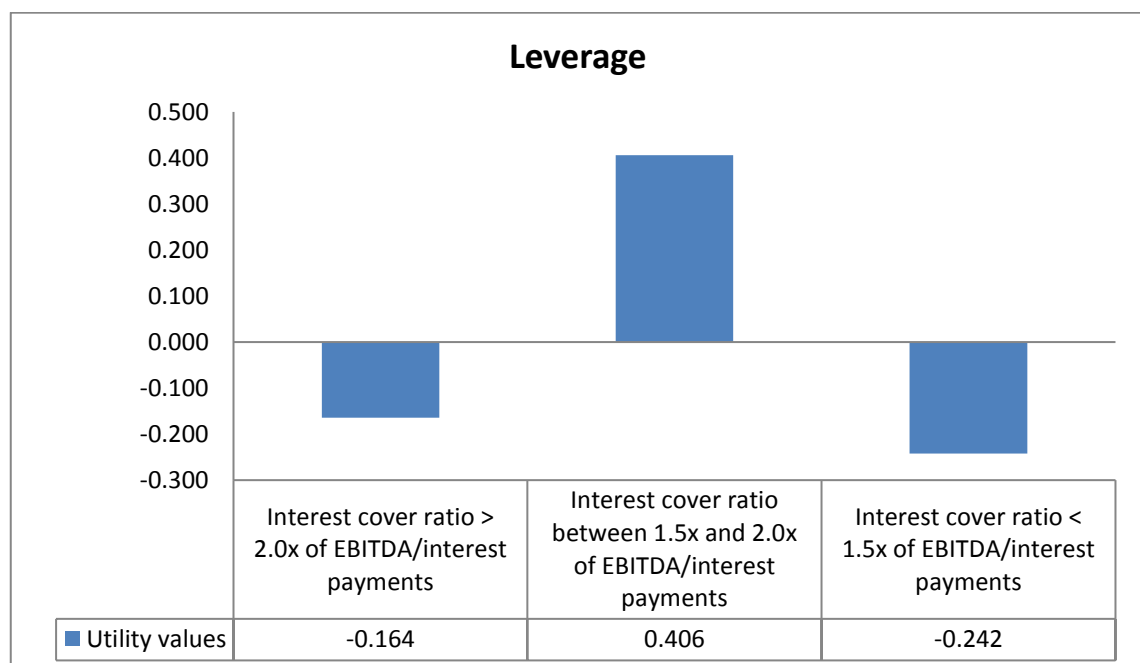
Figure 15 Asset efficiency as measured by ROA level utilities



Utilities for asset efficiency show a trend from a negative sentiment for the lowest level (less than 10% growth in ROA) towards a positive and growing preference for greater numbers of ROA growth.

5.3.2.7 Leverage as measured by interest cover

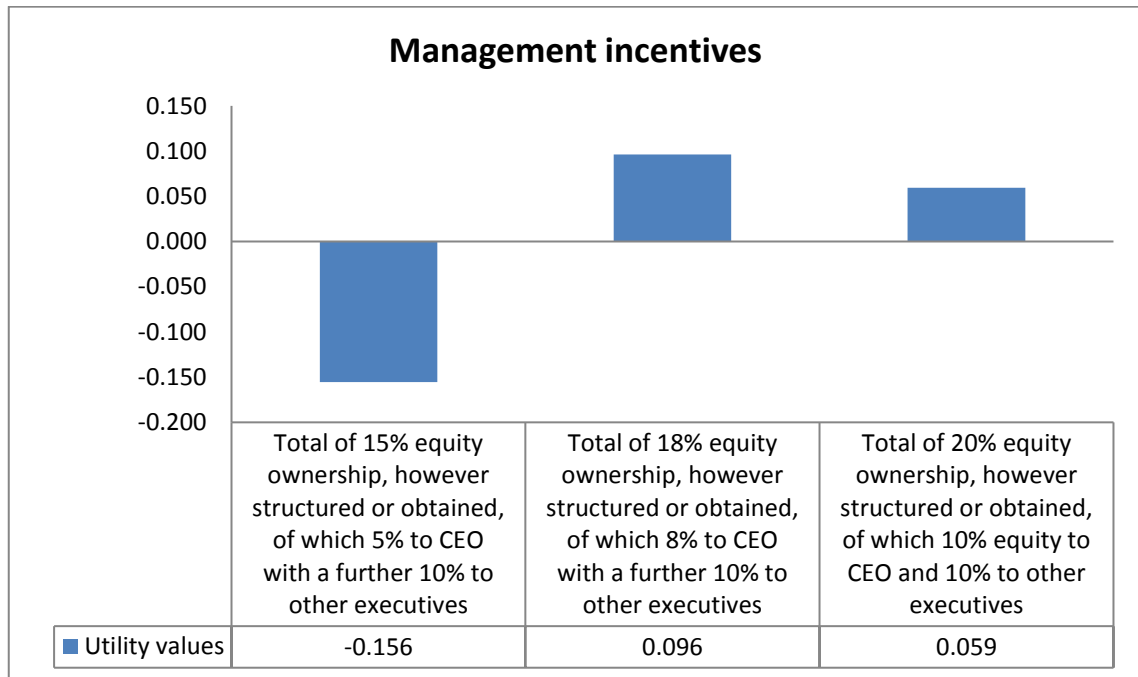
Figure 16 Leverage (as measured by interest cover) level utilities



The above utilities indicate that private equity practitioners prefer a mid-level of leverage in portfolio companies with a negative disposition towards too low levels of leverage and the greatest aversion to high levels of leverage.

5.3.2.8 Management incentives

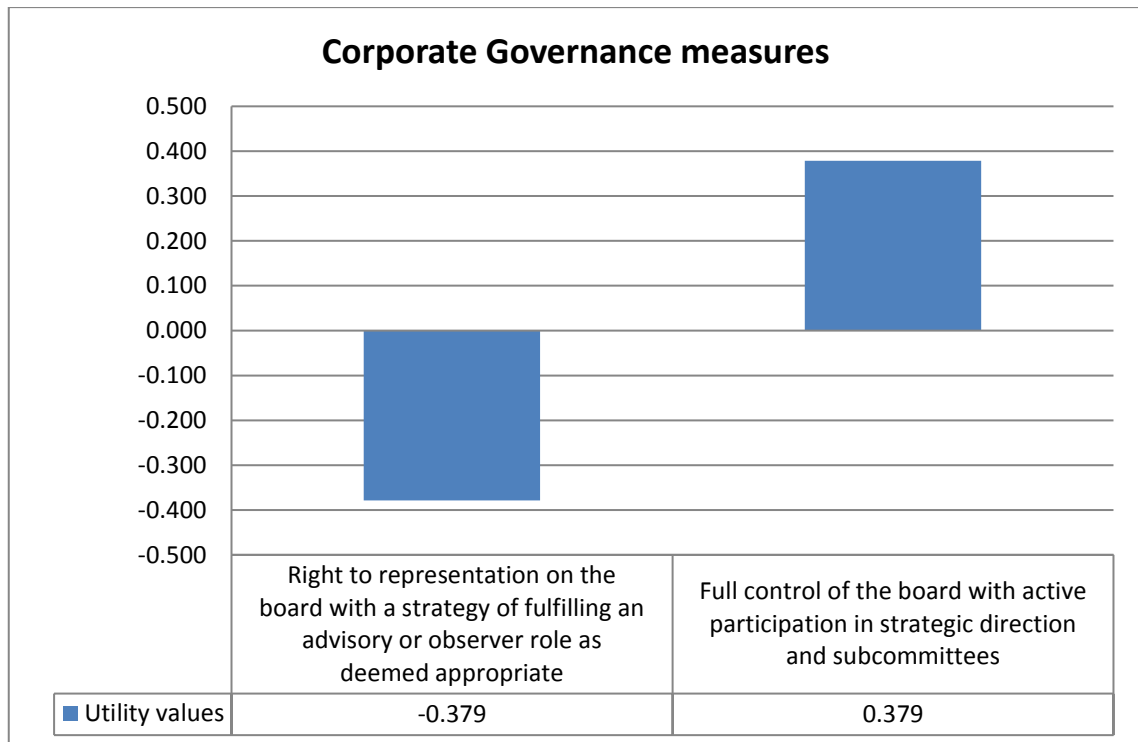
Figure 17 Management incentives level utilities



Although no linear upward trend is evident from the responses, the utilities indicate that private equity practitioners prefer greater equity participation by the executive management team with a level of 18% being the most preferred.

5.3.2.9 Corporate Governance measures

Figure 18 Corporate governance measures level utilities



With only two levels, the Corporate Governance structures preferred by private equity practitioners is to take full control of the board rather than just have representation thereon.

5.4 Reliability and Validity

5.4.1 Hold-out cards

Hold-out cards were included as part of the questionnaire, but were determined separately from the 20 full profile cards generated by the fractional factorial design of the conjoint analysis software. Hold-out approaches are commonly used to test the accuracy with which a model predicts outcomes (Millson & Ward, 2005) and therefore its reliability.

Two cards were included, one representing a most attractive scenario and the other a least attractive option. The levels were inferred from the literature review to formulate each profile card as follows:

Table 2 Hold-out card profiles

Attribute level	Profile card 21: Most desirable	Profile card 22: Least desirable
Quality of Management	Combine incumbent executive team with external appointments, including subject matter experts, to create team with relevant industry and market expertise	Completely change the executive team with external appointments, including subject matter experts, to create a team aligned to private equity objectives and relevant industry and market expertise
Free Cash Flow improvements	>15% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies	<10% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies
Valuation (multiple expansion)	>20% increase in EV/EBITDA multiple driven by negotiation, market conditions or improved business case	No reliance (0%) on increase in EV/EBITDA multiple driven by negotiation, market conditions or improved business case
Asset efficiency (ROA growth)	>15% growth in ROA attributed to either sales of non-core assets or optimisation of assets	< 10% growth in ROA attributed to either sales of non-core assets or optimisation of assets
Profitability enhancement strategies	Absolute and EBITDA margin growth driven by a combination of sales growth and a cost reduction and corporate restructuring strategy	EBITDA margin growth driven by a cost reduction and corporate restructuring strategy
Corporate Governance measures	Full control of the board with active participation in strategic direction and subcommittees	Right to representation on the board with a strategy of fulfilling an advisory or observer role as deemed appropriate
Exit strategy options	IPO	Secondary sale
Management incentives	Total of 15% equity ownership, however structured or obtained, of	Total of 20% equity ownership, however structured or obtained, of

	which 5% to CEO with a further 10% to other executives	which 10% equity to CEO and 10% to other executives
Leverage (interest cover ratio)	Interest cover ratio < 1.5x of EBITDA/interest payments	Interest cover ratio > 2.0x of EBITDA/interest payments

5.4.2 Actual and predicted ratings of the hold-out cards

As the two hold-out cards were included in the questionnaire, respondents rated these cards as part of a full set of 22 cards.

During the data analysis, the hold-out cards were kept aside and the conjoint model developed based on the 20 cards generated by the fractional factorial design of the conjoint analysis software. Utility values determined for each level of each attribute and for each individual provides a regression model based on which the ratings of the two hold-out cards were predicted. The detailed calculations for the predicted ratings are included in Appendix 9: Predicted rating calculations and a summary of predicted and actual ratings for the hold-out cards (Profile 21 and 22, respectively) in Appendix 10: Summary of predicted and actual ratings.

5.4.3 Statistical tests

5.4.3.1 Dependent or paired samples t-test

The purpose of the paired samples t-test is to determine whether any significant differences exist between the mean values of the predicted and actual ratings and the hypotheses as follows:

H_0 : the population mean difference between the paired values is equal to zero;

H_1 : the population mean difference between the paired values is not equal to zero

The above was based on a confidence level of 95% and therefore a p-value < 0.05 indicates a significant level of difference between the paired values.

For each of the profile cards, the paired t-test results were as follow:

Profile 21:

Table 3 Profile 21 - Paired t-test results

t-Test: Paired Two Sample for Means		
	<i>Actual ratings</i>	<i>Predicted rating</i>
Mean	6.86	6.36
Variance	3.36	5.56
Observations	14	14
Pearson Correlation	0.50	
Hypothesized Mean Difference	0	
df	13	
t Stat	0.86	
P(T<=t) one-tail	0.20	
t Critical one-tail	1.77	
P(T<=t) two-tail	0.40	
t Critical two-tail	2.16	

The two-tailed p-value for Profile 21 is 0.40, which is greater than 0.05. The test therefore failed to reject the null hypothesis which indicates that there is no significant difference between the predicted and actual ratings for Profile 21.

Profile 22:

Table 4 Profile 22 - Paired t-test results

t-Test: Paired Two Sample for Means		
	<i>Actual ratings</i>	<i>Predicted ratings</i>
Mean	4.07	3.13
Variance	2.99	4.12
Observations	14	14
Pearson Correlation	0.76	
Hypothesized Mean Difference	0	
df	13	
t Stat	2.65	
P(T<=t) one-tail	0.01	
t Critical one-tail	1.77	
P(T<=t) two-tail	0.02	
t Critical two-tail	2.16	

The two-tailed p-value for Profile 22 was 0.02, which is smaller than 0.05. Accordingly, the null hypothesis is rejected and the alternative hypothesis is accepted. This indicates that there is a significant difference between the predicted and actual ratings for Profile 22.

5.4.3.2 Regression analysis

The regression analysis between the predicted and actual ratings had the purpose of determining the correlation coefficient and R-squared values to be able to assess the predictive accuracy of the model.

Profile 21:

Figure 19 Profile 21 - Regression: Line fit plot

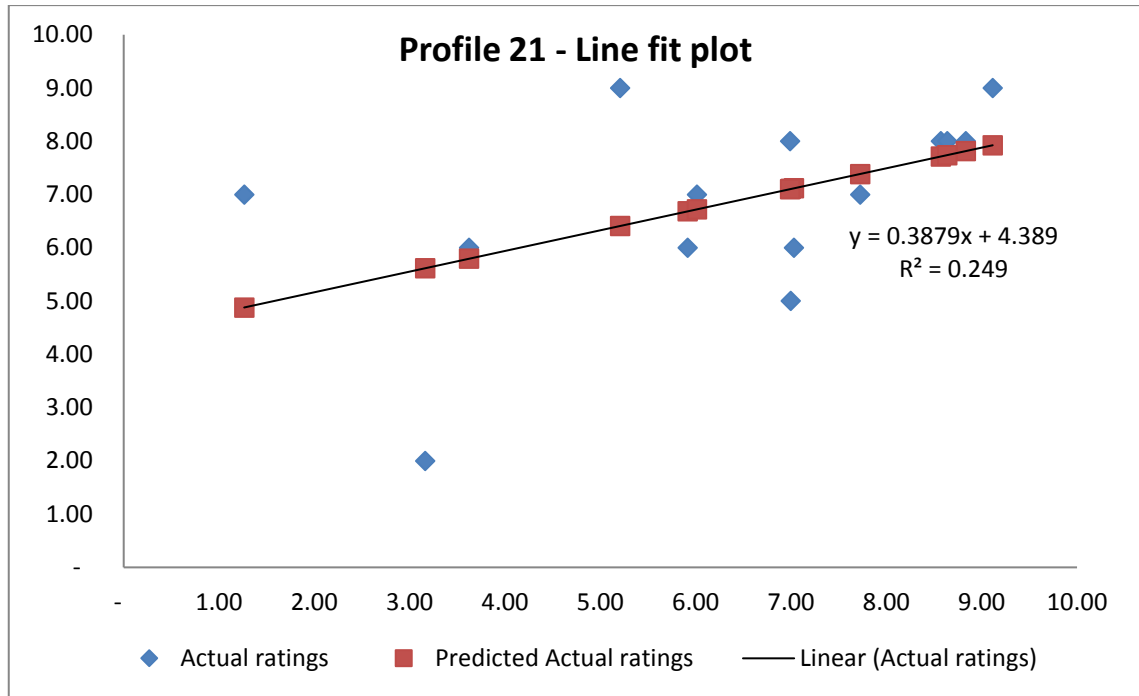


Table 5 Profile 21 - Regression statistics

<i>Regression Statistics</i>					
Multiple R	0.50				
R Square	0.25				
Adjusted R Square	0.19				
Standard Error	1.65				
Observations	14				
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	10.87	10.87	3.97	0.07
Residual	12	32.84	2.74		
Total	13	43.71			

The above diagram and table indicate the following for Profile 21:

- The correlation coefficient between the Predicted and Actual ratings is 0.50, which indicates a moderate positive correlation between the predicted and actual ratings (Wegner, 2012);

- The regression model shows an R-squared value of 0.25 (or 0.249 per the trend line), which indicates that only 25% of variances in the rating are explained by the model. Further notable is a 0.19 value for the Adjusted R-squared, which takes into consideration the independent variables that actually affect the model and indicates the degree of association. These statistics indicate a weak association between the predicted and actual ratings, and therefore the conjoint regression model (Wegner, 2012);
- The Significance F value (or p-value) of 0.07 is more than 0.05 (based on a 95% confidence level), which indicates that the model is not a good fit for the data.

Profile 22:

Figure 20 Profile 22 – Regression: Line fit plot

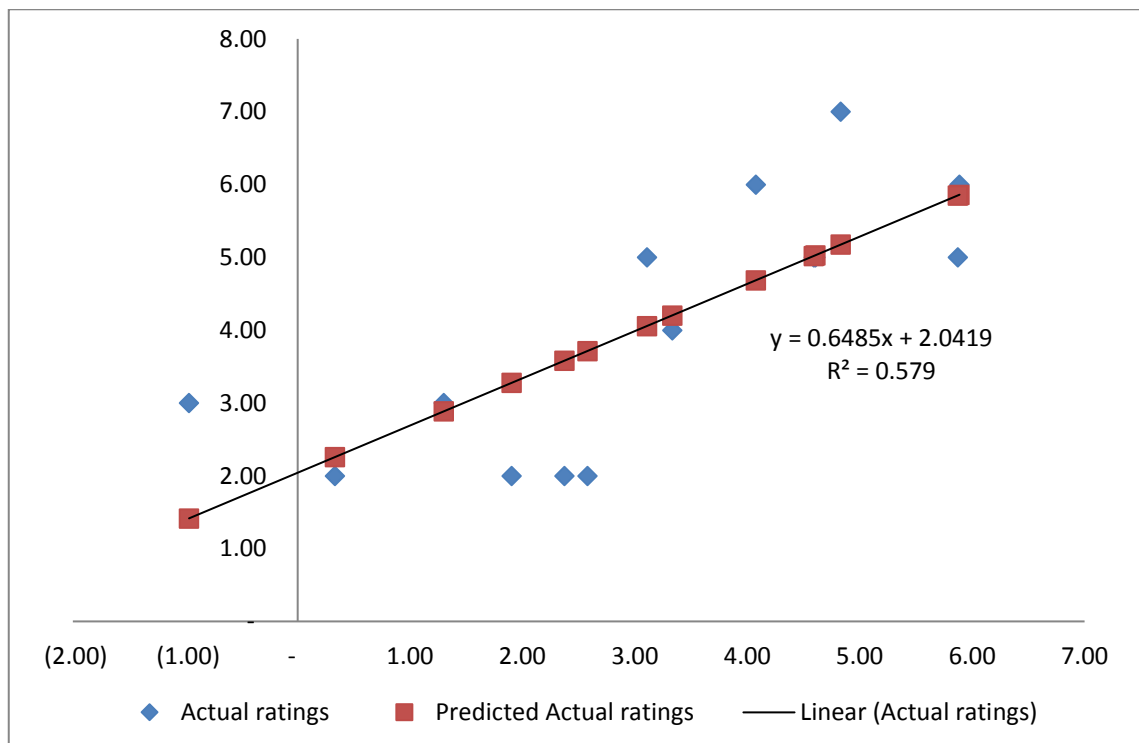


Table 6 Profile 22 - Regression Statistics

<i>Regression Statistics</i>					
Multiple R	0.76				
R Square	0.58				
Adjusted R Square	0.54				
Standard Error	1.17				
Observations	14				
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	22.55	22.55	16.52	0.00
Residual	12	16.38	1.37		
Total	13	38.93			

The above diagram and table indicate the following for Profile 22:

- The correlation coefficient between the Predicted and Actual ratings is 0.76, which indicates a moderate to strong positive correlation between the predicted and actual ratings (Wegner, 2012);
- The regression model shows an R-squared value of 0.58 (or 0.579 per the trend line), which indicates that 58% of the variances in the rating are explained by the model. Together with an Adjusted R-squared value of 0.54, this implies a moderate association between the predicted and the actual ratings, and therefore the conjoint regression model (Wegner, 2012);
- The Significance F value (or p-value) of 0.00 is less than 0.05 (based on a 95% confidence level), which indicates that the model is a good fit for the data.

6 Chapter 6: Discussion of Results

6.1 Introduction

Chapter 6 discusses, analyses and interprets the results of the mixed-method research approach described in Chapters 4 and 5. Firstly, the outcomes of the qualitative phase during which the constructs identified from the literature review were verified and tested during exploratory interviews and a pilot study will be reviewed. Secondly, the main objectives of the research to develop quantitative measures for both the relative importance of value creation features as well as preferred levels of such features will be discussed. The findings will be linked back to the motivation and objectives as proposed in Chapter 1 and literature reviewed in Chapter 2 and discussed in order of the research questions defined in Chapter 3.

6.2 Qualitative phase

The main purpose of the qualitative phase has been to enhance the validity of the study by ensuring that respondents are presented with real-life decision scenarios (Shepherd & Zacharakis, 1999). The value of feedback gained from qualitative methods lies in the richness of information that enhances quantitative methods, such as conjoint analysis, and ensures that what is intended to be measured is what actually gets measured (Boesch et al., 2013; Saunders & Lewis, 2012; Shepherd & Zacharakis, 1999).

6.2.1 Feedback regarding the value creation features and levels identified in the literature

6.2.1.1 Feedback and overview of the main value creation themes

The literature reviewed identified three major streams that contribute to value creation in private equity investments. Traditional contributors to value creation that are typically measured because of their quantitative nature include the financial considerations (as defined for purposes of this research) of leverage and multiple expansion on the one hand and operating improvements comprising Sales growth and EBITDA margin enhancements, Free Cash Flow improvements and ROA growth on the other hand (Acharya et al., 2013; Guo et al., 2011; Puche et al., 2015; Vester, 2011). The exit decision was grouped as a financial lever as its importance lies in the ability to realise the value created in the underlying investment. The third, but more qualitative of nature, construct refers to management and private equity firms' abilities to choose, structure, incentivise and manage the relationship with the executive team of underlying portfolio investments. The ability to select a quality management team, incentivise them appropriately and actively manage the relationship through suitable corporate governance arrangements has been argued to form the management platform that drives value creation strategy and therefore the successes of private equity (Barber & Goold, 2007; Gompers et al., 2015a; Jensen, 1989; Kaplan & Strömberg, 2009; Millson & Ward, 2005).

The exploratory discussions with the expert panel confirmed the broad categories of management, financial and operational value creation considerations as

highlighted above. It is mainly in the composition of the underlying levels that suggestions for refinement were made, which were incorporated in the wording of the level descriptions.

6.2.1.2 Review of feedback on the Management levers

In terms of the management level, suggestions were made with regard to the composition of the management team and management incentives. The suggested addition of Subject Matter Experts to the management teams of portfolio companies does not seem to fall outside the approach of private equity firms to appoint external parties to define and monitor value creation strategy in these investee firms (Barber & Goold, 2007; Gompers et al., 2015a) and was therefore accepted without objection.

The expert panel's views on management incentives, however, seemed to imply a much more complex and comprehensive field of study that could not be fully incorporated at the high level of this research. It was, however, acknowledged that such incentives mainly vested in the executive team as the drivers of strategy and although it could encompass various structures, the purpose is to ensure alignment of interests and motivation of the top management team (Gompers et al., 2015a; Guo et al., 2011; Kaplan & Strömberg, 2009; Vester, 2011).

6.2.1.3 Review of feedback on the Financial levers

In terms of financial considerations, the discussions revealed that compensation for illiquidity of a private investment and the relevance of multiple expansion as a pre-defined objective rather than a post-hoc result to create value should be considered.

In terms of compensation for illiquidity, the nature of private equity investments may imply that fund investors will require a higher return due to the implicit illiquidity of their investment. However, the literature was found to refer to such valuation implications more at a secondary level and there was contradictory evidence of valuation discounts on the one hand and premiums on the other (Acharya et al., 2013; Guo et al., 2011). It is contended that this aspect can be considered at both a fund and an underlying investment level; at the fund level, the outperformance of private equity investments compared to public market equivalents has indicated that private equity has been successful in producing greater returns than could be achieved in public markets (Appelbaum & Batt, 2012; Harris et al., 2014; Lopez-de-Silanes et al., 2015; Puche et al., 2015), which could be reflection of required illiquidity premiums. At an underlying investment level, it is argued that any illiquidity discounts would be reflected in the negotiated valuation of an investment, which for purposes of this research is measured based on the multiple expansion that can be achieved. This measure is commonly used to reflect quantitative contributors to private equity returns (Guo et al., 2011; Puche et al., 2015; Vester, 2011).

Interestingly, the second suggestion from the expert panel specifically criticises multiple expansion as a value creation strategy, contending that the focus is on EBITDA growth and that multiple expansion is a secondary consideration. It is argued, however, that as an estimated 15% contributor to returns, multiple expansion has been shown to have a significant role in the value creation process and appears to be the most appropriate valuation measurement for the purposes of this research (Puche et al., 2015; Vester, 2011). Notwithstanding, a level that

acknowledges no reliance on multiple expansion was included to take into consideration the suggestion as it also finds support in the literature (Appelbaum & Batt, 2012).

6.2.1.4 Review of feedback on the Operational levers

In terms of operational improvements, suggestions were made relating to corporate restructuring, profitability enhancement strategies and the role of net working capital efficiencies.

In terms of corporate restructuring, the discussion revealed that such practices were commonly applied and often reaped significant value in underlying investments. However, the corporate restructuring field was explained to be extensive in terms of the structures and disciplines where it can be applied in an organisation and had not been specifically identified as an independent contributor to value creation in the literature. For purposes of this research, it was contended that such practices could be deemed to enhance the structural efficiency of the organisation and would be adequately reflected in the profitability enhancement strategy identified for the company. Accordingly, it was included as an underlying driver to EBITDA margin improvements.

Furthermore in discussing the initial levels identified for profitability enhancement, which included different growth percentages for EBITDA margin growth as defined by sales growth, cost reductions or a combination of these factors, the expert panel suggested that it was common to follow one of the underlying strategies exclusively, in particular, a pure sales growth strategy. The researcher

had identified at the start of the research that this feature could be defined in either a quantitative or qualitative manner, but decided at the time to define it in a quantitative manner as detailed in Appendix 2: Proposed value creation levers and corresponding levels. Based on the exploratory discussion, the descriptions were redefined to qualitative levels which were still in line with the profitability drivers found in the literature (Acharya et al., 2013; Guo et al., 2011; Kaplan & Strömberg, 2009; Puche et al., 2015; Vester, 2011) and refocused to ascertain the preferred strategies that private equity practitioners follow rather than target percentage gains.

Finally, in respect of net working capital efficiencies; it is acknowledged that unlocking cash flow through more efficient working capital management is a value driver in general corporate finance, but it is also successfully practiced in private equity investments in their operating improvement strategies which have shown outperformance (Guo et al., 2011; Puche et al., 2015; Rappaport, 2006). Even though such efficiencies can be argued to be reflected in profitability ratios and ROA (Ward & Price, 2006), its inclusion was made as an underlying determinant of the percentage levels of Free Cash Flow improvements as a result of the discussion that such efficiencies free up cash.

6.2.1.5 Review of general comments

An additional comment from the expert panel emphasised the need to discuss the difference between value creation levers in general corporate practice vis-à-vis private equity practices. To this extent, Chapters 1 and 2 aimed to describe the successes of private equity in outperforming public market equivalents and

the sources that underpinned this outperformance (Harris et al., 2014; Lopez-de-Silanes et al., 2015; Puche et al., 2015; Vester, 2011). It is argued that the evidence of this outperformance indicates that private equity practitioners are doing something differently compared to general corporate practice.

It was further shown in the literature review that the traditional financial value drivers that were associated with private equity, being mechanical levers of high leverage structures and multiple expansion have waned in importance with operational improvements becoming more prominent (Appelbaum & Batt, 2012; Puche et al., 2015). This evolution highlights the area of interest as these firms have shown abilities to build their competencies and resource-bases in general areas of corporate value creation, while continuing to deliver outperformance. However, underlying these contributors to financial and operational value creation remain the distinct active and incentivised management and efficient corporate governance models which have been the defining characteristics of private equity since its emergence (Jensen, 1989; Kaplan & Strömberg, 2009; Klein et al., 2012).

6.3 Quantitative phase

The quantitative results will be discussed in line with the sequence used in the literature review starting with Management levers and followed by Financial levers and then Operational levers. Each main section will then discuss both the relative importance of the value creation features in order of importance as found in the results in section 5.3.1 and the related preferences for the underlying levels

of each feature. A full list of the mean utility values in order of greatest to least preference is included in Appendix 11: Level utility values in order to preference.

6.3.1 Management levers

A combined utility value of the underlying features of the Management lever as found in the results in section 5.3.1 places the collective management features as the second most important category in creating value with an aggregated mean value of 33.69% (proportionate median value of 32.83%). Notwithstanding this confirmation of the importance of the role of management in private equity portfolio companies, the values for each respective feature have to be considered independently as discussed below.

Although less quantified possibly due to the qualitative nature of management determinants, the importance of management and the central and distinct abilities of private equity in putting together executive teams as well as the incentive and governance structures that motivate, support and discipline such teams are widely supported in the literature with grounding found in theories of the principal-agent relationship and asymmetric information (Gompers et al., 2015a; Guo et al., 2011; Jensen, 1989; Kaplan & Strömberg, 2009; Klein et al., 2012; Millson & Ward, 2005; Vester, 2011). Accordingly, the strongly perceived importance attributed to the combination of Management attributes by private equity practitioners in this study appears to reflect what has been qualitatively argued in academic research.

6.3.1.1 Quality of the management team

The results in section 5.3.1 indicate that the quality and composition of the management team is the single most important factor in value creation practices at 16.59% (or 17.28% based on proportionate median value) against the other eight attributes.

Vester (2011) found significant value creation potential and shorter holding periods when private equity firms selected the right management team. In addition, Millson and Ward (2005) found support for the quality of a management team as the single most important factor in a similar conjoint analysis study focused on corporate governance measures practiced in private equity. The importance of the management team as drivers of value creation strategy is clear and perceptions in this study appear to be aligned to academic research.

The prominence of the composition of the management team finds support in the literature indicating that supporting the incumbent management team had the greatest potential for value creation and was the preferred option (Gompers et al., 2015a; Vester, 2011). In terms of this research, section 5.3.2.1 indicates respondent partialities toward an incumbent management team (utility value of + 0.418), but even more so toward a combination of incumbent and externally appointed management members (utility value of +0.501), and a strong negative disposition toward an entirely new management team (utility value of - 0.919). This partially reflects the abovementioned literature in support of an incumbent team. However, it is commonly found that private equity investors change management teams to include their own appointees to ensure strategy and

interest alignment (Gompers et al., 2015a; Guo et al., 2011; Kaplan & Strömberg, 2009; Vester, 2011). Accordingly, the findings from this research do not appear to be significantly out of line with academic research.

6.3.1.2 Management incentives

The role of management incentives has been central to the private equity model with it often discussed as a financial engineering mechanism to enhance performance through alignment of management and investors' interests (Gompers et al., 2015b; Jensen, 1989; Kaplan & Strömberg, 2009).

For the purposes of this research management incentives have been interpreted as a motivational factor that influences management behaviour rather than financial considerations, and therefore it is categorised under the Management lever. The mean utility value for Management Incentives places it in second last place, representing 9.49% in terms of relative importance as perceived by private equity practitioners (or 8.77% on a proportionate median basis). The low relative importance attributed to such a cornerstone of private equity as professed in academic literature could be explained by comments made during the exploratory interviews that management incentivisation is a much broader and complex field. As a result, it may be that the defined feature and underlying levels did not adequately reflect the structures and principles practiced in private equity and therefore respondents could not appropriately evaluate the option.

In terms of the preferred feature levels, the results in 5.3.2.8 indicate that respondents had a preference for an 18% equity ownership (utility value of

+0.096) by top management and less, but still positively so, at a 20% level (utility value of +0.059). It is interesting that the least level of equity ownership of 15% found no support (utility value of -0.156). Accordingly, the most preferred level is proximate to upper levels found in the literature reviewed, but more interestingly is that a greater amount rather than a smaller amount of equity ownership is supported compared to the literature where smaller amounts have predominated (Gompers et al., 2015a; Guo et al., 2011; Kaplan & Strömberg, 2009).

6.3.1.3 Corporate Governance measures

As a cornerstone of the private equity model in addressing the agency problem often found in corporate organisations, the active management and control that private equity firms exert over portfolio management teams through effective governance structures have been broadly covered in the literature (Gompers et al., 2015b; Guo et al., 2011; Kaplan & Strömberg, 2009; Millson & Ward, 2005). By using board structures and requiring significant representation, private equity firms ensure that they are in a position to effectively influence strategy (Gompers et al., 2015a; Guo et al., 2011; Millson & Ward, 2005).

It is therefore surprising that the relative importance attributed to corporate governance measures as reflected in section 5.3.1 places it as the least most important feature out of 9, representing 7.61% (and similarly 6.78% on a proportionate median basis). In the absence of qualitative commentary, possible explanations for this low perceived importance could be that these structures have become “espoused” and practiced as a matter of course or that it only forms

part of a combination package of all the management elements that together provide the necessary drivers needed to execute a value creation strategy.

Furthermore, the preferred level results in section 5.3.2.9 indicate a clear partiality towards a structure of full control of the board (utility value of +0.379) and an equally negative partiality towards an advisory or observer role on the board. Even though only two levels were presented to respondents, the results show a clear indication that private equity practitioners deem active control of the board to be important, which is aligned to the literature discussed above. Interesting is that a comparison of attribute level means shows that full control of the board is a major contributing utility value, which in terms of the regression equation will contribute a higher value to a predicted rating than the majority of other feature levels.

6.3.2 Financial levers

Together with active management through effective governance measures and aggressive management incentivisation, mechanical financial engineering has defined private equity since its emergence (Gompers et al., 2015a; Jensen, 1989; Kaplan & Strömberg, 2009). It has been found to be a significant contributor to value creation, despite the fact that its contributions have deteriorated over time compared to operational improvements (Puche et al., 2015; Vester, 2011).

The combined value of the financial features in section 5.3.1 indicates that respondents perceived 32.27% (or only 32.49% on a proportionate median basis) of value creation to be related to these features. To place this value in the context

of previous research that has focused on the quantitative measures relating to financial and operational engineering exclusively (therefore management features were not quantified), the recomputed figure indicates that financial levers are perceived to contribute 48.66% (48.37% on a proportionate median basis) of value created in underlying investments, which appears to be in line with attribution studies reviewed in the literature in section 2.2.1 (Puche et al., 2015; Vester, 2011). Any lesser comparative contributions from individual financial levers could potentially be explained by less friendly debt and equity capital market conditions in the region, which find theoretical rationalisation in the literature (Axelson et al., 2013; Hoskisson et al., 2013). However, this research has added the qualitative considerations of exit strategy options to the combination which has not been quantitatively measured in such a manner before and introduces a different mix of financial factors for private equity practitioners to contemplate in one set of decision-making variables.

6.3.2.1 Exit strategy options

The exit in private equity is the critical liquidity event at a given point in time through which private equity investors will seek to realise and maximise the value of their investment. Although the decision is of a qualitative nature and its contribution is not quantified in the literature reviewed, it is considered to form part of the realisation of value which could be reflected in the combination effects found to be between 6% and 7% (Puche et al., 2015; Vester, 2011). Section 5.3.1 shows that exit options were rated fourth, representing 11.32% of the total (or third with 11.75% on a proportionate median basis). If comparing it to the combination effect figures stated above, it seems notably higher. However, in

the absence of a true comparative figure, it is interesting that the exit strategy is deemed to be the most important financial feature ahead of valuation and leverage considering that it has not been quantified in such a manner and related to the other qualitative and quantitative factors in the previous studies reviewed.

In terms of the preferred routes of exit in section 5.3.2.4, IPOs are viewed negatively (utility value -0.160), while trade sales are the clearly preferred choice (utility value of +0.096), and secondary sales a positive mid-preference (utility value of +0.064). The positive disposition towards secondary sales appears to be in line with the academic findings of Jenkinson and Sousa (2015). However, contradictory findings indicate that the preferred option may be situation- and market-specific and could vary in different environments (Axelson et al., 2013; Kaplan & Strömberg, 2009; Vester, 2011), therefore explaining why trade sales have a stronger preference in the context of this study's respondents.

6.3.2.2 Valuation as measured by multiple expansion

The objective of maximising an investment's valuation growth between entry and exit is well covered in the literature in sections 2.3.2.1, 2.3.2.4 and 2.3.2.5 with multiple expansion used as a measure in several studies (Acharya et al., 2013; Gompers et al., 2015a; Guo et al., 2011; Vester, 2011). The results in section 5.3.1 rank the feature as the fifth most important, representing 11.27% of the total (although slightly higher at 4th place and representing 11.69% on a proportionate median basis). Compared to findings that multiple expansion and related combination effects can add between 15% and 23% to the total value created by financial and operational improvements as discussed in section 2.2.1 (Puche et

al., 2015; Vester, 2011), the figure appears consistent with these findings, particularly if recalculated on a comparative basis which reflects a contribution of approximately 17% on both a mean and median basis.

In terms of different levels, section 5.3.2.5 indicates that an optimal level of multiple expansion is 10% (utility value of +0.211), while no multiple growth (utility value of -0.094) or in excess of 20% growth (utility value of -0.117) are viewed negatively. The indicator is interesting as one would expect that private equity practitioners would generally aim to maximise multiple growth, which would be in line with academic findings showing evidence in excess of 20% (Acharya et al., 2013).

6.3.2.3 Leverage as measured by interest cover

As a one third contributor to value created in the context of financial and operational improvements, leverage has remained an important value engineering lever in private equity (Puche et al., 2015; Vester, 2011). Section 5.3.1 indicates a surprising position for this lever as it is considered to be the third least important feature, representing only 9.67% of the total (or even lower at 9.04% on a proportionate median basis). When recalculated to a comparative figure, its perceived contribution to value created is only deemed to be 14.58% (or 13.46% on a median basis) of financial and operational levers, significantly lower than the one third found in academic literature. Although no direct explanation was obtained as part of this study, theoretical underpinnings in section 2.3.2.4 of market timing and resource dependency give a clear indication that leverage would be more conservative in challenging debt and equity capital

environments (such as the African region) and therefore not as aggressively pursued as an important driver in the creation of value (Axelson et al., 2013; Hoskisson et al., 2013).

In terms of the levels of leverage in section 5.3.2.7, private equity practitioners preferred an interest cover ratio ranging between 1.5 times and 2.0 times (utility value of +0.406), which is the mid-level in the defined levels and in line with academic indications of 1.87 times (Guo et al., 2011). Both the lower level of greater than 2.0 times interest cover (utility value of -0.164) and the upper level of less than 1.5 times (utility value of -0.242) were viewed negatively. The greater negative value for a higher leveraged structure could be explained to indicate the cautious approach to high leverage due to the challenging capital market conditions mentioned above.

6.3.3 Operational levers

The role of operational factors in creating value in private equity has become more important over time as it became more difficult to achieve gains from mechanical financial engineering in hostile capital markets (Hoskisson et al., 2013; Puche et al., 2015). This evolution finds support in theories of resource dependency and resource-base which indicate that changes in the external environment will urge firms to reposition their external relationships while adapting and developing their platform of resources and competencies to remain competitive (Hoskisson et al., 2013; Prahalad & Hamel, 1990).

The combined value of the operational factors in section 5.3.1 indicate that these features are perceived to contribute 34.04% (or 34.68% on a proportionate median basis) to value creation in underlying portfolio investments. As a recomputed comparative figure of 51.34% (or 51.63% on a median basis) of financial and operational features, contributions from operational improvements appear to be approximate to findings reviewed in the literature in section 2.2.1 (Puche et al., 2015; Vester, 2011). In the absence of further qualitative investigation and with a lack of Africa region-specific research (Lingelbach, 2012), it is not clear whether this alignment is due to private equity practices following international trends or whether external environmental conditions in the region have always required a strong emphasis on operational improvements (Axelson et al., 2013; Puche et al., 2015).

6.3.3.1 Profitability enhancement strategies

The contribution of EBITDA, whether through sales growth or margin enhancement, has been used extensively to explain value creation in private equity investments (Acharya et al., 2013; Kaplan & Strömberg, 2009; Puche et al., 2015; Vester, 2011). Attribution research has indicated levels of between 30% and 40% for EBITDA effects' contribution to value created (Puche et al., 2015; Vester, 2011). Section 5.3.2.2 shows this feature as the second most important feature with 12.40% (13.85% on a proportionate median basis) relative to the other features. Based on a recomputed comparative figure of 18.7% (or 20.63% on a median basis), it appears that the perceptions of private equity practitioners differ significantly from previous research. However, as the second-

most prominent feature, the importance of profitability enhancement strategies in value creation is confirmed.

Furthermore, this research has added and redefined the features that make up operational improvements to include ROA growth and changes to some of the underlying explanatory drivers and levels compared to previous studies which may affect the comparative value thereof. However, at a higher level, the combination of operational features still adds up to levels that are still comparative to the research reviewed. In addition, it is suggested that operational improvements may have more dimensions than had previously been reported, specifically considering the significant importance that has been attributed to each of the underlying features.

In terms of the underlying levels, quantitative definitions were replaced by qualitative strategy descriptions based on feedback from the exploratory interviews. The results in section 5.3.2.2 indicate that the least preference was for a pure EBITDA margin improvement strategy through cost reductions and corporate restructuring (utility value of -0.200), whereas a pure sales growth strategy received slight positive support (utility value of +0.016). A combination of a sales growth and EBITDA margin enhancement strategy was the clear preference with a utility value of +0.183. Without further segmentation of the combination strategy, it is unclear whether these results are in line with research that indicates the relative importance of sales growth where it is found to contribute approximately three quarters to value created vis-à-vis one quarter by EBITDA margin effects (Puche et al., 2015; Vester, 2011). In addition, it also

does not confirm the suggestion made during the exploratory discussions that a pure sales growth strategy is commonly found to find preference in practice.

6.3.3.2 Free Cash Flow improvements

Free Cash Flow improvements are primarily explained as the reduction in debt or payment of dividends in the literature reviewed, where it contributes an approximate 11% to 15% to value created (as measured by financial and operational contributors) (Puche et al., 2015; Vester, 2011). For the purposes of this research, net working capital efficiencies were added as an underlying explanatory factor in accordance with suggestions made during the exploratory phase, which may affect the comparative value of the results.

The results in section 5.3.1 place Free Cash Flow improvements as the third most important contributor to value created in private equity investments at 11.75%, but they fall to fifth most important on a median proportionate basis (10.54%), being overtaken by the Exit and Valuation features. If recalculated to a comparative value against financial and operational levers only, Free Cash Flow contributes 17.72% (or 15.70% on a median basis). The comparative figures appear approximate to attributions indicated in the literature, albeit at the higher end.

In terms of the defined levels, a clear trend is evident from the results in section 5.3.2.3 in that preferences lie in maximising the Free Cash Flow improvements with less than a 10% contribution to IRR being perceived negatively (utility value of -0.286), between 10% and 15% finding small positive support (utility value of

+0.023) and more than 15% being the clear level of preference (utility value of +0.263). The level of 15% is in line with attribution studies, but tends to be at the high end (Puche et al., 2015; Vester, 2011). Accordingly, both the perceived importance and levels preferred for Free Cash Flow improvements are similar to those found in the literature.

6.3.3.3 Asset efficiency as measured by ROA

Attribution studies have typically defined operational contributors to value as EBITDA (comprising Sales and margin effects) and Free Cash Flow improvements, which therefore lacked comparative figures for ROA growth contributions to value (Puche et al., 2015; Vester, 2011). However, Guo et al. (2011) also investigated the growth aspects of ROA, but did not provide a proportional contribution to operational or total returns. Section 5.3.1 indicates that asset efficiency is perceived to be the sixth most important feature with 9.89% (9.04% on a proportionate median basis) attributed to its contribution to value creation in private equity investments. The results are interesting from the perspective that asset optimisation and sale of non-core assets are practices generally known to be drivers of returns on equity in corporate finance (Ward & Price, 2006), but its relative importance has not been considered jointly with Free Cash Flow and EBITDA considerations in private equity before.

Section 5.3.2.6 indicates a similar trend for asset efficiency as measured by ROA to that found for Free Cash Flow improvements; a strong negative disposition in respect of the lowest level being less than 10% ROA growth (utility value of -0.430) towards a mid-positive value between 10% and 15% ROA growth (utility

value of +0.197) and the preferred option being greater than 15% growth (utility value of +0.233). The literature reviewed provided limited comparative figures, but the positive mid-level value is the nearest to the academic findings. However, due to the objective of this study being focused on gaining the perspectives of practitioners rather than a post-hoc analysis of results, it is not unreasonable to expect that a maximum ROA growth objective would be preferred compared to lower levels.

6.4 Validity and reliability

6.4.1 Sample size

In conjoint analysis literature, researchers acknowledge that a sample of one is sufficient to establish statistical significance, but that a sample larger than 60 is needed to generalise the findings to the population. It is also recognised that a smaller sample may be suitable where populations are difficult to access or unwilling to participate (Shepherd & Zacharakis, 1999). However, how small such a sample can be is not suggested, but it is indicated that the number and complexity of conjoint tasks as well as the experimental model and utility approximation also play roles in how effectively the information and objectives of the study can be extracted from the data collected (McCullough, 2002).

In this research study, a very small sample of only 14 respondents was achieved (with the two pilot study and one field study response excluded to maintain the integrity of the research objectives). Accordingly, the validity and reliability of the study are under threat and generalisation to a broader population may not be possible. However, in anticipating a potential small sample due to the problems

of access to practitioners in the industry, the researcher contends that several factors, in line and complementary to the issues discussed in section 4.1.5, in the design and analysis of the study have been applied to enhance the internal and external validity as well as its reliability. Firstly, a mixed-method approach was taken to define, explore and test the constructs during a qualitative phase preceding the field study and quantitative analysis so as to ensure its relevance in practice. Secondly, the complex nature of the study as a result of both the complexity of the underlying constructs, the number of features and feature levels and resulting high number of profile cards enabled the researcher to gain richer information, albeit from a small sample. Thirdly, the highly specialised nature of the industry of focus provided input from individuals with specialised experience and expertise in these complex issues. Fourthly, the researcher attempted to broaden the sample so as to at least represent a range of funds of various sizes, investment focus and experience in the African region, but limited to a base in South Africa. Finally, to test the predictive precision of the study, two hold-out tasks were included, which provided a check for validity and reliability of the study.

Notwithstanding the above measures, the small sample may have had an effect on validity, the results of the data analysis and reliability of the study.

6.4.2 Hold-out cards

Two hold-out cards were included in the study to determine the predictive precision of the research based on the regression model derived from the conjoint

analysis, which measure has been found to be effective in previous studies (Millson & Ward, 2005).

In analysing the predicted vis-à-vis actual responses of the hold-out cards as set out in section 5.4.3.1, paired t-tests of the two respective hold-out cards indicated no significant difference for the ideal scenario (Profile 21), whereas there was a significant difference for the worst-case scenario (Profile 22). A regression analysis of each scenario revealed a weak positive correlation and relationship between the predicted and actual ratings for the ideal scenario (Profile 21), but a moderate to strong correlation and moderate association for the worst-case scenario (Profile 22).

The main observations from these statistics are the difference between the results for the ideal and worst-case scenarios and the bad fit of the model to the data for the ideal scenario. It could be interpreted that the model was more accurate in predicting what private equity practitioners do not find desirable in investments rather than what they deem attractive. Considering this outcome, an explanation could lie in observer error (Saunders & Lewis, 2012), whereby it could be that the researcher did not define the ideal scenario appropriately within the specific environmental context of the respondents considering theories that indicate market conditions may affect the strategies that private equity investors follow (Axelson et al., 2013; Hoskisson et al., 2013). However, it is contended that the purpose of the study was exactly to determine the relative importance and preferred features and levels as applied in regional funds, which in turn has been compared to literature findings for more developed markets.

Notwithstanding the above, the positive and moderate correlation and relationship coefficients for the worst-case scenario are encouraging. While the complexity of the design may have affected an accurate formulation of the ideal scenario, positive correlation and relationship coefficients are constructive in determining the decision-making behaviour of private equity practitioners in selecting investments. Finally, the effects of a small and unrepresentative sample that limits the validity and reliability of the study should be noted.

7 Chapter 7: Conclusion

7.1 Introduction

Chapter 7 reflects on the principal findings found in Chapter 5 and discussed in Chapter 6 based on the research questions established in Chapter 3. The research objectives and background are set out below to put the principal findings and implications for management in perspective.

7.2 Research objectives and background

Private equity has been shown to outperform corporate counterparts and it has been contended that its successes have been based on the active management and effective management incentivisation and governance models it applies to drive financial and operational value creation strategies (Jensen, 1989; Kaplan & Strömberg, 2009; Puche et al., 2015).

The objectives of this research study were to identify and develop quantitative measurements to establish the relative importance and preferred levels of different value creation levers in private equity as perceived by practitioners operating on the African continent. In doing so, the study combined both qualitative and quantitative features as drivers of such value creation into full profile scenarios that were presented to private equity practitioners to rate based on the desirability of the profile. As a result, the researcher was able to identify which features such professionals deemed important and which were the levels they preferred. Compared to previous studies, the study therefore did not rely on post-hoc quantitative measures that could be reconciled back to concrete returns,

but also assessed the importance of qualitative factors in the minds of professionals relative to quantitative measures. In addition, as a study focused on South African based funds with operations on the broader continent, the study provided insights into an under-researched region compared to academic research focused on developed countries (Lingelbach, 2012).

7.3 Principal findings

7.3.1 The relative importance of value creation features in private equity

From an overall perspective, aggregated importance utility values provided insight into the categories of value creation that are deemed most important. It is at this global level, that three main findings emerge; firstly, the combined feature values for each of the defined categories were found to represent an approximate third of the perceived value creation contributions with a slight leading position for operational improvements. Secondly, in comparing the results of financial and operational value creation features to the literature reviewed, the perceptions of private equity practitioners seem to support previous research that operational and financial levers are close value creation contenders with operational efforts finding a slight preference in this research. Whether this could be explained theoretically by the general evolution away from mechanical financial engineering towards operational drivers in developed markets or as a static position as a result of different market conditions (Axelson et al., 2013; Hoskisson et al., 2013; Lopez-de-Silanes et al., 2015; Puche et al., 2015), is not clear without further investigation. The third prominent aspect on this level is the actual quantification of previously qualitative aspects of management (as defined for purposes of this research) and the results that the combination of features is

perceived to contribute a notable third to value created in private equity investments. It is argued that such a quantified result gives credence to what has historically been reasoned to be the underlying drivers and facilitators of value creation strategy (Gompers et al., 2015a; Guo et al., 2011; Jensen, 1989; Kaplan & Strömberg, 2009).

At an individual feature level, insightful findings were revealed for each of the value creation categories. In terms of the management level, the Quality of the Management team is known to be an important factor (Millson & Ward, 2005; Vester, 2011), but the clear importance attributed to it discerns to how private equity practitioners consider potential investments. The low level of importance for Management Incentives and Corporate Governance measures shows the structural support these have established for managing the relationship with an executive team rather than being primary drivers of value creation.

On the financial level, a traditionally principal driver of value creation in private equity was deemed to be of low importance; leverage has been *the* mechanical driver of financial returns, but has become less important over time as hostile debt markets made aggressive strategies untenable (Axelson et al., 2013; Hoskisson et al., 2013; Puche et al., 2015). Notwithstanding its waning importance, the findings from this study were surprising in its extent and instead, exit strategy combined with multiple expansion seem to indicate that realising and maximising the exit value has overtaken leverage in prominence when evaluating potential financial value enhancement. Also of interest in this respect is the quantification of the perceived importance of the qualitative feature, exit strategy,

and its clear leading importance in driving financial value. Whether this deemed importance has any relation to illiquid market conditions in the region would be interesting to explore further (Babarinde, 2012; Johnson, 2015).

The noteworthy findings for the individual operational features added further to understanding the aggregated importance that appears to be awarded to this category. Firstly, the prominence of Profitability enhancement strategies and Free Cash Flow improvements were confirmed as major contributors to value creation (Puche et al., 2015; Vester, 2011). Secondly, this research added a feature of ROA growth where operational improvements had traditionally only been measured in terms of EBITDA and Free Cash Flow (Guo et al., 2011; Puche et al., 2015; Vester, 2011). It is argued that the addition of the ROA growth feature has refined the operational contributors to value creation by providing a more comprehensive measurement or attribution. In this context, the relative importance of profitability enhancement strategies was found to be notably lower than historic findings (Puche et al., 2015; Vester, 2011), but it is unclear whether this could fully be attributed to the addition of the ROA growth feature. It is argued that a better understanding and refinement of the core determinants of each feature will be needed to explain these findings.

7.3.2 Preferred levels of value-creation features in private equity

This research set out to determine the preferred levels of value creation by using the literature, which has been primarily focused on developed markets, to define such levels that informed potential decision-scenarios. Even though an exploratory phase was envisaged to verify such levels, the expectation was that

certain contrasts could be encountered due to differences in the external environment and market dynamics of emerging countries as well as the different resource-bases and competencies of private equity firms (Axelson et al., 2013; Hoskisson et al., 2013; Prahalad & Hamel, 1990). The discussion below sets out to describe the most ideal and worst investment scenarios as perceived by respondents.

The most preferred levels indicated that private equity practitioners seek investments that have a management team that comprises a combination of incumbent and externally appointed executives. Such a management team is incentivised at a level of 18% equity ownership of which the CEO owns 8%, while the private equity fund takes full control of the board. Financially, the private equity firm will raise debt for which EBITDA can cover interest between 1.5 times and 2.0 times, while applying strong efforts to expand the EV/EBITDA multiple by in excess of 10% when selling to a corporate. Operationally, the private equity fund will aim to gain more than 15% of its IRR from Free Cash Flow improvements, whilst it will drive growth in ROA to exceed 15% through the sale or optimisation of assets. In terms of profits, the strategy will be focused on a combination of sales growth, cost reductions and corporate restructuring to grow EBITDA.

In terms of the least preferred scenario, private equity funds do not seem to be interested in changing the entire management team or only having representation on the board and deem 15% equity ownership by management as too little. In respect of financial measures, they will take a cautious approach and will not

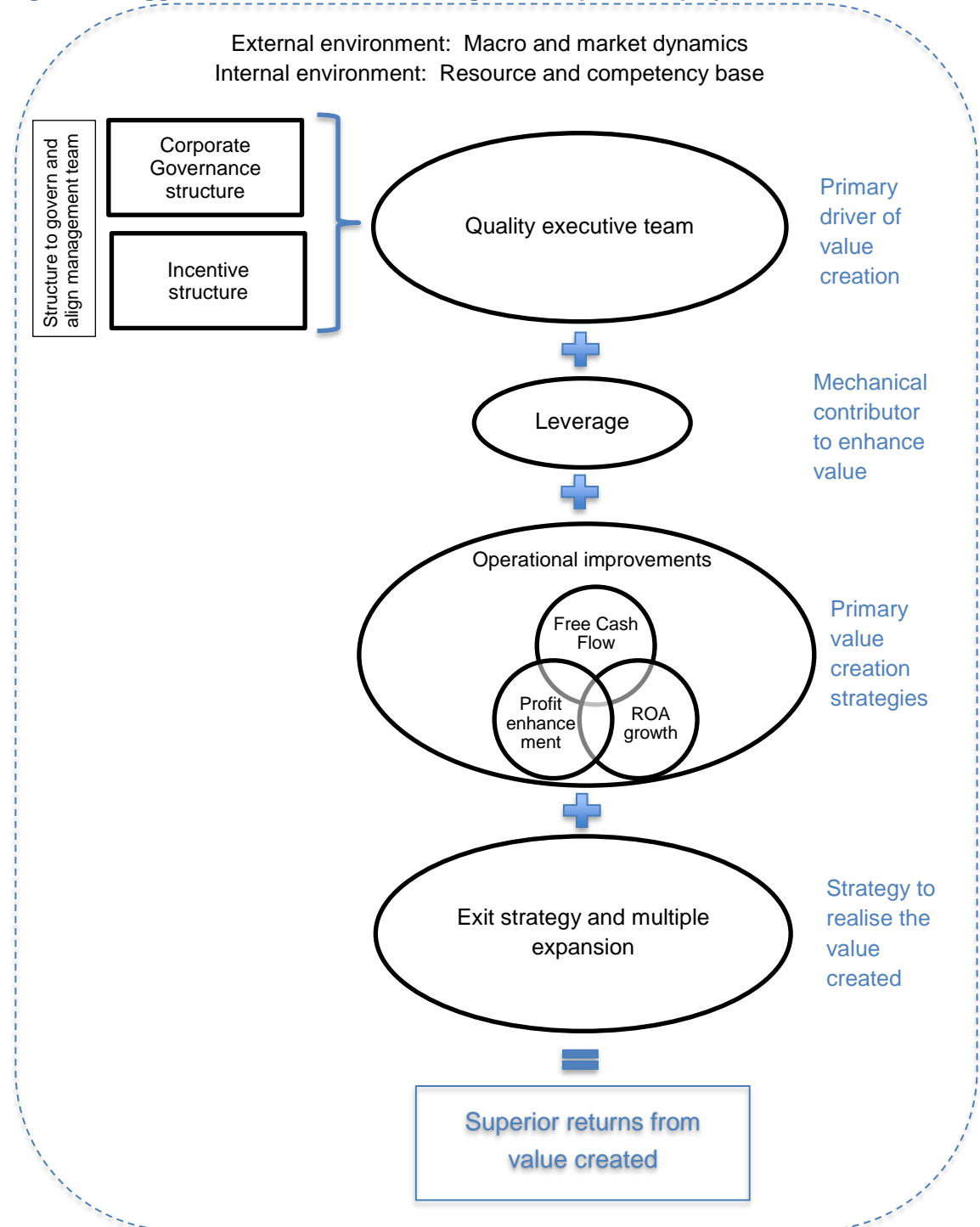
have an appetite for too high or too low leverage. A minimum level of multiple expansion is required, but professionals are also not overly optimistic in their multiple growth expectations. IPO's appear to be the least preferred routes to realise their value; whether this may be due to market-specific conditions is yet to be discovered. Operationally, they appear to expect significant minimum contributions from Free Cash Flow and ROA growth (greater than 15%) and do not support a purely EBITDA margin enhancement strategy that only focuses on cost reduction and corporate restructuring.

When comparing the above preferences to levels defined in the literature, only a few notable differences are found. For instance, where one would expect private equity funds to either minimise a factor to their own benefit (such as management equity ownership) or maximise growth of an aspect to increase return (such as multiple expansion), findings have not corresponded with the literature and the results have indicated a preference for mid-level options. Similarly, leverage level preference was shown to be at the mid-level, but which was comparable to the literature reviewed based on the measurement used (Guo et al., 2011). A preferred exit strategy is dependent on business and market conditions and the literature has indicated a prevalence of different strategies (Axelson et al., 2013; Jenkinson & Sousa, 2015; Vester, 2011), therefore a further investigation would be needed to better understand the reasons driving the choice of exit in the region.

7.4 Suggested framework

Based on the principal findings discussed above, the diagram below sets out a suggested framework to describe the role and relative importance of the drivers, structures, strategies and mechanisms that are perceived by private equity practitioners to create value in portfolio investments.

Figure 21 Suggested framework for creating value in private equity investments



The framework above depicts the various considerations that have been investigated in this research in a sequential manner as the researcher expects it to materialise in a normal private equity investment. The importance of each feature or combination of features compared to others is indicated by the size of the text figure, albeit not as an exact proportional representation.

Firstly, the role and influences that the external environment in terms of macro and market dynamics and the internal environment in terms of resource and competency bases have on the value creation decisions that private equity professionals make on a continuous basis are acknowledged in light of the theoretical underpinnings found in the literature (Axelson et al., 2013; Gompers et al., 2015a; Hoskisson et al., 2013; Prahalad & Hamel, 1990).

In terms of the features that have formed the constructs of this research, it is proposed that the Quality of the Management team is the primary driver as evidenced from its perceived importance in the study which, supported by Corporate Governance and Incentives structures, establishes, aligns and manages the relationship and platform that will propel the value creation strategies for the portfolio investment.

The relatively low importance of financial leverage is still accounted for as a mechanical contributor to enhance value when acquisition of the investment is made. Although perceived to be less important in this study, the practice of funding private equity acquisitions with debt continues to enhance returns.

Operational improvement features are proposed to be the main, clearly defined strategies that are utilised to create value in underlying investments as perceived by private equity professionals. No distinction is made between the underlying strategies and it is argued that, based on the results of this study, a combination of these strategies is applied to optimise the business and build it to its full potential in order to position it as an attractive acquisition or listing investment. This leads to the exit strategy and multiple expansion whereby it is proposed that private equity practitioners find it important to pursue and negotiate an exit option that is appropriate within the macro and market dynamics at the time, that will account for the improved business, and deliver at least some expansion in the valuation multiple.

It is therefore suggested that the superior returns that private equity firms have achieved is a function of the capabilities of professionals to select and structure a management platform that will optimise the financial structure but, in particular, drive value creation strategies to improve the business case and position the business for an optimal exit, which creates value in the form of superior returns. All of the above are potentially affected by the external and internal environment of private equity firms, but the extent and drivers cannot be explained based on a once-off study and against lack of research in the region (Lingelbach, 2012).

7.5 Limitations of the research

Limitations of the study were found to be as follows:

- Although identified as a challenge prior to commencing the research, gaining access to private equity practitioners was found to be extremely

difficult and the main limitation. Notwithstanding multiple efforts by the researcher to contact, follow up and encourage participation, the response rate was low, particularly considering that requests were made to larger organisations to allow multiple individuals to participate;

- In conjunction with access, time constraints in the execution of the study limited the researcher from gaining broader participation, considering the time-consuming efforts in convincing private equity firms to allow participation;
- The complex nature of the research design and instrument required the input of senior professionals that had the necessary experience and expertise in a highly specialised field, thereby limiting the population;
- In addition to the specialised nature of the study, the study set out to focus on South African based funds with operations on the continent in anticipation of access limitations and thus also limiting the population;
- The above resulted in a small and most likely unrepresentative sample, from which validity and reliability of the study could not be ensured. Accordingly, although the results and findings are interesting and encouraging, the findings cannot be generalised to a broader population;
- The high level nature of the study limited the ability to further identify and explore underlying determinants and practices that drive the value creation features at a granular level. As identified during the exploratory phase, various complex structures, strategies, skills and dynamics underpin each of the features.

7.6 Suggestions for future research

The researcher identified that a multitude of future research possibilities exist, both due to the lack of research in the region (Lingelbach, 2012) and each of the constructs or features which have a complex set of underlying determinants and drivers. The researcher has the following suggestions for future research, but does not profess them to be comprehensive in an area that lacks significant exploration:

- The size and basis of the sample can be extended to cover a broader sampling frame across the continent;
- Differences between the developed country-focused literature and findings from this research cannot be reliably attributed to differences in the macro and market environments or in the alternative, in line with the general evolution of private equity towards non-mechanical value creation in operations;
- Similarly, the role of macro and market dynamics in view of theories of market timing, trade off theory and resource dependency have not been sufficiently explored to determine how and when changes in the environment affect private equity practices on the continent, which would only be inferred from a longitudinal study;
- From an internal perspective, the profiles, structures and competencies that underlie private equity funds and the professionals that work there influence the value creation strategies that they follow and have not been explored further in this study or in the region;
- Underlying each of the features, there is a range of potential areas for research, for instance:

- How multiple expansion is achieved has mostly been attributed to market timing, negotiation skills and overall improvement of the business and its prospects (Achleitner et al., 2010; Puche et al., 2015), but has not been explored in the African context. In addition, it may be of interest to consider how compensation for illiquidity fits into these dynamics as identified during the exploratory phase of this study;
- Operational improvement and the strategies, mechanisms and tactics that underlie the respective value creation strategies (being Free Cash Flow, ROA growth and Profitability enhancement for purposes of this study) have extensive scope for further research as does the interplay between these features;
- A further investigation into the low perceived importance of leverage as a value driver in private equity in the region (compared to historically more aggressive positions in developed markets);
- More specific determinants of exit strategy choice, such as macro and market dynamics, illiquid markets, the vintage and stage of investment of the private equity fund, which can be explored in the context of market timing, trade off, resource dependency and agency theories.

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9 Appendix 1: List of private equity firms and individuals approached

The table below sets out the list of private equity companies and individuals contacted as part of the research sample. The list has been categorised based on the indications whether the companies and individuals were willing to participate.

Fund	
Musa Capital	Change of business model
Acorn Equity	Confirmed participation
Actis	Confirmed participation
Ethos	Confirmed participation
Medu Capital	Confirmed participation
Pan African Private Equity	Confirmed participation
RMB Private Equity	Confirmed participation
Rockwood	Confirmed participation
Zico	Confirmed participation
Agri-Vie/EXEO	Considered, but no response
Carlyle	Considered, but no response
Convergence	Declined
Old Mutual	Declined
Phatisa	Declined
RMB Corvest	Declined
Sphere	Declined
Bopa Moruo	Indicated participation
Growth Capital Partners	Indicated participation
Metier	Indicated participation
Nedbank Private Equity	Indicated participation
Pembani-Remgro	Indicated participation
Sanlam Private Equity	Indicated participation
Tana Capital	Indicated participation
Trinitas	Indicated participation



Abraaj	No response
Capital Works	No response
Emerging Capital Partners	No response
Imbewu Capital Partners	No response
Leaf Capital	No response
Principal Partners	No response
South Suez	No response

Non-SAVCA members	
Individual 1: Private Equity professional	Indicated participation
Individual 2: Private Equity fund GP	Indicated participation
Individual 3: Private Equity professional	Indicated participation
Quantum Global	Indicated participation
Goodwell Investments	No response
VPP	No response

10 Appendix 2: Proposed value creation levers and corresponding levels

Value creation lever	Value creation features	Proposed levels	Supporting literature
Management lever	Quality of management team	<ul style="list-style-type: none"> • Keep incumbent executive team that has strong experience in the industry or previous private equity activity • Combine incumbent executive team with external appointments to create team with relevant industry expertise • Completely change the executive team with external appointments to create a team aligned to private equity objectives and relevant industry expertise 	(Barber & Goold, 2007; Gompers et al., 2015b; Millson & Ward, 2005; Vester, 2011)
	Management incentives	<ul style="list-style-type: none"> • Total of 15% of which 5% equity ownership to CEO with a further 10% to management • Total of 18% of which 8% equity ownership to CEO with a further 10% to management • Total of 20% of which 10% equity to CEO and 10% to management 	(Gompers et al., 2015b; Guo et al., 2011; Kaplan & Strömberg, 2009) <i>Consideration is given to levels proposed in Millson & Ward (2005) given the South African context, but initial levels proposed focus on broader literature.</i>

	Corporate governance measures	<ul style="list-style-type: none"> • Full control of the board with active participation in strategic direction and subcommittees; • Right to representation on the board with a strategy of fulfilling an advisory or observer role as deemed appropriate 	(Kaplan & Strömberg, 2009; Millson & Ward, 2005)
Financial lever	Leverage	<ul style="list-style-type: none"> • Interest cover ratio < 1.5x of EBITDA over interest payments • 1.5x > Interest cover ratio <= 2.0x of EBITDA over interest payments • Interest cover ratio > 2.0x of EBITDA over interest payments 	(Guo et al., 2011)
	Valuation	<ul style="list-style-type: none"> • > 10% increase in EV/EBITDA multiple driven by negotiation, market conditions or improved business case; • > 20% increase in EV/EBITDA multiple driven by negotiation, market conditions and/or improved business case; • > 30% increase in EV/EBITDA multiple driven by negotiation, market condition and/or improved business case 	(Acharya et al., 2013) <i>An alternative approach to levels for valuation could be either a discount at entry (no supporting literature reviewed) or exit premium to market valuations (Guo et al., 2011). However, the value created is specific to each transaction and can be seen as the ability to expand the multiple.</i>
	Exit strategy	<ul style="list-style-type: none"> • IPO • Trade sale • Secondary sale 	(Jenkinson & Sousa, 2015; Kaplan & Strömberg, 2009)

Operational lever	EBITDA margin (EBITDA as a % of Sales)	<ul style="list-style-type: none"> • > 5% EBITDA margin growth driven by a combination of sales growth and cost reductions • > 10% EBITDA margin growth driven by a combination of sales growth and cost reductions • > 15% EBITDA margin growth driven by a combination of sales growth and cost reductions 	<p>(Acharya et al., 2013; Guo et al., 2011; Kaplan & Strömberg, 2009)</p> <p><i>An alternative approach to EBITDA margin improvements could be to ascertain the preferred method (i.e. sales growth, cost reduction or a combination), but will have to then ignore discrete values</i></p>
	Free cash flow improvement	<ul style="list-style-type: none"> • <10% contribution to IRR from either debt reduction or dividend receipts • 10% < FCF improvement <= 15% contribution to IRR from either debt reduction or dividend receipts • >15% contribution to IRR from either debt reduction or dividend receipts 	<p>(Puche et al., 2015; Vester, 2011)</p> <p><i>A limitation of the proposed levels is that it cannot distinguish what element contributed to the free cash flow improvement</i></p>
	Asset efficiency (Return on Assets = EBITDA/Total assets)	<ul style="list-style-type: none"> • <10% growth in ROA attributed to either sales of non-core assets or optimisation of assets • 10% < ROA growth <= 15% attributed to either asset sales or optimisation of assets • >15% growth in ROA attributed to either sales of non-core assets or optimisation of assets 	<p>(Guo et al., 2011)</p> <p><i>A limitation of the proposed levels is that it cannot distinguish whether private equity practitioners follow an asset sale, asset optimisation or a combination strategy</i></p>

11 Appendix 3: Questionnaire

Page 1:

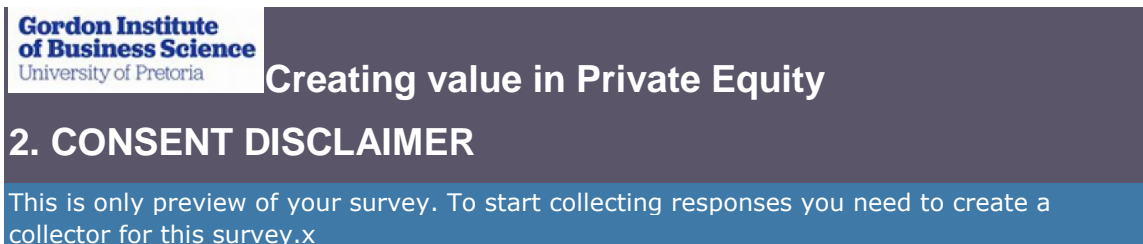


Creating value in Private Equity

A research project conducted by Andriette Richards in partial fulfilment of the requirements of the Masters of Business Administration degree at the Gordon Institute of Business Science, University of Pretoria

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Page 2:



I am conducting research on value creation in private equity in the context of different levers or strategies that private equity professionals use to create value in their portfolio investments. To that end, you are asked to answer the questions below and rate the accompanying profile cards on a scale indicating the level of desirability of the presented profile.

This will help us better understand the relative importance and preferred levels of value creation features applied in practice, and should take no more than 20 to 30 minutes of your time. Your participation is voluntary and you can withdraw at any time without penalty. Your identity will be kept confidential. By completing the survey, you indicate that you voluntarily participate in this research. If you have any concerns, please contact my supervisor or me. Our details are provided below.

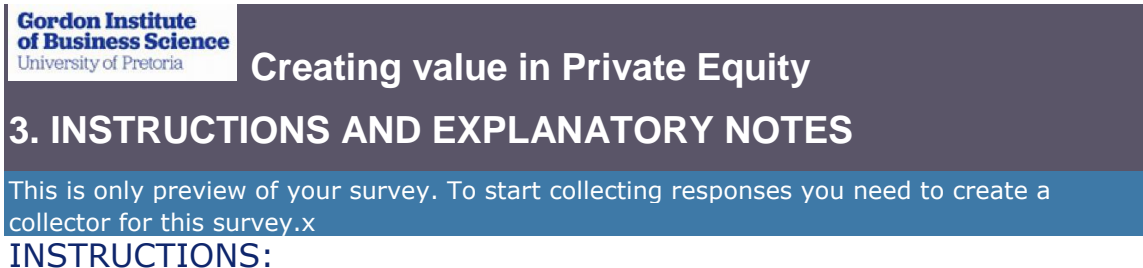
Researcher name: Andriëtte Richards
Email 96067251@mygibs.co.za
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Research Supervisor name: Professor Mike Ward
Email mchlwr@gmail.com
Phone 011 771 4000

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Page 3:



The screenshot shows a survey preview page. At the top left is the logo for the Gordon Institute of Business Science, University of Pretoria. The main title is 'Creating value in Private Equity'. Below that is the section header '3. INSTRUCTIONS AND EXPLANATORY NOTES'. A blue banner contains the text: 'This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x'. Below the banner, the word 'INSTRUCTIONS:' is written in bold.

1. The questionnaire will comprise two sections:

- a general information section about your personal expertise and background of the fund where you are employed;
- 22 profiles which represent possible Private Equity investments with potential features and levels that can be applied to create value, each of which is slightly different from the other;

2. In terms of the 22 profiles, you are requested to rate the attractiveness of each of these potential investments on a scale of 1 to 9 - 1 indicates a least attractive, while 9 a most attractive profile.

EXPLANATORY NOTES:

1. Each profile will comprise nine features at one of 2 or 3 levels applicable to each feature. Each profile will have a slightly different combination of levels from any of the others;

2. Full descriptions of the features and corresponding levels are set out in the next section. The individual profile cards will reflect the abbreviated references indicated below.

You are encouraged to familiarise yourself with the next section to enable a better understanding of the profile cards.

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4. FEATURE AND LEVEL DESCRIPTIONS

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

PROFILE FEATURE AND LEVEL DESCRIPTIONS

The below descriptive definitions serve to provide you with a comprehensive explanation of the composition and underlying drivers of the respective features and levels.

Feature	Level 1	Level 2	Level 3
Management Quality	Keep incumbent executive team that has strong experience in the industry, market or previous private equity activity (" Incumbent team ")	Combine incumbent executive team with external appointments, including subject matter experts, to create team with relevant industry and market expertise (" Combination team ")	Completely change the executive team with external appointments, including subject matter experts, to create a team aligned to private equity objectives and relevant industry and market expertise (" New team ")
Management incentives	Total of 15% equity ownership, however structured or obtained, of which 5% to CEO with a further 10% to other executives (" Equity ownership: 15% - 5% to CEO, 10% to other executives ")	Total of 18% equity ownership, however structured or obtained, of which 8% to CEO with a further 10% to other executives (" Equity ownership: 18% - 8% to CEO, 10% to other executives ")	Total of 20% equity ownership, however structured or obtained, of which 10% equity to CEO and 10% to other executives (" Equity ownership: 20% - 10% to CEO, 10% to other executives ")
Corporate Governance	Full control of the board with active participation in strategic direction and subcommittees (" Full board control ")	Right to representation on the board with a strategy of fulfilling an advisory or observer role as deemed appropriate (" Right to board representation ")	
Leverage	Interest cover ratio < 1.5x of EBITDA/interest payments (" ICR < 1.5x ")	1.5x < Interest cover ratio <= 2.0x of EBITDA/interest payments (" ICR between 1.5x and 2.0x ")	Interest cover ratio > 2.0x of EBITDA/interest payments (" ICR > 2.0x ")
Valuation	No reliance (0%) on increase in EV/EBITDA multiple driven by negotiation, market conditions or improved business case (" No reliance on multiple expansion ")	>10% increase in EV/EBITDA multiple driven by negotiation, market conditions or improved business case (" > 10% multiple expansion ")	>20% increase in EV/EBITDA multiple driven by negotiation, market conditions or improved business case (" > 20% multiple expansion ")
Exit strategy	IPO	Trade sale	Secondary sale
Profitability	Absolute EBITDA growth driven by a focused sales growth strategy with no specific focus on EBITDA margin enhancement (" Sales growth strategy ")	EBITDA margin growth driven by a cost reduction and corporate restructuring strategy (" EBITDA margin enhancement strategy ")	Absolute and EBITDA margin growth driven by a combination of sales growth and a cost reduction and corporate restructuring strategy (" Combination sales growth and EBITDA margin enhancement strategy ")
Free Cash Flow	<10% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies (" < 10% contribution to IRR ")	10% < FCF improvement <= 15% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies (" Between 10% and 15% contribution to IRR ")	>15% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies (" > 15% contribution to IRR ")
Asset efficiency	< 10% growth in ROA attributed to either sales of non-core assets or optimisation of assets (" < 10% ROA growth ")	Between 10% and 15% growth in ROA attributed to either sales of non-core assets or optimisation of assets (" Between 10% and 15% ROA growth ")	>15% growth in ROA attributed to either sales of non-core assets or optimisation of assets (" >15% ROA growth ")



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**Gordon Institute
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University of Pretoria

Creating value in Private Equity

5. GENERAL QUESTIONS

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

What is your role in the organisation?

- Senior Associate level
- Vice President or Principal level
- Partner or Director level
- other:

What is the core of your expertise background?

- Private Equity, Corporate Finance, Mergers & Acquisitions
- General Management
- Operational Management
- Legal
- Accounting
- other:

What is the vintage of the fund where you are focused?

- <3 years
- 3 to 5 years
- 5 to 10 years
- 10 years
- other:



What is the estimated size of the fund in US Dollar equivalent terms?

- < \$20 million
- \$20 million to \$50 million
- \$50 million to \$100 million
- \$100 million
- other:

How many investments are currently held by the fund?

What is the investment focus of the fund?

- Early stage
- Development - Growth stage
- Buyout - Mature stage
- other:

What is the regional focus of the fund?

- South Africa
- Sub-Saharan Africa
- Africa
- other:

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Creating value in Private Equity

6. PROFILE CARDS **25 %**

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 1:

- Management quality:** Combination team
- Management incentives:** Equity ownership: 20% - 10% to CEO; 10% to other executives
- Corporate Governance:** Full board control
- Leverage:** ICR between 1.5x and 2.0x
- Valuation:** >20% multiple expansion
- Exit strategy:** Trade sale
- Profitability:** EBITDA margin enhancement strategy
- Free Cash Flow:** <10% contribution to IRR
- Asset efficiency:** <10% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 1									

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Page 7:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 2:

- Management quality:** Combination team
- Management incentives:** Equity ownership: 15% - 5% to CEO; 10% to other executives
- Corporate Governance:** Right to board representation
- Leverage:** ICR > 2.0x
- Valuation:** >10% multiple expansion
- Exit strategy:** Trade sale
- Profitability:** EBITDA margin enhancement strategy
- Free Cash Flow:** Between 10% to 15% contribution to IRR
- Asset efficiency:** Between 10% and 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 2									

Page 8:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 3:

Management quality: Combination team

Management incentives: Equity ownership: 20% - 10% to CEO; 10% to other executives

Corporate Governance: Full board control

Leverage: ICR > 2.0x

Valuation: >10% multiple expansion

Exit strategy: Secondary sale

Profitability: Sales growth strategy

Free Cash Flow: >15% contribution to IRR

Asset efficiency: Between 10% and 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 3									

Page 9:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 4:

Management quality: Incumbent team

Management incentives: Equity ownership: 15% - 5% to CEO; 10% to other executives

Corporate Governance: Full board control

Leverage: ICR between 1.5x and 2.0x

Valuation: No multiple expansion

Exit strategy: Trade sale

Profitability: Sales growth strategy

Free Cash Flow: Between 10% to 15% contribution to IRR

Asset efficiency: Between 10% and 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 4									

Page 10:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 5:

Management quality: Incumbent team

Management incentives: Equity ownership: 15% - 5% to CEO; 10% to other executives

Corporate Governance: Full board control

Leverage: ICR > 2.0x

Valuation: >20% multiple expansion

Exit strategy: Secondary sale

Profitability: Combination sales growth and EBITDA margin enhancement strategy

Free Cash Flow: < 10% contribution to IRR

Asset efficiency: > 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 5									

Page 11:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 6:

Management quality: New team

Management incentives: Equity ownership: 20% - 10% to CEO; 10% to other executives

Corporate Governance: Right to board representation

Leverage: ICR > 2.0x

Valuation: No multiple expansion

Exit strategy: IPO

Profitability: Sales growth strategy

Free Cash Flow: Between 10% to 15% contribution to IRR

Asset efficiency: < 10% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 6									

Page 12:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 7:

Management quality: Combination team

Management incentives: Equity ownership: 20% - 10% to CEO; 10% to other executives

Corporate Governance: Right to board representation

Leverage: ICR < 1.5x

Valuation: >20% multiple expansion

Exit strategy: Trade sale

Profitability: Combination sales growth and EBITDA margin enhancement strategy

Free Cash Flow: Between 10% to 15% contribution to IRR

Asset efficiency: > 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 7									

Page 13:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 8:

Management quality: Incumbent team

Management incentives: Equity ownership: 20% - 10% to CEO; 10% to other executives

Corporate Governance: Right to board representation

Leverage: ICR < 1.5x

Valuation: No multiple expansion

Exit strategy: Secondary sale

Profitability: EBITDA margin enhancement strategy

Free Cash Flow: >15% contribution to IRR

Asset efficiency: > 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 8									

Page 14:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 9:

Management quality: New team

Management incentives: Equity ownership: 18% - 8% to CEO; 10% to other executives

Corporate Governance: Full board control

Leverage: ICR > 2.0x

Valuation: >10% multiple expansion

Exit strategy: Trade sale

Profitability: Sales growth strategy

Free Cash Flow: >15% contribution to IRR

Asset efficiency: > 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 9									

Page 15:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 10:

Management quality: New team

Management incentives: Equity ownership: 20% - 10% to CEO; 10% to other executives

Corporate Governance: Right to board representation

Leverage: ICR between 1.5x and 2.0x

Valuation: >10% multiple expansion

Exit strategy: Secondary sale

Profitability: Combination sales growth and EBITDA margin enhancement strategy

Free Cash Flow: >15% contribution to IRR

Asset efficiency: Between 10% and 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 10									

Page 16:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 11:

Management quality: Combination team

Management incentives: Equity ownership: 18% - 8% to CEO; 10% to other executives

Corporate Governance: Right to board representation

Leverage: ICR between 1.5x and 2.0x

Valuation: No multiple expansion

Exit strategy: Secondary sale

Profitability: Sales growth strategy

Free Cash Flow: Between 10% to 15% contribution to IRR

Asset efficiency: > 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 11									

Page 17:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 12:

Management quality: Incumbent team

Management incentives: Equity ownership: 18% - 8% to CEO; 10% to other executives

Corporate Governance: Right to board representation

Leverage: ICR < 1.5x

Valuation: >20% multiple expansion

Exit strategy: Trade sale

Profitability: Sales growth strategy

Free Cash Flow: < 10% contribution to IRR

Asset efficiency: Between 10% and 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 12									

Page 18:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 13:

Management quality: Incumbent team

Management incentives: Equity ownership: 18% - 8% to CEO; 10% to other executives

Corporate Governance: Full board control

Leverage: ICR between 1.5x and 2.0x

Valuation: >10% multiple expansion

Exit strategy: IPO

Profitability: Combination Sales growth and EBITDA margin enhancement strategy

Free Cash Flow: Between 10% and 15% contribution to IRR

Asset efficiency: < 10% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 13									

Page 19:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 14:

Management quality: New team

Management incentives: Equity ownership: 15% - 5% to CEO; 10% to other executives

Corporate Governance: Right to board representation

Leverage: ICR between 1.5x and 2.0x

Valuation: >10% multiple expansion

Exit strategy: IPO

Profitability: EBITDA margin enhancement strategy

Free Cash Flow: < 10% contribution to IRR

Asset efficiency: > 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 14									

Page 20:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 15:

Management quality: Combination team

Management incentives: Equity ownership: 15% - 5% to CEO; 10% to other executives

Corporate Governance: Right to board representation

Leverage: ICR between 1.5x and 2.0x

Valuation: > 20% multiple expansion

Exit strategy: IPO

Profitability: Sales growth strategy

Free Cash Flow: > 15% contribution to IRR

Asset efficiency: Between 10% and 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 15									

Page 21:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 16:

Management quality: New team

Management incentives: Equity ownership: 20% - 10% to CEO; 10% to other executives

Corporate Governance: Full board control

Leverage: ICR < 1.5x

Valuation: No multiple expansion

Exit strategy: IPO

Profitability: Combination sales growth and EBITDA margin enhancement strategy

Free Cash Flow: < 10% contribution to IRR

Asset efficiency: Between 10% and 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 16									

Page 22:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 17:

Management quality: New team

Management incentives: Equity ownership: 18% - 8% to CEO; 10% to other executives

Corporate Governance: Full board control

Leverage: ICR < 1.5x

Valuation: >20% multiple expansion

Exit strategy: Secondary sale

Profitability: EBITDA margin enhancement strategy

Free Cash Flow: Between 10% to 15% contribution to IRR

Asset efficiency: Between 10% and 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 17									

Page 23:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 18:

Management quality: Combination team

Management incentives: Equity ownership: 18% - 8% to CEO; 10% to other executives

Corporate Governance: Right to board representation

Leverage: ICR > 2.0x

Valuation: No multiple expansion

Exit strategy: Trade sale

Profitability: EBITDA margin enhancement strategy

Free Cash Flow: < 10% contribution to IRR

Asset efficiency: Between 10% and 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 18									

Page 24:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 19:

Management quality: Combination team

Management incentives: Equity ownership: 15% - 5% to CEO; 10% to other executives

Corporate Governance: Full board control

Leverage: ICR < 1.5x

Valuation: No multiple expansion

Exit strategy: Trade sale

Profitability: Combination sales growth and EBITDA margin enhancement strategy

Free Cash Flow: > 15% contribution to IRR

Asset efficiency: < 10% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 19									

Page 25:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 20:

Management quality: Combination team

Management incentives: Equity ownership: 15% - 5% to CEO; 10% to other executives

Corporate Governance: Right to board representation

Leverage: ICR < 1.5x

Valuation: >10% multiple expansion

Exit strategy: Secondary sale

Profitability: Sales growth strategy

Free Cash Flow: < 10% contribution to IRR

Asset efficiency: < 10% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 20									

Page 26:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

Profile 21:

Management quality: Combination team

Management incentives: Equity ownership: 15% - 5% to CEO; 10% to other executives

Corporate Governance: Full board control

Leverage: ICR < 1.5x

Valuation: >20% multiple expansion

Exit strategy: IPO

Profitability: Combination sales growth and EBITDA margin enhancement strategy

Free Cash Flow: > 15% contribution to IRR

Asset efficiency: > 15% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 21									

Page 27:

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Profile 22:

Management quality: New team

Management incentives: Equity ownership: 20% - 10% to CEO; 10% to other executives

Corporate Governance: Right to board representation

Leverage: ICR > 2.0x

Valuation: No multiple expansion

Exit strategy: Secondary sale

Profitability: EBITDA margin enhancement strategy

Free Cash Flow: < 10% contribution to IRR

Asset efficiency: < 10% ROA growth

Please rate the above mentioned profile on a scale of 1 to 9 with 1 being a least attractive profile and 9 a most attractive profile.

	1	2	3	4	5	6	7	8	9
Profile 22									

Page 28:

This is only preview of your survey. To start collecting responses you need to create a collector for this survey.x

PLEASE REMEMBER TO CLICK ON FINISH SURVEY!

Previous page

Finish survey

Page 29:

Thank you for completing the survey. You will be redirected in seconds.

12 Appendix 4: Survey invitation e-mail

Dear Respondent

I am conducting research on value creation in private equity in the context of different levers or strategies that private equity professionals use to create value in their portfolio investments. To that end, you are asked to complete a survey following the link below. Detailed instructions and explanatory notes are included in the survey.

Survey link:

<http://mysurveylab.com/pageTag/SurveyCampaign/cld/e91497e4dd88c2126d28e4e5fa1c42f4b9c9760bf/>

This will help us better understand relative importance and preferred levels of value creation features applied in practice, and should take no more than 20 to 30 minutes of your time. Your participation is voluntary and you can withdraw at any time without penalty. Your identity will be kept confidential. By completing the survey, you indicate that you voluntarily participate in this research.

I would further welcome you sharing this survey request with any of your colleagues active in the Private Equity industry to help me collect significant and broad input from the industry.

If you have any concerns, please contact my supervisor or me. Our details are provided below.

Researcher name: Andriëtte Richards

Email 96067251@mygibs.co.za

Phone 082 324 7887

Research Supervisor name: Professor Mike Ward

Email mchlwr@gmail.com

Phone 011 771 4000

Thank you for your participation.

Kind regards,

Andriëtte Richards

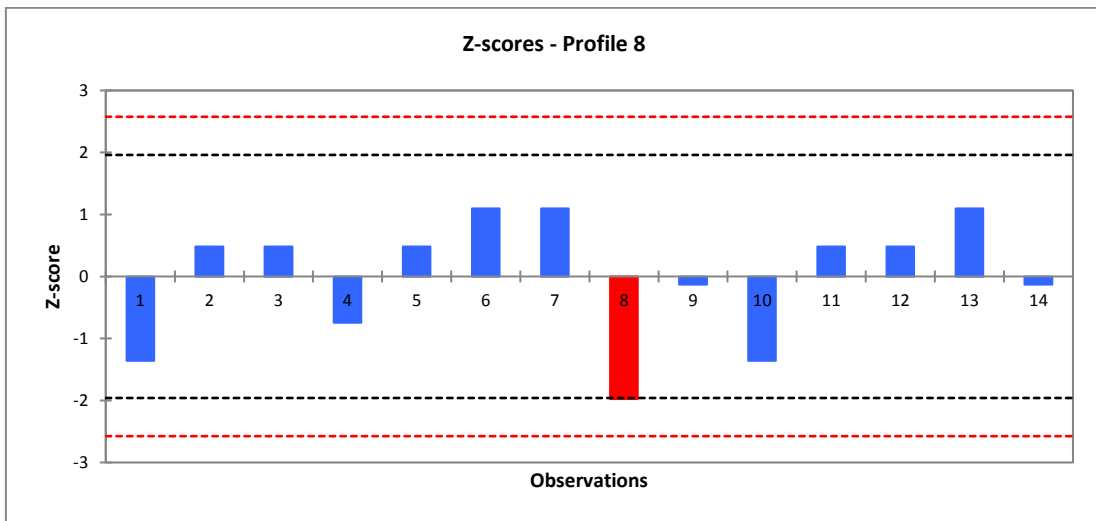
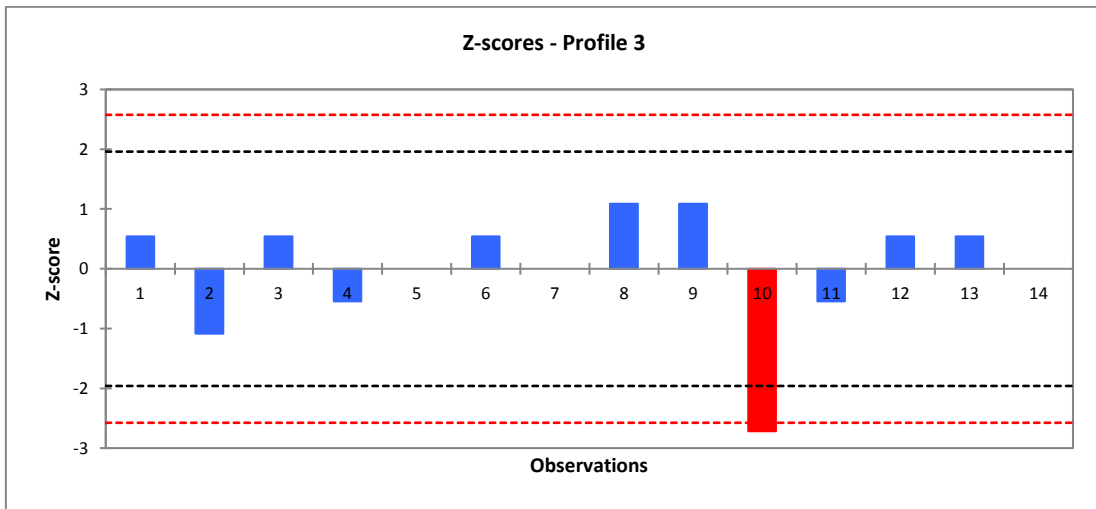
13 Appendix 5: Holdout card differences

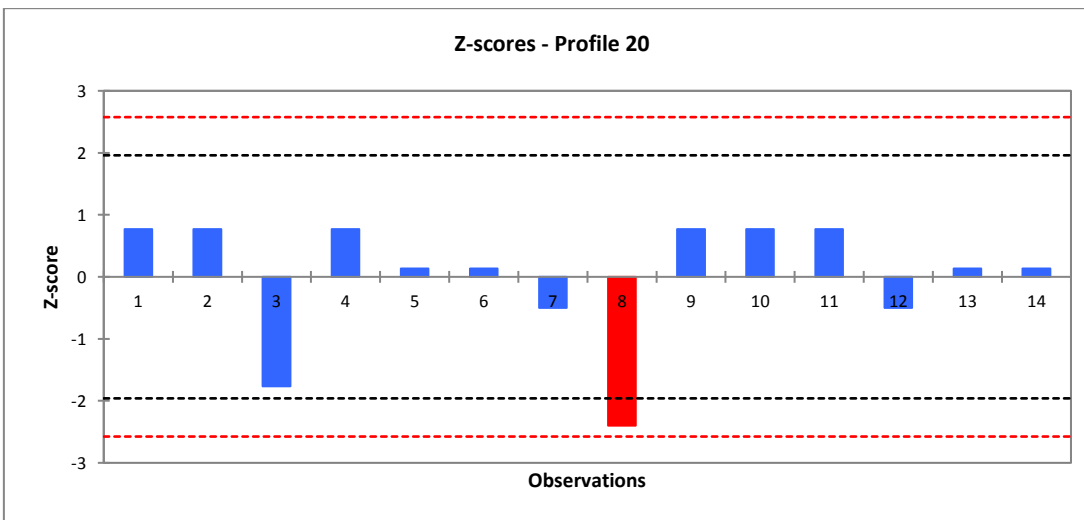
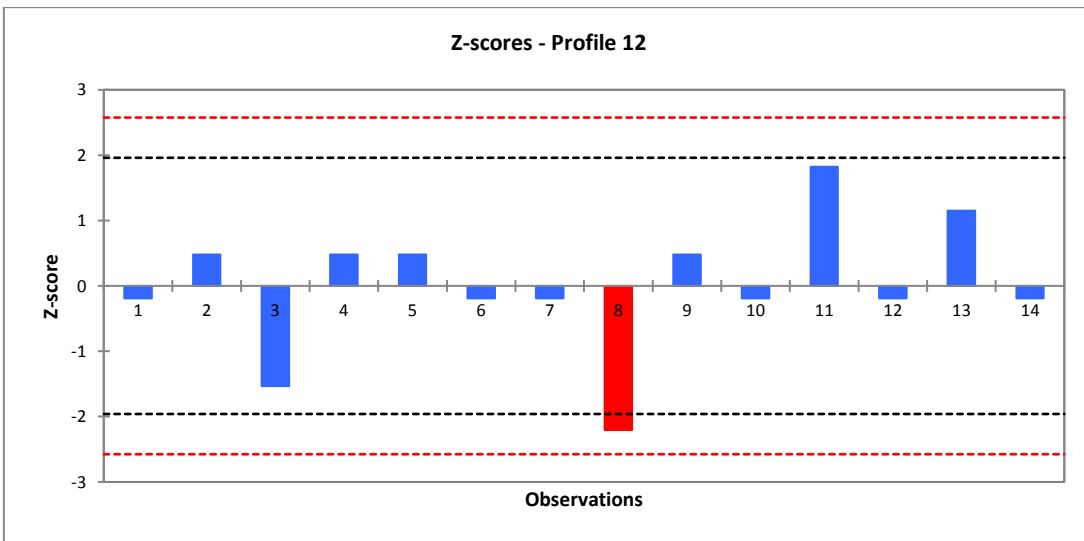
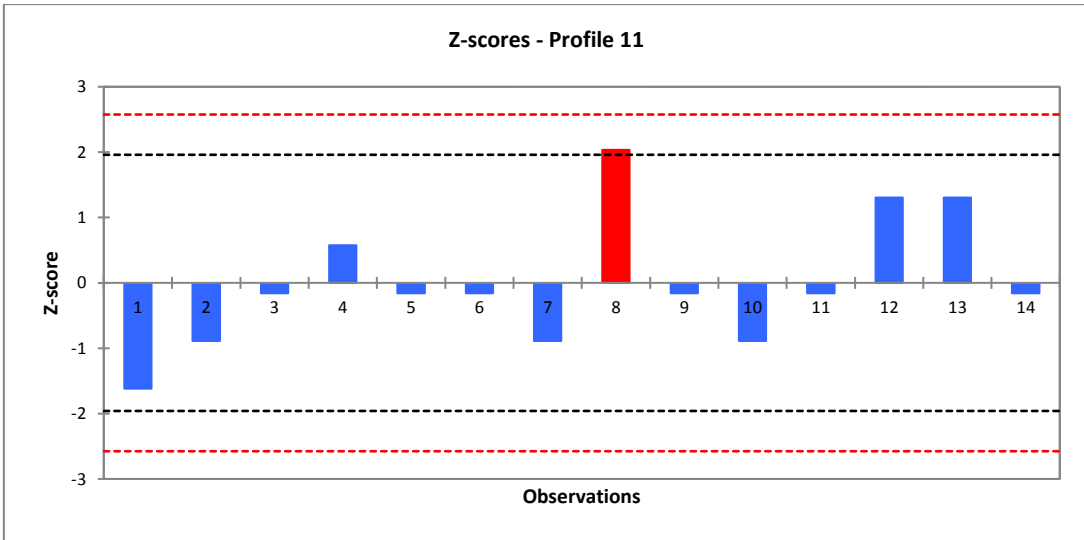
HOLD OUT CARDS	Ind 3	Ind 4	Ind 5	Ind 6	Ind 7	Ind 8	Ind 9	Ind 10	Ind 11	Ind 12	Ind 13	Ind 14	Ind 15	Ind 16
Profile 21 (best-case)	5	6	7	6	9	7	9	7	8	2	2	6	8	8
Profile 22 (worst-case)	3	6	5	2	6	5	2	3	7	8	2	5	4	5
Difference	2	0	2	4	3	2	7	4	1	-6	0	1	4	3

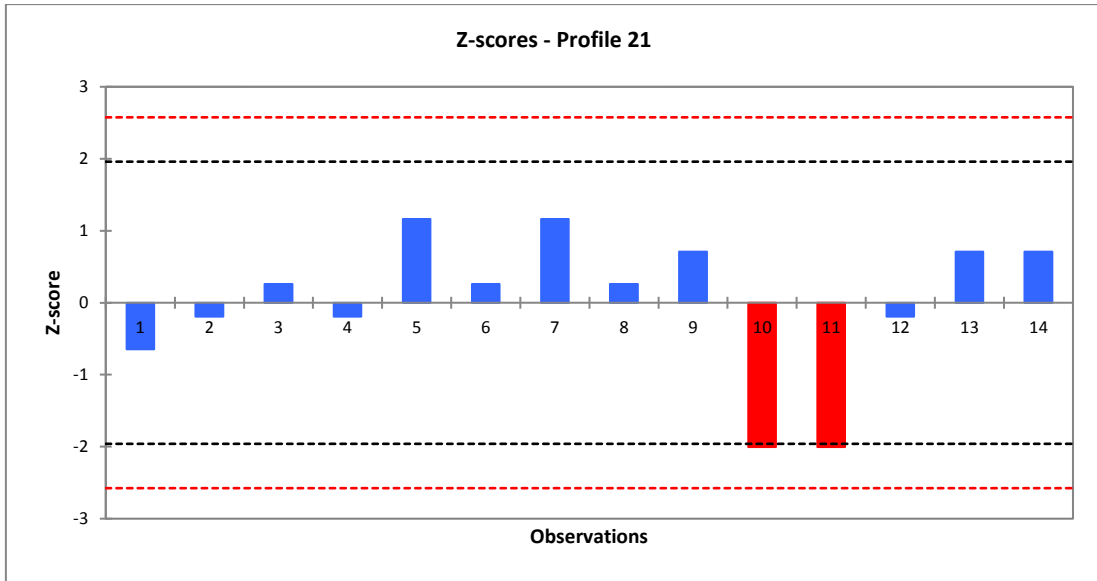
14 Appendix 6: Correlation analysis of respondent ratings

Correlation matrix (Pearson):														
Variables	Ind. 3	Ind. 4	Ind. 5	Ind. 6	Ind. 7	Ind. 8	Ind. 9	Ind. 10	Ind. 11	Ind. 12	Ind. 13	Ind. 14	Ind. 16	Ind. 17
Individual 3	1	-0.311	0.578	0.470	0.357	0.062	0.343	0.318	0.241	-0.358	0.374	0.074	0.055	0.402
Individual 4	-0.311	1	-0.468	-0.424	-0.019	-0.052	-0.269	-0.098	0.391	0.199	-0.127	0.101	0.146	-0.391
Individual 5	0.578	-0.468	1	0.115	0.392	0.163	0.327	0.250	0.127	-0.494	0.321	0.390	0.167	0.462
Individual 6	0.470	-0.424	0.115	1	0.038	0.190	0.302	0.261	0.108	-0.219	0.388	-0.007	0.220	0.109
Individual 7	0.357	-0.019	0.392	0.038	1	-0.130	0.251	0.354	0.051	-0.227	0.062	0.044	0.259	0.000
Individual 8	0.062	-0.052	0.163	0.190	-0.130	1	0.271	0.511	0.400	-0.409	-0.025	0.562	0.530	0.085
Individual 9	0.343	-0.269	0.327	0.302	0.251	0.271	1	0.214	0.171	-0.793	0.625	0.390	0.313	-0.259
Individual 10	0.318	-0.098	0.250	0.261	0.354	0.511	0.214	1	0.388	-0.194	-0.024	0.576	0.636	0.118
Individual 11	0.241	0.391	0.127	0.108	0.051	0.400	0.171	0.388	1	-0.378	0.226	0.620	0.442	0.038
Individual 12	-0.358	0.199	-0.494	-0.219	-0.227	-0.409	-0.793	-0.194	-0.378	1	-0.662	-0.488	-0.330	0.026
Individual 13	0.374	-0.127	0.321	0.388	0.062	-0.025	0.625	-0.024	0.226	-0.662	1	0.246	0.037	-0.378
Individual 14	0.074	0.101	0.390	-0.007	0.044	0.562	0.390	0.576	0.620	-0.488	0.246	1	0.610	0.039
Individual 16	0.055	0.146	0.167	0.220	0.259	0.530	0.313	0.636	0.442	-0.330	0.037	0.610	1	0.078
Individual 17	0.402	-0.391	0.462	0.109	0.000	0.085	-0.259	0.118	0.038	0.026	-0.378	0.039	0.078	1
<i>Values in bold are different from 0 with a significance level alpha=0.05</i>														
Average	0.200	-0.102	0.179	0.119	0.110	0.166	0.145	0.255	0.217	-0.333	0.082	0.243	0.243	0.025

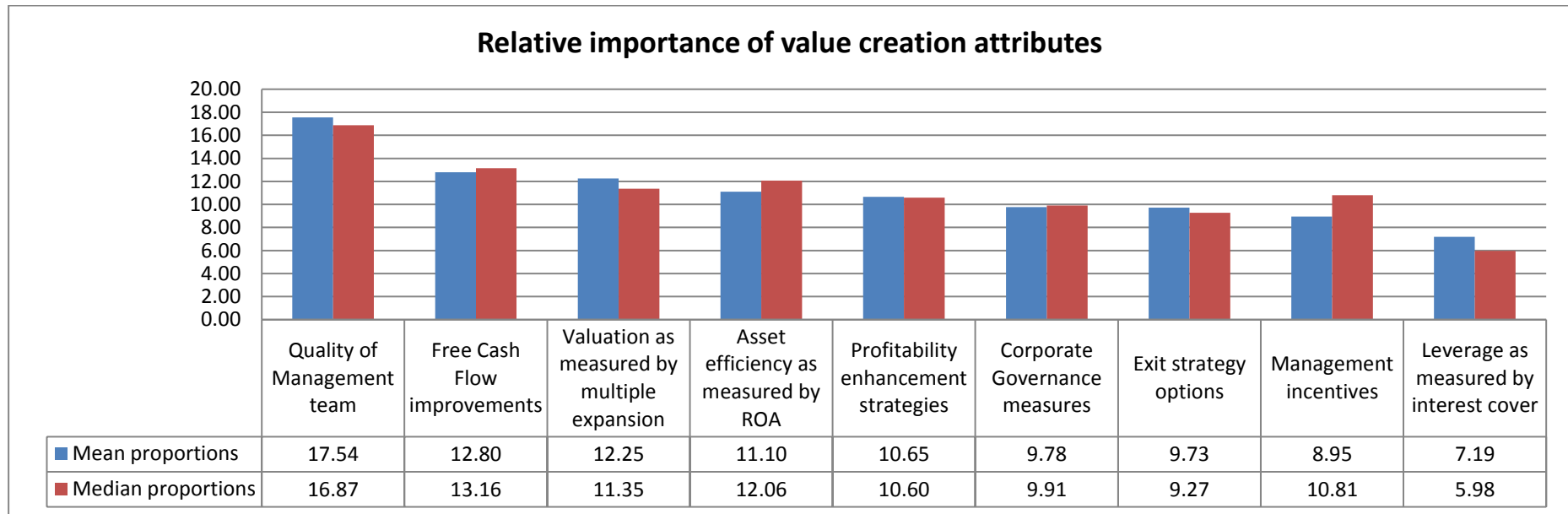
15 Appendix 7: Grubbs test for outliers in profile cards





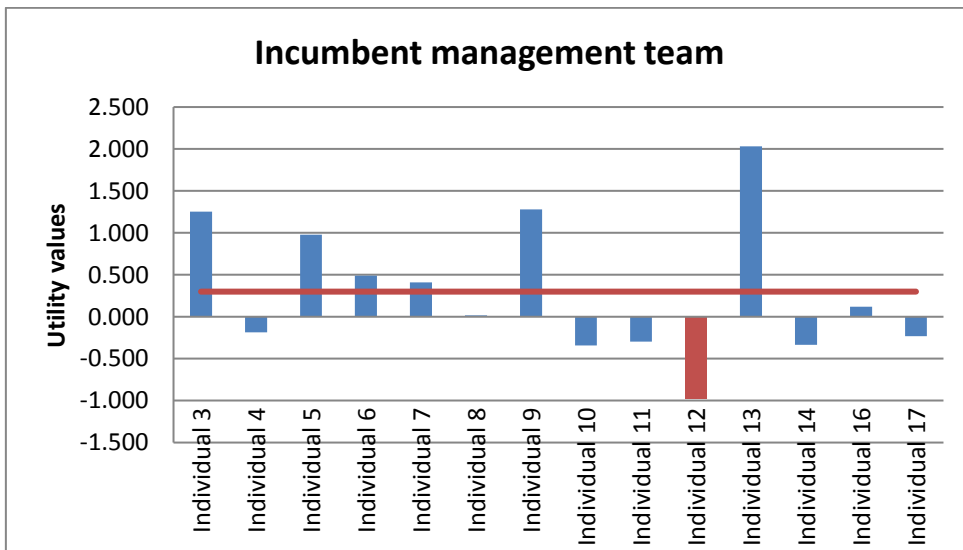
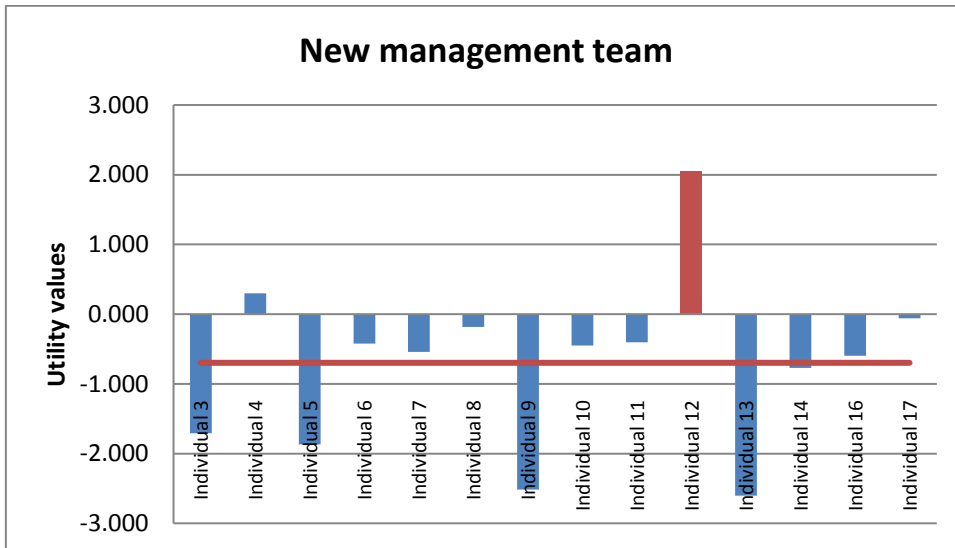
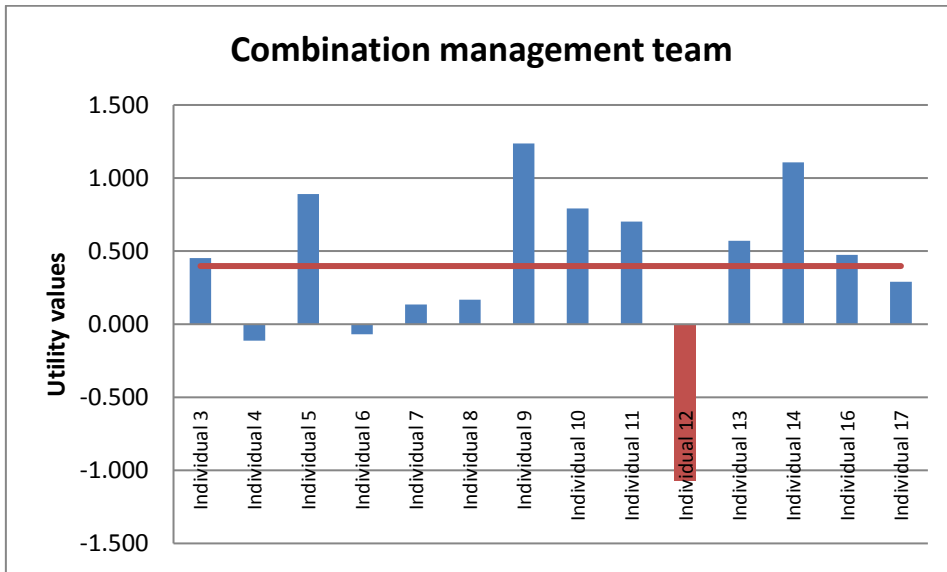


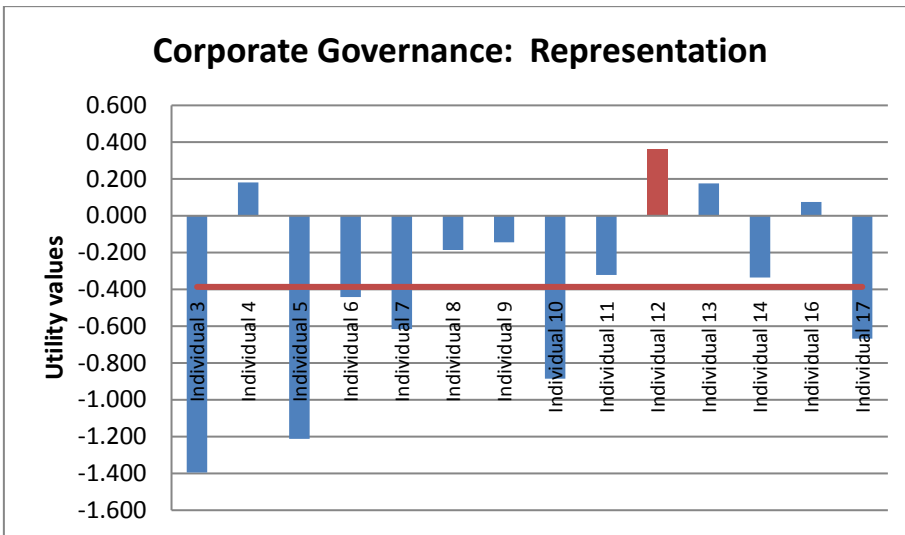
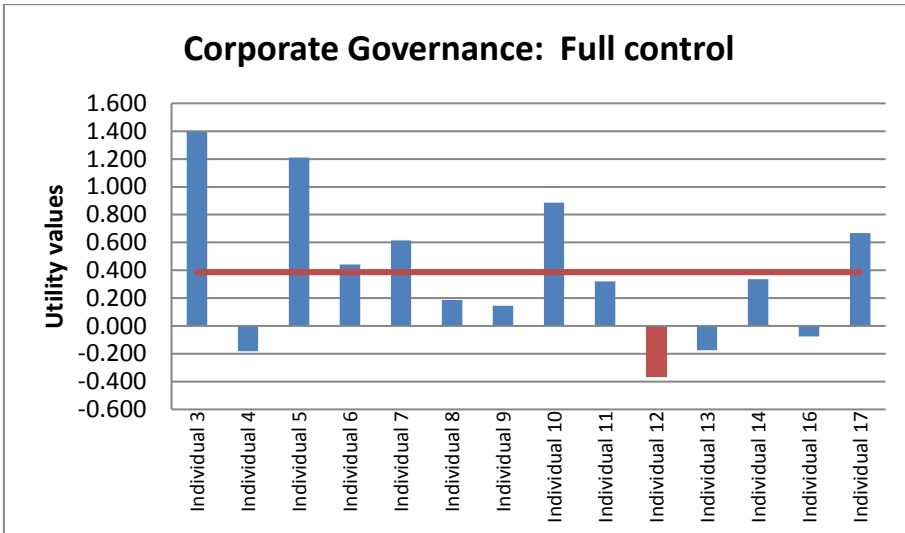
16 Appendix 8: Level utility comparisons

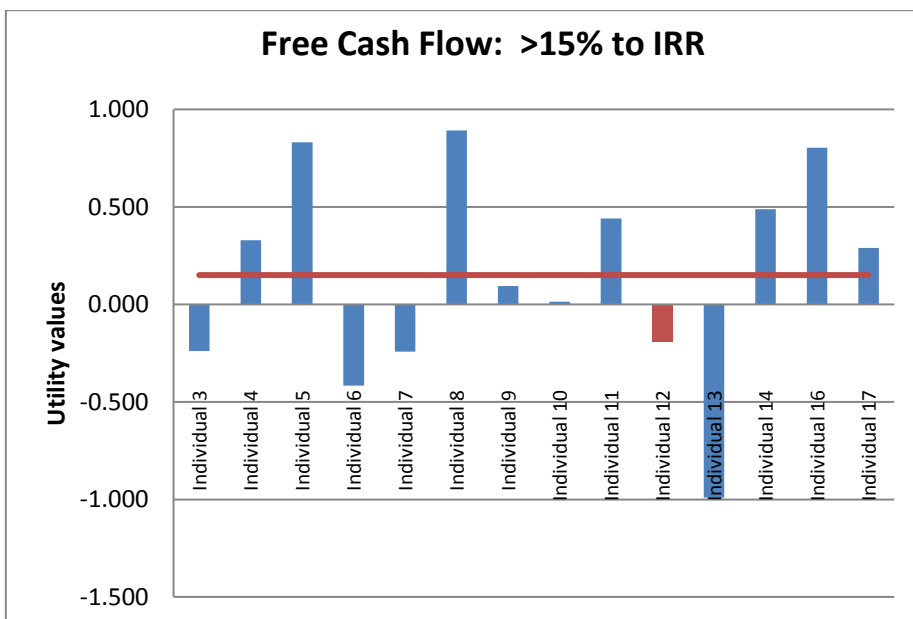
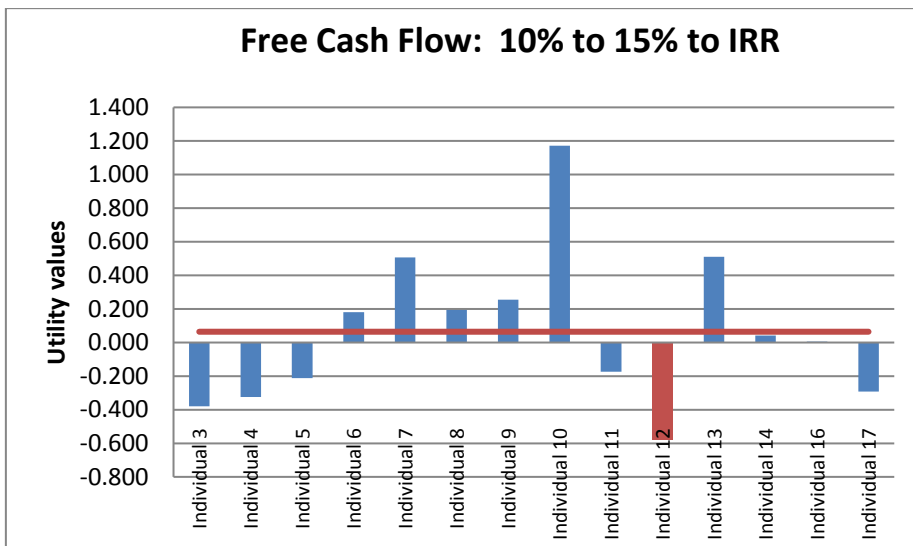
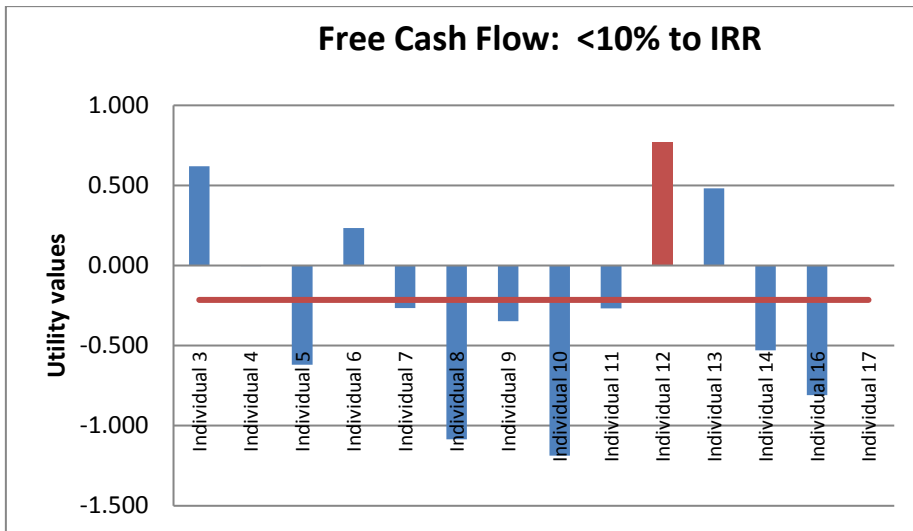


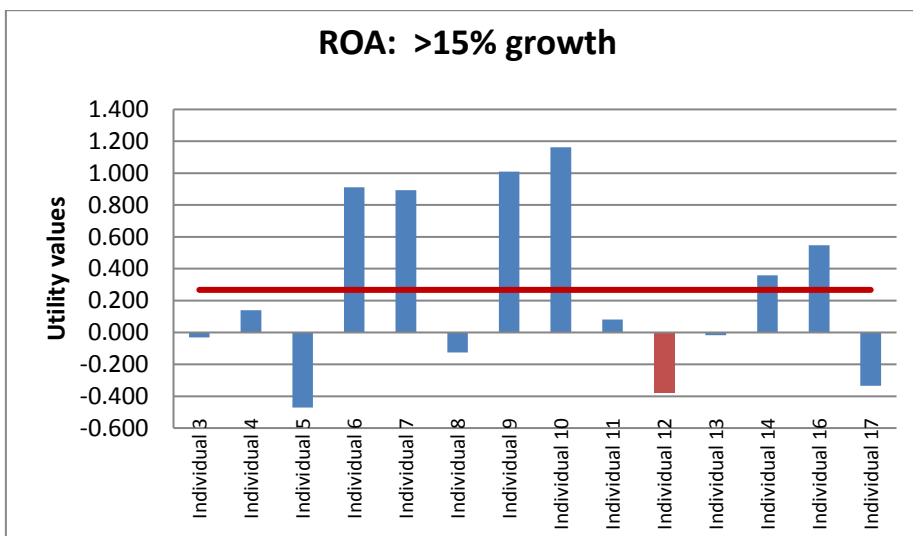
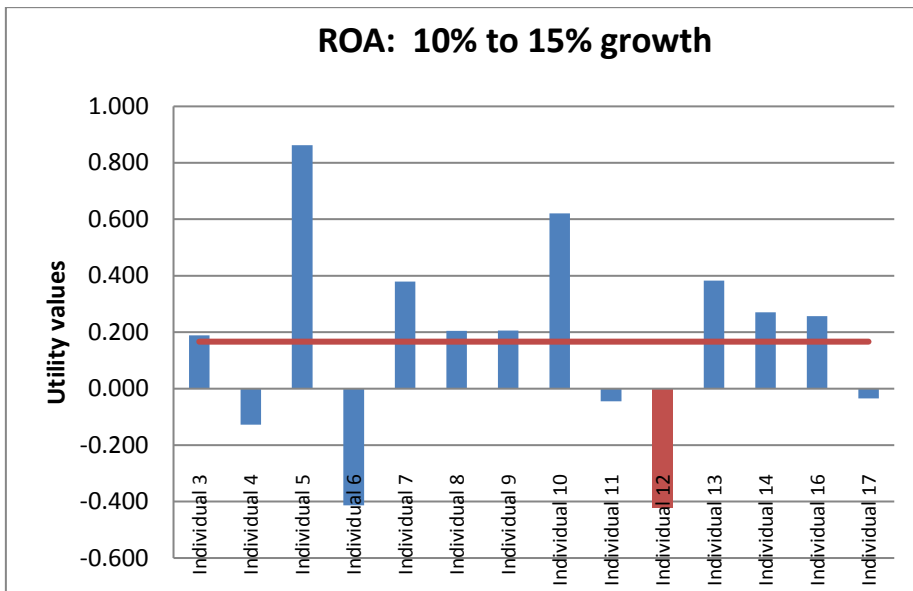
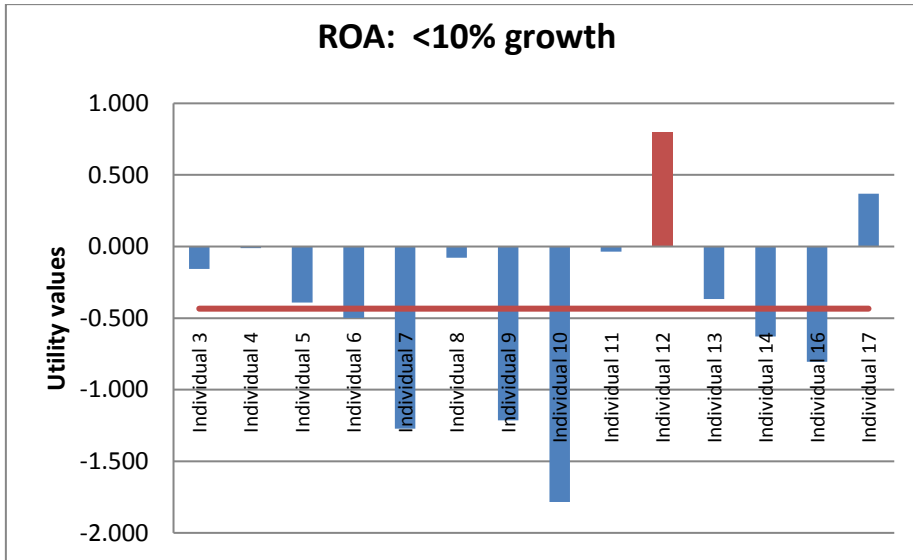
The relative importance values above as well as level utility values below are based on a conjoint analysis of the full sample prior to any transformations.

The red line in each of the diagrams below indicates the mean:









17 Appendix 9: Predicted rating calculations

Profile card 21: Most desirable option	Ind 3	Ind 4	Ind 5	Ind 6	Ind 7	Ind 8	Ind 9	Ind 10	Ind 11	Ind 12	Ind 13	Ind 14	Ind 16	Ind 17
Intercept	4.45	5.95	5.05	4.47	6.68	5.98	4.47	4.50	6.61	5.60	4.26	5.86	6.69	6.15
Quality of Management team-Combine incumbent executive team with external appointments, including subject matter experts, to create team with relevant industry and market expertise	0.79	-0.12	0.96	-0.06	0.14	0.18	1.26	-0.12	0.55	0.71	1.06	0.96	0.56	0.14
Management incentives-Total of 15% equity ownership, however structured or obtained, of which 5% to CEO with a further 10% to other executives	0.58	0.21	0.01	0.31	0.12	-0.16	-0.79	-1.15	-0.05	0.42	-0.06	-0.69	-0.59	-0.36
Corporate Governance measures-Full control of the board with active participation in strategic direction and subcommittees	1.43	-0.13	1.06	0.46	0.38	0.08	0.06	0.72	0.16	0.54	-0.21	0.15	-0.01	0.62
Leverage as measured by interest cover-Interest cover ratio < 1.5x of EBITDA/interest payments	0.34	-0.47	-0.90	0.03	-0.13	0.27	-0.14	-1.28	-0.52	-0.10	-0.08	-0.21	-0.14	-0.04
Valuation as measured by multiple expansion->20% increase in EV/EBITDA multiple driven by negotiation, market conditions or improved business case	-0.66	0.25	0.59	-0.81	0.25	-0.45	-0.20	-1.52	0.53	0.36	0.52	0.00	-0.03	-0.47
Exit strategy options-IPO	-0.16	-0.08	-0.43	-1.45	0.72	0.00	0.60	-0.99	-0.05	0.50	-1.59	-0.02	0.36	0.34
Profitability enhancement strategies-Absolute and EBITDA margin growth driven by a combination of sales growth and a cost reduction and corporate restructuring strategy	-0.14	-0.17	1.00	0.18	0.16	-0.51	-0.72	0.44	0.68	0.06	0.11	0.06	0.58	0.83
Free Cash Flow improvements->15% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies	-0.25	0.42	0.74	-0.47	-0.31	0.82	0.06	0.21	0.65	0.54	-0.28	0.76	0.65	0.12
Asset efficiency as measured by ROA->15% growth in ROA attributed to either sales of non-core assets or optimisation of assets	0.61	0.06	-0.36	0.96	1.10	-0.20	0.60	0.45	0.01	0.20	-0.56	0.16	0.57	-0.34
Predicted value	7.00	5.91	7.72	3.62	9.12	6.01	5.21	1.26	8.57	8.83	3.16	7.03	8.64	6.99

Profile card 22: Least desirable option	Ind 3	Ind 4	Ind 5	Ind 6	Ind 7	Ind 8	Ind 9	Ind 10	Ind 11	Ind 12	Ind 13	Ind 14	Ind 16	Ind 17
Intercept	4.45	5.95	5.05	4.47	6.68	5.98	4.47	4.50	6.61	5.60	4.26	5.86	6.69	6.15
Quality of Management team-Completely change the executive team with external appointments, including subject matter experts, to create a team aligned to private equity objectives and relevant industry and market expertise	-1.37	0.50	-1.97	-0.43	-0.80	-0.09	-2.63	-0.23	-0.38	-1.87	-2.61	-0.56	-0.48	0.06
Management incentives-Total of 20% equity ownership, however structured or obtained, of which 10% equity to CEO and 10% to other executives	-0.47	0.00	-0.44	0.25	-0.36	0.32	0.54	0.34	0.03	0.55	0.28	0.02	-0.01	-0.22
Corporate Governance measures-Right to representation on the board with a strategy of fulfilling an advisory or observer role as deemed appropriate	-1.43	0.13	-1.06	-0.46	-0.38	-0.08	-0.06	-0.72	-0.16	-0.54	0.21	-0.15	0.01	-0.62
Leverage as measured by interest cover-Interest cover ratio > 2.0x of EBITDA/interest payments	-1.43	-0.06	0.25	-0.23	0.56	-0.46	-0.29	-0.46	0.43	0.06	-0.39	-0.03	-0.17	-0.11
Valuation as measured by multiple expansion-No reliance (0%) on increase in EV/EBITDA multiple driven by negotiation, market conditions or improved business case	-0.21	-0.48	0.87	0.38	-0.17	0.02	-0.24	0.15	-0.89	-0.39	-0.53	-0.09	-0.42	0.68
Exit strategy options-Secondary sale	-0.05	-0.31	1.30	0.03	-0.13	-0.36	-0.87	0.55	-0.15	-0.42	1.45	0.17	-0.23	-0.09
Profitability enhancement strategies-EBITDA margin growth driven by a cost reduction and corporate restructuring strategy	-0.58	0.31	0.14	-1.85	0.01	0.29	0.51	-1.32	-0.26	0.50	0.11	0.39	-0.60	-0.45
Free Cash Flow improvements-<10% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies	1.00	-0.12	-0.41	0.30	0.14	-0.94	-0.24	-0.68	-0.48	-0.89	-0.24	-0.83	-0.70	0.09
Asset efficiency as measured by ROA-< 10% growth in ROA attributed to either sales of non-core assets or optimisation of assets	-0.88	-0.03	-0.62	-0.57	-1.48	-0.08	-0.87	-0.83	0.10	-0.23	0.03	-0.19	-0.76	0.38
Predicted rating	-0.97	5.89	3.11	1.90	4.08	4.60	0.33	1.30	4.83	2.37	2.58	4.59	3.33	5.87

18 Appendix 10: Summary of predicted and actual ratings

	Profile 21		Profile 22	
	Actual ratings	Predicted rating	Actual ratings	Predicted ratings
Individual 3	5.00	7.00	3.00	0.97
Individual 4	6.00	5.91	6.00	5.89
Individual 5	7.00	7.72	5.00	3.11
Individual 6	6.00	3.62	2.00	1.90
Individual 7	9.00	9.12	6.00	4.08
Individual 8	7.00	6.01	5.00	4.60
Individual 9	9.00	5.21	2.00	0.33
Individual 10	7.00	1.26	3.00	1.30
Individual 11	8.00	8.57	7.00	4.83
Individual 12	8.00	8.83	2.00	2.37
Individual 13	2.00	3.16	2.00	2.58
Individual 14	6.00	7.03	5.00	4.59
Individual 16	8.00	8.64	4.00	3.33
Individual 17	8.00	6.99	5.00	5.87

19 Appendix 11: Level utility values in order to preference

Source	Mean	Std. deviation
Intercept	5.478	0.919
Combine incumbent executive team with external appointments, including subject matter experts, to create team with relevant industry and market expertise	0.501	0.471
Keep incumbent executive team that has strong experience in the industry, market or previous private equity activity	0.418	0.662
Interest cover ratio between 1.5x and 2.0x of EBITDA/interest payments	0.406	0.514
Full control of the board with active participation in strategic direction and subcommittees	0.379	0.466
>15% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies	0.263	0.453
>15% growth in ROA attributed to either sales of non-core assets or optimisation of assets	0.233	0.503
>10% increase in EV/EBITDA multiple driven by negotiation, market conditions or improved business case	0.211	0.628
Between 10% and 15% growth in ROA attributed to either sales of non-core assets or optimisation of assets	0.197	0.330
Absolute and EBITDA margin growth driven by a combination of sales growth and a cost reduction and corporate restructuring strategy	0.183	0.490
Total of 18% equity ownership, however structured or obtained, of which 8% to CEO with a further 10% to other executives	0.096	0.508
Trade sale	0.096	0.537
Secondary sale	0.064	0.639
Total of 20% equity ownership, however structured or obtained, of which 10% equity to CEO and 10% to other executives	0.059	0.339
Between 10% and 15% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies	0.023	0.345
Absolute EBITDA growth driven by a focused sales growth strategy with no specific focus on EBITDA margin enhancement	0.016	0.702
No reliance (0%) on increase in EV/EBITDA multiple driven by negotiation, market conditions or improved business case	-0.094	0.484



>20% increase in EV/EBITDA multiple driven by negotiation, market conditions or improved business case	-0.117	0.608
Total of 15% equity ownership, however structured or obtained, of which 5% to CEO with a further 10% to other executives	-0.156	0.501
IPO	-0.160	0.727
Interest cover ratio > 2.0x of EBITDA/interest payments	-0.164	0.478
EBITDA margin growth driven by a cost reduction and corporate restructuring strategy	-0.200	0.705
Interest cover ratio < 1.5x of EBITDA/interest payments	-0.242	0.432
<10% contribution to IRR from either debt reduction, dividend receipts or net working capital efficiencies	-0.286	0.541
Right to representation on the board with a strategy of fulfilling an advisory or observer role as deemed appropriate	-0.379	0.466
< 10% growth in ROA attributed to either sales of non-core assets or optimisation of assets	-0.430	0.508
Completely change the executive team with external appointments, including subject matter experts, to create a team aligned to private equity objectives and relevant industry and market expertise	-0.919	0.999

20 Appendix 12: Consistency Matrix

Research Questions	Literature review	Data collection tool	Analysis
Which of the value creation levers identified from the literature is deemed relevant and important by private equity practitioners representing Sub-Saharan focused funds?	See Appendix 2: Proposed value creation levers and corresponding levels for a comprehensive list of levers and levels identified and supporting literature	Exploratory, semi-structured interviews	Interview notes and transcriptions reviewed in context of literature base to make refinements to the attribute and attribute level list, which was ultimately used to determine the full profile cards presented in the field study. Prior to the field study, the profile cards were pre-tested with the interviewees from Phase one.
What is the relative importance of the value creation levers (identified above) as perceived by private equity professionals? (Quantifying the perceived relative importance)	(Boesch et al., 2013; Dawson, 2011; Green, Krieger, & Wind, 2001; Hsu et al., 2014; Madansky, 1980; McCullough, 2002; Millson & Ward, 2005; Shepherd & Zacharakis, 1999)	Experimental, conjoint analysis survey tool	Utility values generated through conjoint analysis software will indicate the relative importance of each feature. Regression analysis, MONANOVA, R-squared form the basis to test for differences (reflected in the utility values), relationship and predictive accuracy

<p>What are the levels preferred by private equity professionals for each lever? (Quantifying the perceived preferences)</p>	<p>As above</p>	<p>Experimental, conjoint analysis survey tool</p>	<p>Measurement of utility values generated through conjoint analysis software will indicate the relative importance of each level. Regression analysis, MONANOVA, R-squared form the basis to test for differences (reflected in the utility values), relationship and predictive accuracy</p>
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21 Appendix 13: Ethical clearance approval letter

Dear Mrs Andriette Richards

Protocol Number: Temp2018-01364

Title: **Creating value in Private Equity Investments**

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



22 Appendix 14: Interviewee consent letters

14 June 2016

██████████
Gordon Institute of Business Science
26 Melville Road
Illovo
Johannesburg

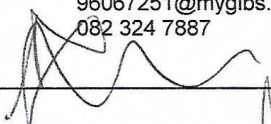
Dear ██████████

I am conducting research on value creation in private equity investments, and am trying to find out more about the different levers or strategies that private equity professionals use to create value in their portfolio investments.

Our interview is expected to last about an hour, and will help us understand the features, relevance, relative importance and preferred levels of value creation strategies applied in practice. **Your participation is voluntary and you can withdraw at any time without penalty.** Your identity will be kept confidential.

If you have any concerns, please contact my supervisor or me. Our details are provided below.

Researcher name: Andriëtte Richards
Email: 96067251@mygibs.co.za
Phone: 082 324 7887

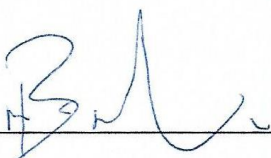
Signature of researcher: 

Date: 14/06/2016

Research Supervisor name: Professor Mike Ward
Email: mchlwr@gmail.com
Phone: 011 771 4000

Signature of Supervisor: 

Date: 06/07/16

Signature of participant: 

Date: 14/06/2016



21 June 2016

[Redacted]

Investec Bank Limited
100 Grayston Drive
Sandton
Johannesburg


Dear [Redacted]

I am conducting research on value creation in private equity investments, and am trying to find out more about the different levers or strategies that private equity professionals use to create value in their portfolio investments.

Our interview is expected to last about an hour, and will help me understand the features, relevance, relative importance and preferred levels of value creation strategies applied in practice. **Your participation is voluntary and you can withdraw at any time without penalty.** Your identity will be kept confidential.


If you have any concerns, please contact my supervisor or me. Our details are provided below.

Researcher name: Andriette Richards
Email: 96067251@mygibs.co.za
Phone: 082 324 7887

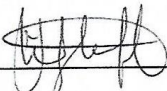
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