IDENTIFYING 'HIGH PERFORMING' ENTREPRENEURIAL ORIENTED MICROENTERPRISES
-an empirical framework

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ABSTRACT

In the aftermath of the financial crisis of 2008, economies and governments across the world have progressively recognised the importance of 'technology' and 'entrepreneurship' as the driving forces for creation of economic value and wealth. In the context of microenterprises, firm level characteristics like the ability to absorb 'technology' (i.e. Absorptive Capacity) and to act 'entrepreneurially' (namely, Entrepreneurial Orientation) have become important measurements. This research presents a methodology that integrates the Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP) constructs to explain the performance of microenterprises and identify high performers. The performance of microenterprises has been measured in terms of their potential to create value or wealth. This research validates that a 'forward looking' measure of performance that measures the 'potential value or wealth' is more suitable than the conventional measure, which uses historical data. It also establishes that the EO and ACAP constructs can be successfully integrated to explain a large part of this value or wealth creating potential.

This study covers 165 UK based microenterprises spread across different sectors and industries. Seventy (70) of these microenterprises have been labelled as 'Entrepreneurial Oriented (EO)' type enterprises as distinct and separate from the 95 Small Business Owners (SBO) types. The demarcation between the EO and SBO type has been justified and subsequently validated in this research. The results show that it is possible to demarcate between the EO and SBO type enterprises before their respective internal attributes (EO or SBO) are measured.

This is particularly important since the two types of enterprises have different antecedents that drive their performance.

As in previous studies, this research found Entrepreneurial Orientation (EO) to be a uni-dimensional concept. On the other hand, Absorptive Capacity (ACAP), applying the original definition of Cohen & Levinthal (1991) was found to comprise of three components. The predictive model used in this study based on Principal Component analysis (PCA) and Ordinal Regression was able to successfully identify a majority (*81.81%*) of the high performers. More importantly, none of the low and only one of the medium performers was wrongly identified as high performers. The development of a methodology to predict potentially high value-creating microenterprises has important ramifications for policymaking and economic development both in developed economies like the United Kingdom as well as peripheral and developing economies.

Keywords:

Entrepreneurial Orientation, Absorptive Capacity, Performance, Microenterprises

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1.   INTRODUCTION

The financial crisis of 2008 was in many ways a blessing in disguise as it has served as a wake-up call the world over in terms of economic focus. While in the pre-financial crisis stage the focus was on 'Capital' allocation, in the post-financial crisis stage there is an increasing realisation that the focus needs to shift to 'technology and entrepreneurship' (Reinert, 2011). Therefore, nurturing and growing small firms and particularly microenterprises are becoming even more important.

In the case of the EU, for example, SMEs constitute nearly 99% of all enterprises and provide nearly 75 million jobs (EU Commission 2005). A recent report by the EU Commission (2012: 9) highlights that the SME sector has further entrenched its position with nearly 20.7 million firms of which 92.2% are microenterprises employing less than 10 persons. The report also states that the total employment generated by the SME sector in 2012 was around 87 million and accounted for 67% of the total employment and 58% of the Gross Value Added (GVA)[1]. The UK 'The Small Business Service' (SBS)[2] report published in Oct 2010 shows that out of 4.8 million businesses nearly 99.9% were SMEs. Again, a majority of these enterprises are categorised as microenterprises. The EU Commission (2005) defines microenterprises as those firms employing less than 10 persons and having a turnover of less than €2.0 million (£1.8 million) and/or total assets less than €2.0 million (£1.8 million). This definition has been used in this research and section 2.1.1 of this thesis discusses the definitions and terminology generally used in SME related research in more detail.

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[1] GVA = Operating profit + employee costs + depreciation + Amortisation

[2] http://webarchive.nationalarchives.gov.uk/+/http://stats.berr.gov.uk/ed/sme/

Therefore, if the focus is now on technology then more than the technology itself it is the ability to recognise the potential of this technology and to use it effectively that becomes important for the incumbent microenterprises. As the subsequent sections will show this ability could be termed as the Absorptive Capacity (ACAP) of the microenterprises and is seen as one of the 'firm level characteristic'(Wang, 2008).

On the other hand, the need to encourage entrepreneurship which is defined as "*deliberate actions for new entry*" (Lumpkin and Dess 1996) is becoming more important in order to encourage economic growth. These ' deliberate actions' involve the incumbent microenterprises being innovative, proactive and risk taking and the concept of Entrepreneurial Orientation (EO) encapsulates and measures these 'deliberate acts' (Lumpkin and Dess 1996). This could be seen as another firm level characteristic.

Naturally, not every microenterprise will have EO as its firm level characteristic and therefore distinction needs to be made between those that have an EO disposition (Voss, et al., 2005) and the rest. This thesis focuses on only those microenterprises that have this EO disposition and investigates if the firm level characteristics namely, ACAP & EO together can help us to explain the performance of this selected group. Additionally, can these firm level characteristics assist to identify 'high performing' microenterprises?

Why target high performers?

There are four major reasons why there is a need to focus on high performers:

a) Specialisation of the economy

b) Modularisation of the production process

c) Consolidation of industry

d) High Performers serving as 'Anchor' firms

Specialisation of the economy:

Research by Ibs and Wacziarg (2003) using sectoral data from ILO, UNIDO and OECD showed that developed economies like the UK with increased internationalisation are becoming more and more specialised. As a result, microenterprises in these developed economies are increasingly operating in a select set of specialised and highly competitive sectors. It becomes imperative that in this highly competitive business environment, high performing microenterprises should be identified and supported. High performers by their definition already possess and exhibit the attributes necessary to survive and grow in a tough business environment. Therefore, the underlying reasons and necessary attributes that help them to survive and grow should necessarily be an important area of research. Focusing on low or medium performers will only yield insights as to why these microenterprises fail to succeed rather than the positive attributes needed to survive in such a competitive environment.

Modularisation of the production process:

There is another equally important reason why focusing on existing high performers is necessary. Accelerated technological advancements and liberalisations in trade and investment are leading to increased fragmentation and modularisation of activities in all stages of the production value chain (Memedovic, 2004). Being able to participate in these productions and value networks becomes imperative for any economy. High performers are best placed to take advantage of these developments as by definition they already exhibit some of these attributes. Thus, identifying high performers and assisting them to join these networks might be the quickest route to ensure economic development in the short run. Again, studying and understanding high performing microenterprises can be an important way to assist others to emulate these high performers and in turn improve their own competitiveness.

Consolidation of industry:

The very fact that there is increasing consolidation across different industry sectors require focusing on high performing microenterprises. Traditionally, the supplier oriented economic model assumed that lead firms would seek new cost effective suppliers and therefore support the upgrading of local enterprises (Sturgeon and Lester 2002). This is however no longer the case. Sturgeon and Lester (2002) and Dicken (2011) argue that international lead firms increasingly control the global value chains (GVC) and global production networks (GPN). These lead firms and their preferred contract manufacturers (CMs), who by their own right are equally multinational, are looking for suppliers who can manufacture and supply the product internationally from the very outset (Dicken 2011) and are not interested in expending resources assisting suppliers who need to be brought up to the required level of performance (Sturgeon and Lester 2002). This would imply that the supplier firm is of a certain calibre and capable of specialising in process-specific technologies as dictated by these lead firms and contract manufacturers (CM). Again, only existing high performing microenterprises have the required attributes for selection by these lead firms and contract manufacturers.

High Performers serving as 'Anchor' firms

Although the ultimate aim of any policy initiative of an economy is to have maximum number of high performers, focusing on a select few high performers might be the most cost effective route. The current tight fiscal situation in most countries warrants that any investment for nurturing or growing existing microenterprises must maximise the return to the economy, These 'selected' high performing microenterprises could potentially serve as 'strategic centres' (Lorenzoni and Baden-Fuller 1995) around which other enterprises in the area can cluster, thus improving the overall economy. This idea is similar to the concept of 'anchor firms' (Feldman 2003). To quote Dutz (2007) "*interventions at one*

enterprise so nearby, enterprises can see and feel the impact of technology upgrading, training and dissemination."

Previous studies (Feldman 2003) have shown that successful anchor firms as high performers and knowledge and technology trail blazers act as powerful 'examples' for other enterprises to *emulate* and thus create a competitive cluster of high performing enterprises through 'strategic networks' (Lorenzoni 2010). As Reinert (2007) argues, this concept of '*emulation*' is the historical basis for the level of economic development achieved by present day advanced economies (UK as a prime example) but that somehow this concept seems to have been downgraded in importance lately. Additionally, these successful anchor firms through their supply chains and inter organisational linkages, should create 'employment opportunities (Dutz 2007) and act as a powerful vehicle to disseminate 'best practice' information thus allowing information accumulation (Acemoglu and Zilibotti 1999). This new information and knowledge when shared and distributed creates the necessary 'milieu' to encourage the establishment of other enterprises and thus develop the absorptive capacity of local enterprises. Absorptive capacity (ACAP) has been defined as

> " *the ability of the firm to recognize the value of new, external information, assimilate it and apply it to commercial ends…and is a function of the firms prior related knowledge*" (Cohen and Levinthal 1990) .

A high absorptive capacity is seen as an important requisite for technology adoption and innovation that ultimately results in overall economic development (Stokke 2004)

1.1   Statement of the problem

The problem at the centre of this research is whether it is possible to identify potential 'high performers'? Since the ultimate contribution of these 'high performers' is the role they play in economic development, it might be interesting

to frame the problem from an economic perspective. However, before this central problem can be addressed, a few other problems need to be addressed. These have been listed below

1. How do we define 'performance'? Is the conventional approach in measuring performance using sales growth appropriate?
2. Given that economic theory tends to emphasise on 'economic value', should we not instead define performance in terms of 'wealth creation' or 'value'? Could this be a forward-looking measure?
3. If this 'wealth creation' or 'value' is taken as the dependent variable then can *'firm level characteristics'* (Wang 2008) such as EO & ACAP taken together as independent variables explain this performance?
4. What is the theoretical rationale behind selecting only EO and ACAP as the *'firm level characteristics'*?
5. Can we identify the high performers?
6. Not all microenterprises have an EO disposition. Therefore, is there a need to demarcate between the types of microenterprises? This research as discussed and investigated subsequently has demarcated between the microenterprises having an EO disposition from the Small Business Oriented (SBO) type microenterprises by looking at their underlying business ethos or culture.

Defining Performance

The first step in the quest to identify high performing enterprises is to be able to define 'performance' and therein lies the first hurdle. Franco-Santos, et al. (2007) in attempting to review the definitions in use in literature for business performance measurement (BPM), identified definitions from the operations perspective, reporting process, strategic control perspective and finally management accounting perspective and provided 17 different definitions in their meta analysis of 300 articles. As Franco-Santos, et al. (2007) in the rationale for their article

state *" ..... This lack of clarity creates confusion and comparability issues, and makes it difficult for researchers to build on each others work*". Coad (2009:143) states it as "*random, utterly random, everything is random"* when describing 'performance'. However, despite the lack of precise definitions, there is no dearth in the usage of the term. A quick search[3] in the ABI / INFORM Proquest database revealed that there were about 5957 peer reviewed scholarly articles between 1990 and 2012 where the word 'business performance' was mentioned in the abstract. Nearly 646 articles had the word in the title of the article. Neither is there a lack of research on the importance of performance measurement systems (PMSs) in organisations both large and small (for detailed literature review on the applicability of PMSs in SMEs please refer to Taticchi, et al., 2010 and Garengo, et al., 2005). However, as Taticchi, et al., (2010; 14) states these PMSs finally measure 'effectiveness' of the organisation which as discussed subsequently is not comparable between enterprises and therefore not suitable for the purposes of this research. Performance needs to be defined and measured in such a way so as to be actually comparable across the enterprises used in this research.

Economic theory with its emphasis on simplified mathematical solutions and abstractions (Rocha 2012) was reduced to the study of what Reinert (2011) termed as the *'terrible simplifiers'* has unfortunately added more confusion to the debate on measuring performance. As Reinert (2007) argues, the first terrible simplifier in economics is the 'equality assumption' which, effectively, assumes away all differences among human beings, economic activities and nations. As Reinert (2011:342) puts it, "*one classic example of this is the concept of the 'representative firm', which equates the giant firm Microsoft with a twelve-year old self employed shoeshine boy in a Lima slum*". The fact that the 'nature' of the two firms and their contribution to economic development may be vastly different has not been taken into account in conventional economic thinking. This can often lead to devastating conclusions in terms of economic policies. This is reflected in

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[3] ABI/INFORM Proquest search on 1.07.2013

mainstream Industrial Organization (IO) branch of economics (Coad 2009) where this 'equality assumption' perspective (when measuring performance of an organization) was simplified to measure the growth of the size in terms of sales turnover, employees or assets. The fact that growth in sales turnover, employees or assets are dependent on the internal strategic decisions of the firm and therefore actually measure *'organizational effectiveness'* rather than *'organizational performance'* is generally overlooked. This distinction has been made by Cameron (1986a, 1986b) and is discussed in detail in the following chapter. Even Coad (2009:9) recognised this limitation when he states " *one disadvantage of sales though is that it need not necessarily correspond to the actual value-added to a company*". Unfortunately, this 'equality assumption' is so pervasive that management literature in different fields is replete with the use of 'sales turnover' or a combination of the other 'organisational effectiveness' metrics as a measure of performance. This performance measure is then used as the dependent variable in most empirical studies of SMEs or even microenterprises (please refer to Rodriguez-Gutierrez, et al., 2015; Levy, 2012;Rauch, et al 2009; Covin, et al 2005; McMahon, 2000; Wiklund, 1999 to cite a few examples).

Performance as wealth or value creation

This research argues that it is the 'wealth' (Carton and Hofer 2006) or 'value' (Rappaport 1981) created by these enterprises that is more important and should be what defines 'performance'. It looks at whether a viable measure of 'wealth creation' or 'value' can be used as a measurement for performance. From an economic theory perspective, this is justified by Reinert's (2007) argument that what is more important is the growth in *'real income'* of the different stakeholders in an economy rather than size. The economic 'value' that is created through 'creative destruction' is also the focus of the proponents of Neo-Schumpeterian theory (Hanusch, et al. 2006). In fact, as stated earlier, this concept of 'economic value' is well recognised even in conventional economic literature (Coad 2009).

While both the terms 'value' and 'wealth' can have many connotations, in this research they have been viewed from a financial perspective. Some argue that this financial information does not actually reflect the 'true' value of the enterprise (Amir and Lev 1996; Jones, 2003). However, as Laitinen (2005) argues, this financial information is the primary source for all stakeholders of the firm and one that is readily available. Given the fragmented nature of microenterprises and the difficulty in accessing any information, only published financial information (assuming they are registered) is one that is easily accessible. In the UK, this financial information is available from the Companies House[4]. Focusing on the financial perspective makes sense since that is the mainstay of any economy and the sole purpose of any economic activity (Hanusch, et al. 2006: 2). Additionally, there is sufficient consensus on the financial measurement of performance (Combs, et al 2005). This use of the financial perspective is discussed in more detail in the following chapter when examining the concept of performance used in this research.

Performance as a 'forward looking' measure

Schuster and Jameson (2003:41) argue that the measurement of performance could be either a 'forward looking measure' or a 'backward looking measure: They state

> *"Management decisions—specifically investment, financing, and operating decisions—affect shareholder value through their influence on such value drivers as value growth duration, operating profit margin for the cash flow from operations, or the cost of capital. These value drivers connect to the valuation components through the shareholder value network. Ideally, then, financial measures should be useful for the assessment of past managerial performance as well as current corporate value. For this reason, the usefulness of each measure is considered both a "backward-looking" measure of managerial performance and a "forward-looking"*

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[4] http://www.companieshouse.gov.uk/

measure of corporate value based on present value of anticipated cash flows. Merging these outlooks is consistent with the maxim of "value-based management" that has become a catchphrase in recent years….."

Since issues of value based management (VBM) have not been examined in this research, no attempt has been made to merge the two backward and forward looking perspectives of Schuster & Jameson (2003). It simply looks at the current corporate value based on "*present value of anticipated cash flows*". Therefore , the performance that this represents in terms of wealth or value being created is forward looking or future oriented and one which looks more at the future potential rather than at a historical measure. The aim is to be able to categorise microenterprises into three groups of high, medium and low value enterprises using this potential performance measure.

Measuring 'wealth' or 'value'

The difficulty lies in how to measure this 'wealth' or 'value' for microenterprises. As argued in the subsequent chapters, this research has explored the applicability of 'Shareholder Wealth Creation (SWC)' as presented by Carton & Hofer, (2006) and the more conventional 'Shareholder Value Add' (SVA) as first proposed by Rappaport (1981) to measure performance. Rappaport (1998: 2798) argues that the key determinants of Shareholder Value can be divided into micro and macro value drivers. The micro value drivers are essentially intrinsic to the individual firm as argued by Cameron (1986a, 1986b), reflecting issues of 'organisational effectiveness' rather than 'organisational performance'. Organisational effectiveness is a product of individual values and preferences (Cameron 1986a). In that sense it is dependent on the perceptions and preferences set by the managers within an organisation and therefore by definition unique and cannot be compared between two organisations. However, using the macro value drivers (Rappaport,1998) it should be possible to develop a measurement for value that is comparable across firms, sectors and even industry.

While the use of the word 'shareholder' is perhaps misleading in the context of microenterprises, it has been argued in the following chapter that the roles and responsibilities of the owner/manager is in many ways very similar to that of a conventional shareholder. The owner/manager in a microenterprise is very similar to the 'shareholder' in a larger enterprise (Carton & Hofer, 2006) in the sense he (she) is the last recipient of any returns after all other creditors have been paid. Therefore, based on this argument using 'shareholder wealth creation' (SWC) or 'shareholder value add' (SVA) to measure potential performance of a microenterprise can be justified.

The SWC is a composite score that measures the rate at which shareholder wealth is created. The SVA on the other hand calculates the potential value of the firm using projections that are then discounted to today's value using the weighted average cost of capital (WACC) of the firm as the discounting factor (Penman 2010). These calculations are based on the published annual accounts, which as per convention are based on an '*accrual*' accounting system. An accrual accounting system is based on recognising revenues and expenses as they occur while a cash flow based accounting system is based on when the cash transaction takes place (Mirza, et al. 2013). There is however an unresolved debate as to which accounting system is more suitable for estimating the future value of an enterprise. Lundholm and O'Keefe (2001) argues that the value calculated using any of the above accounting systems is the same as long as there are no errors in the calculations. Penman (1998, 2001) on the other hand argues that there is a difference in the value calculated and this depends on the accounting system chosen. Bearing in mind that this research concerns microenterprises with simple financial data (Laitinen,2005) and the fact that secondary sources of data (which follow an accrual accounting system) have been used, this research has sided with the arguments presented by Lundholm and O'Keefe (2001). In addition, this research is cross-sectional in nature. The choice of cross-sectional data is deliberate as this research aims to understand the relationship (if any) between the

chosen 'firm level characteristics' discussed in the following sections and the dependent variable (namely performance).

High wealth creating firms in the case of SWC are those with a composite score of greater than 1, while for the SVA it is those with a positive discounted value and an internal rate of return (IRR) greater than the weighted average cost of capital =WACC (Rappaport 1998). This research has used a more stringent requirement in that the IRR should be at least 2 times the WACC to be classified as a high performer. Both SWC and SVA have largely been applied to medium to large firms. A search in Proquest ABI/INFORM[5] for shareholder value add (SVA) showed that there were 267 peer reviewed scholarly (full text) articles where SVA was mentioned in the abstract. A similar search with shareholder value add (SVA) and SME mentioned together in the abstract yielded only two (2) publications. When searched with microenterprises, the search yielded no results. All the 267 citations mentioned above referred to large organizations and the discussion centred on valuation for investment in equity and their returns. Laitinen (2005) is one of the few who attempted to develop a methodology, which he termed as 'Predicted Shareholder Value Analysis (PSVA)' to calculate the 'value ' of 7781 Finnish SMEs. The objective of Laitenen's study was to develop a strategic control and monitoring system for unlisted SMEs using shareholder value. He proposed calculating shareholder value using a discounted flow based on a simplified methodology based on a time series of net profit, i.e. profit after taxes and interest (PATI). This research however, reverts to the original cash flow methodology proposed by Rappaport (1981) to allow the value calculations to have continuity and comparability with prior research. The original shareholder value analysis using a cash flow methodology is a well-accepted and popular methodology (Ameels, et al 2002). The reason why Laitenen (2005) proposed a simplified version was based on the assumption that SMEs lacked adequate financial data. While Laitenen's assumption is valid for unregistered or sole proprietor type

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[5] Accessed on 14th August, 2013

microenterprises, this research focuses on registered microenterprises. A quick check of the financial data downloaded from the UK Companies House database revealed that there was sufficient scope to calculate both the Shareholder Wealth Creation (SWC) and Shareholder Value Add (SVA) measures for the sample microenterprises used in this research.

This research aims to identify high performing microenterprises by looking at the 'firm level characteristics' or their 'intangibles' as defined by Rappaport (1998). Penrose (in Kor & Mahoney, 2004) and subsequently Spender (1996) argued that 'knowledge' is one intangible asset that needs to be created and protected for long-term competitive advantage. The 'firm level characteristics' such as Absorptive Capacity (ACAP) help to create this knowledge while Entrepreneurial Orientation (EO) provides the necessary 'lock-in' within the organisation. This is discussed at length when defining what we mean by 'firm level characteristics'. In trying to understand how this 'knowledge' may have a relationship with performance, Rappaport (1998: 695) states, "*Accounting numbers and traditional financing ratios will be affected by the movement from industrial companies to knowledge companies, Shareholder value calculations will not*". What he implies is that using conventional performance metrics would be inadequate because of the long-term orientation of knowledge. Shareholder value can however take into account this long-term perspective. Based on this argument it would be justified to use shareholder value calculations and study how it is affected by 'firm level characteristics' or 'intangibles' rather than the conventional performance measures.

Prior research on microenterprises has predominantly focused on conventional measures using historical data like sales growth, gross value add and other financial and non-financial measures (please refer to Rauch, et al. 2009 for a Meta analysis of the different performance metrics used in prior literature on SMEs and even microenterprises). This research investigates whether use of a 'forward looking' (Schuster and Jameson 2003) measure of wealth or potential value has

sufficient validity as a measure of performance. The benefit of looking at a 'forward-looking' measure of wealth or value to measure performance is that these measures can be compared across enterprises irrespective of the industry or sector. In order to validate the proposed research framework (discussed in section 1.2) and identify 'firm level characteristics' that best explain high performance, it is necessary that we have a single measure of performance. This dependent variable (PERF) measuring performance must be comparable across industries and sectors and must not take into account the personal perspective and aspirations of the individual enterprise. It should be able to distinguish between organisational effectiveness and organisational performance (Cameron 1986a, 1986b).

Understanding 'firm level characteristics'

As stated earlier, this research aims to select two 'firm level characteristics' namely ACAP and EO that will be able to best explain the potential 'wealth' or 'value' of the firm. This measure of 'wealth' or 'value' is not created in a state of perfect competition and diminishing returns as most mainstream economic textbooks would like to argue but rather in a state of imperfect competition and striving for 'increasing returns ' (Reinert 2011, 2007; Arthur 1996). This view of performance therefore lends itself well with the original concept of 'creative destruction' presented by Schumpeter,1934; Hanusch, et al 2006 and Rocha, 2012.

Traditional economics has generally focussed on negative externalities (Rodrik 2004) assuming that with time, these negative externalities can be overcome and that productivity measured in 'output per worker' would ultimately converge irrespective of the differences in people, enterprises or nations. This is best epitomised by the championing of the 'Washington Consensus' principles (Lal 2012; Reinert, 2007). Reinert (2011) described this as the next 'terrible simplifier'. It was only in the last decade of the 20th century that there was a growing realisation and acceptance within economic theory that simply by managing 'negative externalities' important as that may be, would not lead to convergence. In

fact, the reality is that economies are in a state of permanent imbalance and non-convergence (Beinhocker & Hanauer, 2014) and this was summed up in what is now termed as the 'Endogenous theory' (Romer 1994). Romer states " *this work distinguishes itself from neo classical growth by emphasising that economic growth is an endogenous outcome of an economic system, not the result of forces that impinge from outside*". Naturally, this endogenous theory looks at the overall economy at a macro level and as Romer (1994) states: "*this work is complementary to, but different from, the study of research and development or productivity at the level of industry or firm*". However, arguably, the sum of the 'endogenous outcomes' at the industry or firm level in any economy could largely explain the endogenous outcomes at the macroeconomic level. What this effectively means is that growth or increase in total economic value in an economy is partly the sum of all 'value' created by the enterprises in an economy and that this is largely dependent on endogenous outcomes of the firm. For reasons of simplicity, this research has rephrased the word 'endogenous outcomes' at the firm level as 'firm level characteristics' (Wang 2008) or 'intangibles' as termed by Rappaport (1998). Both the terms 'firm level characteristics' and 'intangibles' have been used interchangeably in this research.

These 'firm level characteristics' can be studied, using the categorisation used by the Neo Schumpeterian when studying innovation, at the 'macro' level of the economy, at the 'meso' level of the industry and finally at the 'micro' level of the firm itself (Hanusch, et al. 2006:5). Therefore, focusing and understanding these 'intangibles' (firm level characteristics) at a micro level would be paramount as these intangible assets (firm level characteristics) have a substantial impact on performance (Marr and Adams 2004). This research looks at intangibles (firm level characteristics) at the micro level of the firm in order to see if they can assist in identifying high performers. Unfortunately, from the perspective of economic theory, these endogenous outcomes have generally been studied at a macro level and only recently has a microeconomic theory been presented by William Baumol (2010) in his book entitled "The *Micro Theory of Innovative Entrepreneurship*".

Innovation as a 'firm level characteristic' for microenterprises

Innovation or 'novelty' as termed by the Neo-Schumpeterian (Hanusch, et al. 2006) is seen as a major endogenous outcome (Rodrik, 2004) in macroeconomic studies. Innovation has been defined as "*a combination of Conception, Invention and Exploitation"* (Rosenfeld and Servo, 1991: 29). Rodrik (2004) however argues that in the context of most economies, the process of innovation (so necessary for economic development and income growth) is not so much 'blue sky' discoveries or massive research & development (R&D) but more about 'self discovery' in terms of either costs or applications. What this implies is that an individual entrepreneur or enterprise discovers that they are able to produce an already existing product in the world market at low cost locally. Alternatively, they may discover a new product applicable to local needs by modifying an already existing technology or product from the world market to fit local requirements. Therefore, the endogenous outcomes at a macro level it could be argued is partly explained by the sum of the endogenous outcomes at the firm level. This implies that innovation described as 'novelty' or ' self-discoveries' is an important firm level characteristic. Whether or not innovation is defined as 'novelty' or 'self discoveries', the fact is that it involves 'risk' and 'uncertainty'. Knight (in Brooke, 2007) first argued the difference between 'risk' and 'uncertainty'. Knight (1921) defined 'risk' as outcomes that can be insured against (in other words measured) and 'uncertainty' as outcomes that cannot be insured. In the context of microenterprises where the majority of these 'self-discoveries' (Rodrik, 2004) are assumed to be not of the 'blue sky' nature but rather small incremental or evolutionary (Greiner, 1994) changes, it is this 'risk' which might be more important. Hanusch, et al. (2006:3) argues that it is this 'innovation' (novelty or self discovery) combined with 'risk' is what characterises the future performance of the firm.

Other firm level characteristics for microenterprises

As stated, economic theory has only recently been able to accommodate some of concepts of 'firm level characteristics' into a microeconomic theory (Baumol, 2010). Attempts to understand these firm level characteristics which may or may not be drivers of high performance for small firms are however quite common in Entrepreneurship studies and date back to the mid-1980's. Some have argued that it is the Entrepreneurial Orientation (EO) of the firm that explains the level of performance. EO has been defined as the 'deliberate action' that a firm takes by being innovative, proactive and risk- taking in its day to day operations [Lumpkin and Dess,1996; Wiklund, 1999; Covin, et al 2005; Lumpkin, et al 2006; Rauch, et al. 2009; Davis, et al 2010; Su, et al 2011; Sharma and Dave, 2011 & Zainol and Ayadurai, 2011; Wales, et al., 2013; Sciascia, et al., 2014; Rodriguez-Gutierrez, et al., 2015]. The above definition shows how the concepts of innovation and risk discussed by the Neo Schumpeterians (Hanusch, et al. 2006) has actually been taken into account in Entrepreneurship studies for a long time.

Others have argued in favour of Absorptive Capacity (ACAP) as a 'firm level characteristic' which looks at the 'capacity to act' (Liao, et al., 2003) by being able to recognise and value new and external information and opportunities, assimilate them and put them to productive commercial use. The prior knowledge and experience of the firm also has a major role in this process [Cohen and Levinthal,1990; Lane and Lubatkin,1998; Zahra and George,2002; Lane, et al 2006; Kostopoulus, et al 2007; Vega-Jurado et al 2008; Volberda, et al., 2010; Omidvar, 2013; Foss, et al., 2015]. Knowledge, its creation and management within SMEs and as an extension in microenterprises is an important asset (please refer to de Jong & Freel, (2012) and Thorpe, et al. (2005) for a detailed review). Again, these discussions of absorptive capacity as a firm level characteristics is very much related to the absorptive capacity as an endogenous outcome at the macro level and has a major role in overall economic development (Stokke, 2004)

On a broader level (Leonard, 1998; Carson et al, 2004; Moon and Kym, 2006) argued that it is the Intellectual Capital (IC) of the firm defined as the sum of Human Capital, Relational Capital and Organizational Capital that explains performance. Carson, et al. (2004: 443-445) presents a very lucid description of the progression of management theory and the emergence of Intellectual Capital as a subject of research. Alternative attributes like Capabilities (Day, 1994), inter-organizational learning linkages (Lane and Lubatkin, 1998: Dyer and Singh, 1998) have also been suggested. However, these attributes have either been ignored in this research or alternatively, components of these concepts have been covered by the EO or ACAP concepts used in this research. For example, the concept of Human capital defined as "*that in the minds of individuals: knowledge, competences, experience, know-how*" (Skryme, 2005) as an important part of Intellectual Capital is also reflected in the definition of Absorptive Capacity (ACAP) when discussing "the *firms prior related knowledge*". This has been discussed in detail in the following chapters.

Traditional studies of Intellectual Capital and within it the study of Relational Capital have focussed on the 'economic power' of the firm with the customer, partner, supplier or even the community (Moon and Kym 2006; Meeus, et al., 2001). Important as this may be, it does not address the underlying aspects that a firm needs to measure or manage. The question is what are the specific metrics an organisation needs to manage well in order to ensure a high level of Relational Capital? Peterson, et al. (2008) and Liao and Welsch, (2005) argue that it is important to move the focus away from necessary relationships like customer satisfaction, supplier satisfaction or even employee satisfaction to a sociological context. Peterson et al, (2008) for example, argue that the most important factor for developing effective Relational Capital is 'power'. They reason that managing the 'power relationship' and the degree to which managers use their power (or not use) is an important consideration, a view touched upon earlier by others (Maloni and Benton, 2000; Kale et al, 2000). In the context of microenterprises specifically, it could be argued that as these firms have very limited power,

researching this 'power relationship' in order to identify high performers may be futile.

Organisational Capital is the other component of Intellectual Capital and is sometimes referred to as Structural Capital. Structural Capital consists of organisational strategies, internal networks, systems, databases and files as well as legal rights to technology, processes, inventions, copyrights, trademarks, trade secrets, brands and licenses (Knight 1999). Roos, et al (1997) distinguished structural/organisation capital as the '*unthinking' part of the organisation'*. Some have tried to differentiate this organisational capital as the part of knowledge that is '*left behind'* in the organisation after the employee has gone home in the evening (Stewart 1997). In trying to understand what actually constitutes this structural capital and how it may be different from Human Capital or Relational Capital, is where things become difficult. The above definition provided by Knight (1999) while useful, is not exactly complete. It is easy to understand how the possession of these physical assets by the firm can give it its competitive advantage. In fact, most attempts to measure organisational/structural capital have generally focused on metrics surrounding these assets and their usage (Liebowitz and Suen, 2000). Carson (2004) classified them as 'crystallised' organisational capital and described it as the '*captured*' human capital that depends on the skills of the human capital to communicate and share the information in order for it to be codified by the firm. Again, as argued in the following chapter, a large part of the 'crystallised' organisational capital has been captured when measuring 'human capital' within the Absorptive Capacity (ACAP) construct. Additionally, the issue of internal communication is one of the major sub-components of the Absorptive Capacity (ACAP) construct. Thus, it may be argued that this Structural or Organisational Capital is substantially covered in the Absorptive Capacity (ACAP) construct.

However, simply possessing this 'crystallised' organisational capital is not sufficient. There is another way knowledge is generated within an organisation,

which may or may not be formalised or codified. This is in the social context (McLean, 2005; Berends et al., 2003). A firm is more than the sum of its individual managers and work groups have an existence and dynamics of their own (Carson, et al. 2004). These work groups could be formed either formally or informally and since they are formed within an organisational setting, they could be considered part of the structural capital. The organisation has to provide a suitable 'platform' for these work groups to form and function effectively. Many have simply classed this 'platform' as 'Organisational Culture'. Given that measuring the presence and quality of this organisational culture is difficult at the best of times, many have used proxy measures such as 'level of R&D activity', 'idea generation', 'number of patents' etc. to establish the level of creativity within the firm. Tellis, et al (2007) argue that these measures do not provide a fair measure of the prevalent organisational culture. They argue that the three most important measures for an innovation and creativity supporting organisational culture (read platform) are:

a) Future market orientation
b) Willingness to cannibalise [read Proactiveness]
c) Tolerance of risk

The issue of risk and proactiveness in this research has been largely covered when looking at the EO concept covering innovativeness, proactiveness and risk-taking. 'Future orientation' is discussed in more detail in the following paragraphs when discussing the need to differentiate between Entrepreneurial Oriented (EO) type micro enterprises and the Small Business Owner (SBO) type micro enterprises.

It is also important to explain why concepts like Capabilities (Day 1994) and inter-organisational learning linkages have been ignored. It is generally understood that for effective inter-organisational learning to take place the organisation needs to have in place the necessary internal communication structures which will allow the effective discussion, dissemination and sharing of the learning process. This

internal communications is a sub-component of ACAP and therefore the concept of inter-organisational.is largely covered by the ACAP concept.

Day (1994) defined capabilities as complex bundles of skills and collective learning exercised through organisational processes that ensure superior coordination of functional activities. Some others have used the term '*dynamic capabilities*' (Teece et al., 1997) which they defined as abilities of firms to integrate, build and reconfigure internal and external competencies to address rapidly changing environment. The important conclusion to be drawn from the above two definitions is the emphasis on the words skills, collective learning, abilities to integrate, build and reconfigure its competencies. As will be evident from the subsequent discussions, most of these competencies are reflected in the EO and ACAP constructs and therefore can be ignored for the purposes of this research. This research narrows down the focus to the two 'firm level characteristics' or 'intangibles' namely Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP). It investigates if EO & ACAP together, can be used to explain the potential performance (future value) of a microenterprise and in the process identify the high performers.

Further Justification for looking at Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP)

The study of each of the Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP) constructs taken individually and their relationship to performance is not novel. Covin and Lumpkin (2011) for example, in a search on Proquest ABI/INFORM database found reference of the EO construct in 256 scholarly articles between January 2008 and December 2010. A similar search undertaken for the Absorptive Capacity (ACAP) construct for the purpose of this research found 900 full text, peer reviewed publications in scholarly journals in the same period of January 2008 to December 2010. Between 2010 and 2012 itself, some 669 scholarly articles were published on Absorptive Capacity (ACAP)

alone. This shows that the ACAP construct, even more than the EO construct, is extremely popular as a research topic. Despite such intense usage of both the EO and ACAP constructs individually, it is surprising to see the lack of articles explicitly linking ACAP with the EO construct to explain the performance of a microenterprise.

Evidently, there is a logical and theoretical basis as to why EO & ACAP need to be studied together. If EO has been defined as '*deliberate act*', then looking at it from the perspective of strategic choice (Lumpkin and Dess, 1996), the '*capacity to act*' or the capacity to make a strategic choice by senior managers should be an important extension to any study of the EO construct. In this research, we have viewed this 'capacity' as absorptive capacity (ACAP) as first presented by Cohen and Levinthal (1990).

Additionally, as Barney (1991, 1995) states, a firm's resources besides being scarce, valuable, sustainable, and heterogeneous within an industry, must also be immobile to create competitive advantage. 'Knowledge' could be one such resource that meets the definition of being scarce, valuable and sustainable (Spender, 1996) but needs to have the processes and organisational structure in place to be able to be 'locked-in' within a particular firm. ACAP of the firm allows for the creation of this knowledge resource while EO refers to the processes, practices and decision-making (Lumpkin and Dess 1996: 136) which provides the 'lock-in' potential. Together, they should have an important impact on the 'value creating' potential of the firm.

As argued in the preceding paragraphs, this research presumes that focusing on 'firm level characteristics' will lead to higher performance. There is already a body of empirical research that supports this view (please refer to de Waal, 2012, 2008; Cohen and Kaimenakis, 2007; Driouchi, 2006). Although, the majority of these studies are for large organisations, it is certainly worth investigating whether the results are equally valid for microenterprises. A sample of 70 UK based microenterprises was used in this research in order to explore whether 'firm level

characteristics' of microenterprises like EO and ACAP can be used to explain the potential performance of an enterprise and in turn identify the high performers.

Demarcating between Entrepreneurial Oriented (EO) and Small Business Owners (SBO)

As outlined in the preceding paragraphs, the 'social context' (McLean, 2005; Berends et al, 2003) component or 'future orientation' (Tellis, et al 2007) is dependent on the organisational culture or ethos of the microenterprise under study. The question that needs to be addressed is whether this 'future orientation' ethos prevails across all microenterprises. Alternatively, are there distinct and separate types of microenterprises based on their culture or ethos?

Unfortunately, bearing in mind the preceding efforts to set the context from an economic perspective, the body of economic theory in the 20th century and later (whether Schumpeterian, Knightian or the Austrian schools) has generally approached the whole issue of entrepreneurship from a macro economic perspective (Rocha 2012). It is only recently that Baumol (2010) has presented a micro theory of the entrepreneur where he highlighted the difference between 'innovative' and 'replicative' entrepreneurs and firms.   In that sense it could be argued that economic theory especially micro economics, has finally come of age and caught up with the other areas of social studies namely, Entrepreneurship studies.

Carland, et al.(1984), emphasising the importance of entrepreneurs as originally mentioned by Schumpeter (1934), were perhaps the first pioneers to present the idea that entrepreneurs could be classified into two categories - Entrepreneurial Oriented (EO) and Small Business Owners (SBO). Covin and Slevin (1991) and later Runyan, et al (2008) using the distinction presented by Carland (1984), were able to demonstrate that EO and SBO were indeed distinct and separate constructs. To be an EO type microenterprise, Covin and Slevin (1991) and Runyan et al (2008) postulated that they should exhibit three fundamental characteristics,

namely, innovativeness, proactiveness and risk-taking. As part of their organisational culture or ethos, they are expected to be 'future oriented' (Tellis et al 2007) or as Baumol puts it ' innovative' entrepreneurial firms. This 'future orientation' becomes extremely important taking into account the argument that performance should be measured from a 'forward looking perspective'. Evidently, it is these type of firms that are assumed to be prime candidates to become 'anchor' firms (Feldman 2003) or the 'strategic centres' (Lorenzoni and Baden-Fuller 1995) discussed earlier. With their 'future orientation' and being innovative, proactive and risk taking, they would be constantly questioning the 'status quo' (or undertaking 'creative destruction' in Schumpeterian terms), thus creating additional opportunities for other microenterprises to participate.

Carland et al (1984) defined the SBO as a small business venture in any business, independently owned and operated but not dominant in the field and not engaging in any new marketing or innovative practices. Runyan et al (2008) extended that definition to postulate that for SBOs, the central purpose of setting up business is that it is an extension of their personality intended to further their personal goals and generate income for their families. SBOs also exhibit a high emotional attachment to the business. These SBO type microenterprises are at times more interested in achieving 'acceptable' business performance rather than maximising performance. These enterprises could be defined as 'replicative' entrepreneurial firms based on Baumol's classification. This is not to say that these 'replicative' firms do not create 'wealth or 'value' but that this is not their organisational culture or ethos. Any wealth or value created is almost an accident or a residual, the focus of their business being survival or personal satisfaction. It is assumed that these types of microenterprises are not interested in being *'knowledge and technology trailblazers'* (Feldman 2003) and are quite content with their present status. In short, these SBO (Carland, et al. 1984) or 'replicative' microenterprises (Baumol, 2010) cannot serve as 'anchor firms' (Feldman, 2003) or 'strategic centres' (Lorenzoni and Baden-Fuller, 1995). They lack the necessary attributes to be innovative or risk-taking, which as explained previously is an important

prerequisite to create economic value (Hanusch, et al., 2006). This research aims to demarcate between EO and SBO type microenterprises using their organisational culture or ethos measured in terms of their 'future orientation'.

1.2   Objective of the Study

The overall objective of this research is to develop an empirically tested framework to see if the two 'firm level characteristics' namely, EO and ACAP, can successfully explain the potential performance of EO type microenterprises and in the process identify high performers.   This research has deliberately emphasised the use of a framework rather than a model. Defining a framework Porter (1991:98) states, "*...Frameworks identify the relevant variables and the questions which the user must answer in order to develop conclusions tailored to a particular industry and company. In this sense they can be seen as almost expert systems.*" This thesis and research taking on board the arguments presented by Porter (1991) is trying to develop a conceptual framework of how any 'high performance potential' micro enterprise can be identified. Therefore, the primary question at the centre of this research is:

RQ1*:*   ***"Is it possible to identify potentially high value creating entrepreneurial oriented microenterprises by looking at their 'firm level characteristics' namely Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP)?"***

As indicated earlier, this research attempts to demarcate between Entrepreneurial Oriented (EO) and SBO type microenterprises based on their culture or ethos. This is particularly important if we accept that the two types of enterprises use different criteria when measuring performance. The secondary question that arises in this context is:

RQ2: *Is the demarcation between Entrepreneurial Orientation (EO) and SBO type microenterprises valid using their organisational culture or ethos?*

However, ACAP as a concept has generally been studied in the context of large firms and there are few studies focusing on SMEs (Chen & Ching, 2004; Gray, 2006; Francalanci & Morabito, 2008; Hui & Idris, 2009; Wang & Han, 2011; Kohlbacher, et al., 2013) there are almost none for microenterprises. There is a substantial body of work looking at the role of knowledge within SMEs (please refer to Thorpe, et al. (2005) or Macpherson & Holt, (2007) for a systematic review of the literature) and within that the conecpt of ACAP and its impact on innovation (Foss, et al., 2015; de Jong & Freel, 2012; Lin, et al., 2012;Volberda, et al., 2010; Gray, 2006) and on Entrepreneurial Orientation (Sciascia, et al., 2014; Wales, et al., 2013). These however do not look at microenterprises. It has been assumed that ACAP is a moderating factor in fostering innovation and this in turn is expected to provide the necessary competitive advantage to the concerned enterprise. It is a well known and documented fact (Gray & Stanworth, 1991;Gray, 2006) that innovation in SMEs and particularly microenterprises is relatively low and if at all present, is essentially in the form of small 'self discoveries' (Rodrik 2004) and 'evolutionary' in nature (Greiner 1994).

It has been proposed that ACAP by its very definition is expected to be multidimensional and made up of at least three sub-constructs namely internal communication (COMint), Information collection (INFOC) and prior knowledge or experience (PRK). Hui & Idris (2009) used similar sub-constructs albeit with different names in their study where they classified ACAP as external knowledge acquisition, intra-firm knowledge dissemination and knowledge utilisation. EO on the other hand is a one-dimensional construct that consists of the Innovativeness, Proactiveness and Risk-taking abilities of the microenterprises as originally argued by Miller (1983) and subsequently operationalized by Covin and Slevin (1991)

and Runyan, et al (2008). Therefore, one of the key objectives of this research is to answer the following secondary questions:

RQ3: *Is ACAP a multidimensional construct made up of COMint, INFOC and PRK?*

RQ4*: **Is EO a one-dimensional construct as generally postulated in prior literature?*

A set of hypotheses discussed in chapter 3 were derived after consulting the literature around the four key research questions. It is recognised that while Entrepreneurial Orientation (EO) and ACAP by themselves will not be able to explain fully the firm's performance, they are nevertheless expected to play a major explanatory role. In the process of selecting just Entrepreneurial Orientation (EO) and ACAP, other 'firm level characteristics' as stated previously, were either ignored or subsumed into the two constructs. This research like all other research in management (as explained in section 4.1), makes observations of a real world phenomenon /object/ action in order to describe its attributes in the form of variables (Babbie 1998). It assigns values to these variables not the object itself in order to describe the characteristics that make up the object. Many manifest variables have been developed while trying to look at the relationship and association if any between Entrepreneurial Orientation (EO), Absorptive Capacity (ACAP) and Performance and these variables are expected to explain the characteristics of each of these objects. However, it is recognised that the variables chosen may not represent the entire object and that it is possible that some 'information' about the object will be lost. It is also possible that other researchers will choose different combinations of variables to explain the same construct. Bearing this in mind, only variables that have been well researched and documented previously have been selected and used in this research.

The answers to the primary question (RQ1) and the subsequent three secondary research questions (RQ2- RQ4) should help us to establish a relationship between Entrepreneurial Orientation (EO), Absorptive Capacity (ACAP) and performance

(PERF). Based on this, it should be possible to answer the fundamental and **Primary Research Question** as to whether potentially high performing microenterprises can be identified by looking at two of the 'firm level characteristics' namely Absorptive Capacity (ACAP) and Entrepreneurial Orientation (EO).

1.3. Methodological approach

A telephone survey questionnaire was used to test the hypothesis of the framework as presented in Figure 1. One hundred and sixty five (165) enterprises from across the UK spread across different sectors and industries responded to this research. This was derived from a population of 2090 microenterprises. Further tests showed that there was no 'non response bias' in the data.

Seventy (70) of the responding firms were classified as Entrepreneurial Oriented (EO) type enterprises with the balance as SBO type enterprises. The classification was based on a pair of either/or questions exploring the current organisational culture or ethos of these firms. Subsequent tests established that there was no 'sampling bias' in the data, the demarcation was valid and that the two groups were independent and separate. For the purpose of this research, we have focused only on Entrepreneurial Oriented (EO) type of micro enterprises. Please refer to chapter 9 for a sample of the questionnaire administered. .

The annual reports spanning the last ten years (2000 -2010 downloaded from the UK Companies House website) for all 165 enterprises were used. Based on this the following steps were taken

1. The SWC and SVA were calculated based on the annual reports. The predictive validity of these measures was tested using an average Return on Sales (ROS) measure.
2. The respondent firms were categorised as high, medium or low based on their SWC or SVA scores.

3. The causal framework (Figure 1) was validated using the TETRAD programme.

4. Finally, a predictive model was developed for the EO type microenterprises using Principal Components Analysis (PCA) and then subsequently an Ordinal Regression (OR) methodology. Prior to that, a linear regression analysis was conducted to test for the relationship (if any) between the PCs identified and the performance measured in terms of absolute 'potential value'.

The DASH-UK company search portal was used to generate 3000 micro enterprises who met the criteria. For the purposes of this research, a more stringent selection process was applied and all three criteria[6] were utilised. This was done to ensure that the sample population only comprised of microenterprises. The sample only focused on active private limited companies, public limited companies and limited partnerships as these were likely to have publicly available annual financial accounts. This population of enterprises was further analysed to remove companies with only mobile phone contact numbers and restricted telephone numbers to arrive at a final population of 2090.

This research uses cross-sectional data. The choice of cross-sectional data is deliberate in order to understand the relationship (if any), between the chosen independent variables (EO & ACAP) and the dependent variable (namely performance). A generic measurement of performance intrinsic to any enterprise irrespective of the nature of the business or the sector in which it operates was deliberately selected for the purpose of this research. As argued, this is necessary if we are to maintain comparability of the performance measure between firms. As mentioned previously the forward-looking performance measure was computed by discounting the future values to obtain the present value since the primary focus was to understand how these chosen independent variables affect the dependent

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[6] namely employees, turnover and total assets

performance potential of the enterprise. In short, can we understand the strength of the relationship between these independent variables and performance? As explained, the aim is to be able to correctly identify the high performers using the two independent constructs namely EO & ACAP.

1.4   Significance of the study

The main contribution of this research is that it explicitly attempts to link the constructs of Entrepreneurial Orientation (EO), Absorptive Capacity (ACAP) and shareholder wealth creation (SWC) or long-term shareholder value (SVA) to develop a framework capable of identifying high performers. There have been previous attempts to extend the Entrepreneurial Orientation (EO) concept to include knowledge resources (Wiklund 1999; Wiklund and Shepherd 2003; Wiklund et al 2009). While Wiklund and Shepherd (2003) confined the definition of the knowledge-based resource to the discovery and exploitation of opportunities, this research takes a step further to explore the concept of prior knowledge, which together make up the concept of ACAP. Covin and Lumpkin (2011) had made a 'call to research' on other non-observable 'firm level characteristics' on the EO -Performance relationship. This research is an attempt to address this call. On a similar vein and from the Absorptive Capacity (ACAP) perspective, Lane et al (2006) in an attempt to resurrect the ACAP construct presented a modified model where some EO attributes were represented. However, in both these cases, the authors did not make any explicit link between Entrepreneurial Orientation (EO), Absorptive Capacity (ACAP) and performance. This research attempts to explicitly link the two constructs of Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP) and study their impact on potential performance. It also argues that that looking at long term 'wealth' or 'value' creation potential may be more appropriate. As stated previously, this future oriented measure of performance is more in consonance with the underlying thrust of the different schools of economic theory be it Schumpeterian, Knightian,

Austrian or even Baumol's recent attempt at developing a micro level economic theory of entrepreneurship.

The conclusions drawn from this research should be extremely helpful in identifying internal variables and their various permutations and combinations that maximise performance. The findings, by default, should allow us to select potential high performance microenterprises based on their 'firm level characteristics' scores. These high performers have the potential to act as 'anchor firms' or 'strategic centres' in a cluster. Additionally, financial institutions, government agencies and other organisations involved in assisting microenterprises should be able to use this framework (albeit in its modified form) to select high wealth/value creating firms thus enabling them to focus their assistance programmes and maximise returns. This would be relevant to any country irrespective of the level of development.

1.5   Research Structure

The remainder of this thesis is subdivided into seven chapters. In Chapter 2, the concepts of Entrepreneurial Orientation (EO), Absorptive Capacity (ACAP) and Performance (PERF) have been explored in more detail. Chapter 3 based on the literature review develops the conceptual framework and outlines the main hypotheses to be investigated. Each of the concepts (Entrepreneurial Orientation (EO), Absorptive Capacity (ACAP) and PERF are then operationalized and the methodologies used are presented in Chapter 4. Chapters 5 & 6 looks at the findings and discusses the results obtained using different statistical methodologies like TETRAD causal mapping, Principal Component Analysis (PCA) and Multiple Linear and Ordinal Regression. These are finally discussed and conclusions drawn in Chapter 7.

2. LITERATURE REVIEW

This chapter outlines the theoretical background of the three constructs Entrepreneurial Orientation (EO), Absorptive Capacity (ACAP) and Performance (PERF) individually. It aims to explore if the 'firm level characteristics' EO & ACAP can explain the PERF (performance) of the microenterprises. This research takes the view that higher level of 'firm level characteristics' generally lead to higher performance and there is already a body of empirical research which supports this view (Cohen & Kaimenakis, 2007;Driouchi, 2006; Moon & Kym, 2006). However, the subjects of these earlier studies relate to large firms and this research seeks to investigate if this relationship is equally applicable to microenterprises. For example, the absorptive capacity (ACAP) concept was initially developed and conceptualised for large firms (Cohen & Kaimenakis, 2007) and has seldom been used to study the performance of microenterprises. There is a substantial body of work looking at the role of knowledge within SMEs (Please refer to Thorpe, et al. (2005) or Macpherson & Holt, (2007) for a systematic review of the literature) and within that the conecpt of ACAP and its impact on innovation (Foss, et al., 2015; de Jong & Freel, 2012; Volberda, et al., 2010; Gray, 2006) and on Entrepreneurial Orientation (Sciascia, et al., 2014; Wales, et al., 2013) but none on microenterprises.

Again traditionally 'wealth creation' using either Shareholder Wealth Creation (Carton & Hofer, 2006) or 'value creation' using cash flow based shareholder value Add (Taticchi, et al., 2010; Rappaport, 1981, 1998) has been applied to medium to large organisations. As stated previously in Chapter 1, the challenge is to be able identify the 'right' microenterprises that have the required 'firm level characteristics' to be classified as 'high performers'.

Any attempt to amalgamate different and disparate streams like macro economic theories, Entrepreneurship studies and management accountancy methods into a conceptual framework has its inherent risks. Trying to apply this concept to the 'microenterprise sector', (which is less studied compared to large firms or SMEs)

is an even larger challenge. As discussed in Chapter 1, Laitinen's simplified methodology, which he termed as "Predicted Shareholder Value Analysis (PSVA)", is one of the few attempts to use 'value' as a concept of measurement for performance for SMEs. His research shows that 'wealth ' or 'value' creation can be measured successfully. This research taking its cue from Laitinen's attempt explores if the original SVA methodology proposed by Rappaport (1981) can be equally effective. In that sense, attempting to apply these diverse concepts to understand micro enterprises and to successfully identify 'high performing' microenterprises can be seen as a valuable extension of prior research.

2.1   Understanding the role and nature of microenterprises
and its marginalisation

As discussed previously in this thesis, the study of the role of the entrepreneurs or entrepreneurial firms is a relatively recent phenomenon (Rocha, 2012). Rocha (2012) argues that for nearly a century despite the initial contribution by Richard Cantillon in the 18th century, the entrepreneur virtually disappeared from any debate in economic literature (what she termed as the 'Invisible Man') and only started reappearing in the early part of the 20th century with the writings of Schumpeter, Knight, Kirzner and now Baumol.

Ozveren (2005) argues that the market system emerged under the impetus of the Industrial Revolution before which economic growth was not yet distinguished from the broader social sphere. "*Economic activities were embedded within the social*" (Polayi, 1944). With the emergence of the market system, the economic aspects were dismembered from the social and the latter was relegated to a place of secondary importance. The truly social was thus thoroughly marginalised to the greatest extent possible (Reinert 2007; Ha-Joon, 2008). This is best epitomised by the famous pronouncement by Margaret Thatcher, the former Prime Minister of

UK in an 1987 interview when she said " *there is no society....*"[7]. The prevalent market system was characterised by its focus on output growth and this created an explosive social and political situation in many industrialised and even emerging economies. This concentration on growth led to a concentration of income, assets, investment and political power in the hands of a few (UN, 2011; Kaplinsky & Readman, 2005; Amini, 2004). Many economies especially those that are peripheral, have actually regressed into what Reinert (2011) termed as '*primitivisation*'. The gap between the rich and the poor in US Dollar terms jumped from 3:1 in 1820 to nearly 92:1 in 2007 (Dicken 2011:462). The microenterprises sector in many senses is the reaction to this marginalisation.

Classical market economics either ignored the existence of the microenterprises sector (Rocha, 2012) or deemed it an aberration or distortion that needed to be corrected and brought into the ambit of the market economy by assuming away differences between people, firms and nations (Reinert 2007). Having to deal with this sector meant that one had to maintain a distinction between the economy and the market and introduce informality into the domain of the economy. Having distilled the economy down to a few abstract concepts there was no scope to accommodate this fractured and diverse sector. These *'terribly simplified economic models'* (Reinert, 2011) were not capable of accommodating the interactions and cross-fertilisation provided by this microenterprises sector and seemed to be divorced from reality and facts. As Victor Norman (Economist & former Minister of Labour for Norway) quoted by Reinert (2007) said " *One of the nice things about economics is that it is just a way of thinking, factual knowledge does not exist*'.

The 2008 financial crisis seem to have highlighted even more the fact that the microenterprises sector has a vitality, importance of its own, and needs to be nurtured and encouraged in order for the economy to achieve its full potential.

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[7] Interview 23 September 1987, as quoted by Douglas Keay ('*Woman's Own*', 1987: 8–10).

Attempts to bring the study of entrepreneurship into the mainstream microeconomic thinking are therefore, a recent phenomenon with the publication of Baumol's "Microeconomic Theory of Entrepreneurship" in 2010. Microenterprises create diversity (institutional or otherwise) and from this viewpoint give flexibility to the social economic system in question (Reinert 2011; Baumol, 2010; Ozveren, 2005). The microenterprises sector rather than being an aberration or a hindrance is actually a major source for innovation, vitality and growth of an economy (Pisani & Patrick, 2002).

Typically, the microenterprise sector business is characterised by (Pisani & Patrick, 2002: 97; Nelson and De Bruijn, 2005)

1.   Small-scale operation, often employing (un) paid family members.
2.   Labour intensiveness
3.   Minimal capital inputs
4.   Local market-driven
5.   Evasion of taxes and most other government regulations
6.   Flexibility of employment relationships
7.   Ease of entry into markets
8.   Reliance on indigenous resources
9.   Skills acquired outside the formal school system
10.   Using adopted technology

A large number of microenterprises especially those in developing economies tend to operate outside of the government system of regulations (Nelson & De Bruijn, 2005). This effectively restricts the ability of governments to incorporate them in policies and strategies in pursuit of national socio- economic goals. However, this factor is not relevant for the purposes of this research, since the microenterprises used in this study are registered firms in the UK whose financial details are publicly available with the Companies House, UK.

2.1.1 Defining a Microenterprise

According to a report by the University of Strathclyde[8], there is no universally accepted definition of a small and medium enterprise (SME). In fact, there is no consensus as to whether the word 'SME' is universally accepted or not. The abbreviation 'SME' is commonly used by the European Union, the World Bank, United Nations and the WTO. The US uses the term Small and Medium-sized Businesses (SMB). The EU term 'SME' has been used to refer to small firms in this research

It would appear that the categorisation of the different sizes of SMEs in the EU and elsewhere create even more problems than the confusion arising from the definition of the term itself. In the EU SMEs provide nearly 87 million jobs of which nearly 92.2% are microenterprises (EU Commission, 2012) and given this large number, the EU Commission came out with an updated set of definitions and categorisation (with effect from January 1, 2005), in an effort to clarify and settle the confusion. Table 1 below summarises the various categorisations of small, medium and micro-enterprises.

	No. of employees	Total revenue		Total assets in Balance Sheet
Medium	< 250	≤ €50 million (in 1996 is was €40 million)	or	≤€43 million (in 1996 it was €27 million)
Small	<50	≤€10 million (in 1996 it was €7 million)	or	≤ €10 million (in 1996 it was €5 million)
Micro	<10	≤€2 million (previously not defined)	or	≤ €2 million (previously not defined)

Table 1: EU Classifications of SMEs

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[8] http://www.lib.strath.ac.uk/busweb/guides/smedefine.htm

As illustrated above, the classification of SMEs is based on the number of employees and either on total turnover or total value of assets. The only area where there is some consensus between EU and the US is in the definition of microenterprise. In all cases however, it is agreed that the number of employees is less than 10. In contrast, while a medium enterprise in the EU is defined as one with 50 -250 employees and a small enterprise as one with 20 – 50 employees, the small enterprise in the US is defined as one with less than 100 employees and the medium enterprise as one with 100 – 500 employees. This research applies the EU definitions and categorisations used in the UK since January 2005. It also uses the selection criteria of microenterprises set by the EU in 2005.

2.2   Understanding 'firm level charactristics' and the different levels of attributes

As indicated previously this research aims to investigate if a select number of 'firm level characteristics' namely, Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP) can explain performance (PERF). Bridge et al (2003) provide an interesting insight on this in the introduction to their book . They differentiate on the word '*enterprise*' from the behavioural perspective which involves the act or behaviour of the individual and from the economic perspective that is the enterprise or firm itself. As this research focuses on the economic perspective, the word 'enterprise' or 'firm' in this research refers to the business entity or organisation itself. The benefit of focusing on the characteristics of the firm was further endorsed by Covin and Slevin (1991) and Runyan, et al (2008).

On the question of attributes and its meaning again there are different levels. Bridge, et al (2003:59-96) devote nearly a whole chapter discussing the different approaches to understanding attributes. Their discussion however tends to focus on attributes required for start-up businesses. This however not the focus of this

research which instead, focuses on 'existing' businesses that is, businesses that have been in operation for at least two years or more. The choice of a minimum of two years is deliberate and will become evident when discussing the performance measure. As previously discussed in Chapter 1, the underlying objective of this research is to identify potential 'high performers'. Given this overall objective and in the light of previous studies already referred to it in Chapter 1, it is existing businesses who are believed to be more suitable as 'anchor firms' for others to emulate.

That is not to say that 'start-up' microenterprises cannot become 'anchor firms'. In fact, Acs and Plummer (2005) were of the view that new firms are more adept at accessing and absorbing new knowledge and converting them to economic knowledge compared to incumbent firms. However, in order to identify these 'new firms' or 'start-ups' we would need to take into account the individual characteristics, motivations and behaviour of the entrepreneurs themselves which is beyond the scope of this research. This research is attempting to investigate if the selected 'firm level characteristics' namely; EO and ACAP can successfully explain the performance of the firm. Both the EO and ACAP constructs used in this research are at a firm level and therefore need to be measured at that level. That implies that only existing businesses will exhibit these firm level characteristics and not start-ups. Additionally, keeping in mind the distinction between 'risk' and 'uncertainty' as proposed by Knight (in Brooke, 2007) this research has focused on risk that is measurable in terms of its impact on firm performance. Start-up microenterprises by definition are uncertain and therefore their impact on performance is not measurable.

Additionally, by focusing on existing firms it could be argued that the traits/behaviour presently being exhibited by the concerned individuals will be largely tempered and influenced by the present status of the firm and thus become less prominent. Individual entrepreneurial traits are assumed to be more important at the start-up stage. For an existing business these individual traits are of

secondary importance and the firm level attributes become more prominent. While it is recognised that in the context of microenterprises attempting to separate the individual from the firm level attributes is extremely difficult (Lumpkin & Dess, 1996) care has been taken that the attributes chosen are more firm centric rather than individual traits centric. This is necessary if this research is to be generalisable and comparable across sectors, countries and economies.

Managing 'knowledge' is at the core

As Thorpe, et al., (2005) state any discussion of knowledge within firms must take into account the resource based view of the firm presented by Barney (1991). A firm must possess specific resources, competencies and capabilities (Grant, 1991) in order to develop strategic action plans that will ensure superior performance.These must be scarce, valuable and sustainable (Barney 1991,1995). As Spender (1996) argues these resources must emanate from inside the organisation assuming markets are relatively efficient and the competitive advantage is not derived from information asymetry or the mistake of others players in the market . The microenterprise's tangible assets are generally externally obtained and thus available even to its competitors. Therefore, a microenterprise cannot rely on these commonly available tangible assets to generate superior performance. It therefore, needs to rely on its intangible assets to generate any superior performance. Typically these intangible assets comprise of capabilities, reputation, property rights, relationships and knowledge (Rappaport, 1998).

In the context of microenterprises attributes such as reputation, access to property or relationships with stakeholders can at best have a very marginal effect on performace and therefore can be ignored. For larger firms however, managing and maintaining relationships with stakeholders is critical for high performance (de Waal 2012, 2008; Lewin, et al., 2011; Meeus, et al., 2001). The residual intangible assets that may have an affect on performance for microenterprises will therefore

be capabilities and knowledge. Day (1994) defined capabilities as complex bundles of skills and collective learning exercised through organisational processes that ensure superior coordination of functional activities. As argued in Chapter 1, a large part of capabilities (Day, 1994) is already included in the concepts of EO and ACAP. This leaves us with 'knowledge'. Wiklund & Shepherd (2003) were of opinion that the importance of this knowledge when compared to other assets is high in the context of SMEs. Thorpe, et al., 2005 using a systematic review methodology of 209 articles provides a detailed evidence of the uses of knowledge within SMEs. For microenterprises it could be argued that this 'knowledge' is even more important as an asset given their inherent limitation in terms of access to other assets or resources.

Davenport and Prusak (2000) define knowledge as *"Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the mind of knower's. In organisations, it often becomes embedded not only in documents or repositories, but also in organisational routines, processes, practices and norms"*

The benefit of this definition is that it clearly differentiates between data, information and knowledge. This distinction becomes important especially when attempting to manage this knowledge. Gupta & Govindarajan (2000) in their study of knowledge flows within organisations differentiated on the basis of 'procedural' and 'declarative' types of transfers. They described it as follows " *….focus on the transfer of knowledge that exists in the form of 'know-how' rather than on transfer of knowledge that exists in the form of operational information.*" (Gupta & Govindarajan, 2000: 474). This research takes a similar view and argues that managing the 'procedural' type of knowledge is important and this is what creates value for a microenterprises.

Firestone and McElroy (2005) argue that while almost everyone does some amount of managing the knowledge it however, remains debatable whether these

formal interventions claiming the label 'Knowledge Management' are actually valid. This research does not delve into any 'knowledge management' issues per se but instead restricts the discussion to how this knowledge is created and 'locked-in' within the organisation in order to gain competitive advantage.   Using the experiential/action learning theory Carson & Gilmore (2000) argue that, for SMEs and therefore by default microenterprises, a large part of the knowledge is gained though prior experience, personal judgement and communication skills of the individual managers. In this research we have termed this prior experience and personal judgement as *'Prior Related knowledge*' (PRK) and as discussed subsequently is an important component of Absorptive Capacity for microenterprises.

It is however important to understand the nature of the knowledge created in microenterprises as this will inform what needs to be researched. Knowledge in SMEs and microenterprises in particular has a large degree of informality or tacitness and resides in judgement, estimating capacity, physical co-ordination, familiarity with techniques, image recognition and personability (Thorpe, et al., 2005; Wong & Radcliffe, 2000). As stated a large part of this tacit knowledge resides in the individual managers (Carson & Gilmore, 2000). This tacit knowledge of individuals however needs to be shared across management functions in order to create knowledge within the firm and to convert it into a firm level characteristic. Wong & Radcliffe, 2000 suggest that in order encourage knowledge sharing it is necessary to minimise the tacit component and this could be done by adoption of routines which encourage the use of structured decisional structures so that some amount of codification can take place. Ward, 2004 arguing on a similar vein suggests that a balance needs to be reached between the knowledge residing within individuals and the amount of codification. This codification will allow the skills of the microenterprise to be retained and made explicit which in turn provide them recognition by others.

This knowledge has therefore been viewed in this research from the both the personal tacit level and from the level of codified knowledge within the firm. As Thorpe, et al. (2005:266) argue "*SME knowledge is not only dependent on individual personality and cognitive capacity but is also situated*". As they argue one of the most important 'situations' is the firm and its immediate networks.

The real test for any enterprise in order to compete successfully is to increase the alignment and fit between strategies, structure, culture and processes (Tushman, 1996; Galuni, 1994). At the same time, the firm has to be able to deal with evolutionary change and revolutionary change (Brown & Eisenhardt., 1997). This requires managers within the enterprise to not only compete in a mature market through higher efficiency but also simultaneously prepare for revolutionary change with new products and processes thereby taking some measure of risk. This requires multiple organisational structures and skills (Tushman, 1996 ; McDonough & Leifer, 1983). In this context of microenterprises, the challenge is to have sufficient organisational systems and routine to measure and control activities (Thorpe, et al., 2005). At the same time, the microenterprises must provide sufficient opportunities to encourage entrepreneurial behaviour and creativity. If the microenterprise is to create sustainable competitive advantage (Barney, 1991) and therefore long-term value and be high performers then it becomes particularly important to rely on internal knowledge resources both at an individual and at a firm level. Since managers typically value external knowledge more than internal knowledge (Menon & Pfeffer, 2003: 511) developing any sustainable competitive advantage and by default long-term value is particularly difficult. As Menon & Pfeffer (2003) state in their conclusions " ...*Firms would be highly motivated to copy away the competitive advantage of others, while being less motivated to generate competitive advantage internally. However, copying others must invariably, produce results that are about the same as others. It is only doing something unique, valuable and difficult to imitate that companies can achieve advantages in the marketplace*". In this research, we have viewed this internal knowledge whether on an individual level or on a firm level as the

underlying blood stream of the microenterprise that affects the overall performance of the firm.

2.2.1 *Entrepreneurial Orientation (EO) Construct*

Entrepreneurial Orientation or 'EO' as commonly referred to is credited to have been first presented by Danny Miller in 1983 (Covin & Lumpkin, 2011; George & Marino, 2011). However, as Miller himself argues (Miller, 2011), the original meaning and purpose with which the term 'EO' was conceived was lost with the passage of time. However, in recent years there has been a resurgence in the use of this construct (Covin & Lumpkin, 2011).

Conceptualising Entrepreneurial Orientation (EO)

Before proceeding further with the discussion on the nature of the EO construct, it is important to make the distinction between 'entrepreneurship' and 'entrepreneurial orientation'. *The essential act of entrepreneurship is new entry* (Lumpkin & Dess, 1996). This new entry could be in new markets or existing markets or new products / services or existing products / services. As Rodrik (2004) summed up, the process of innovation is not so much 'blue sky' discoveries or massive research & development (R&D) but more about 'self discovery' either in terms of costs or in terms of applications. What this means is that an individual entrepreneur discovers that they are able to produce an already existing product in the world market at low cost locally. Alternatively, they may discover a new product applicable to local needs by modifying an already existing technology or product from the world market to fit local requirements. Kohlbacher, et al. (2013) classify this as exploratory and exploitative innovation.

"EO on the other hand refers to the processes, practices and decision making that lead to new entry" (Lumpkin & Dess, 1996:136). As the level of entrepreneurship is not being measured in this research, issues of entry into new or existing markets

or for that matter new or existing products / services have not been taken into account in this research. Therefore, when measuring the resultant performance i.e. the potential to create wealth or the long term value of the firm, it has been deliberately assumed that the impact of new or existing markets or for that matter new or existing products / services (and also by definition issues of industry and sectors) are already reflected in the performance figure. In short, this research looks at all day-to-day activities (George & Marino, 2011). What this research attempts to measure is how the " *processes, practices and decision making* " in short, the EO of the firm, actually impacts on this performance. The need to investigate this and the sustainability of the relationship between the EO-Performance constructs has been proposed as a major area of research (Covin & Lumpkin, 2011; Wiklund, 1999). The EO concept that emerged from the strategic choice perspective (Child, 1972 republished 1997) implies that successful new entry can only be achieved by *deliberate action* on the part of managers. It is this 'deliberate act' that EO measures (Lumpkin & Dess, 1996). There is considerable debate as to whether this EO construct should be restricted to new entry only as suggested by Lumpkin and Dess (1996) or extended to all day to day mundane activities (George & Marino, 2011). This research sides with the argument presented by George and Marino (2011).

EO as a disposition or behaviour?

On a more fundamental level, there is considerable debate on whether EO should be seen as a *dispositional* construct or a *behaviourial* construct (Covin & Lumpkin, 2011). This research sides with their argument that, it is behaviours that define an entrepreneurial firm (Covin and Slevin 1991:8). Therefore, the EO concept applied in this research is looked upon as a behaviourial construct. There is however some merit in the *dispositional* perspective as argued by (Voss, Voss and Moorman 2005: 1134) who said "*a firm-level disposition to engage in behaviours that lead to change in the organsiation or marketplace*". Arguably,

therefore, only firms that have an EO disposition would exhibit EO behaviours. Table 2 presents a selection of prior research which explores this idea of disposition in more detail.

Author (s)	sample	Conceptualisation	Arguments
Stevenson & Jarillo (1990)	All organisations	Entrepreneurship is a process by which individuals-either on their own or inside organisations-pursue opportunities without regard to the resources they currently control	**Small 'mom & pop' business is not entrepreneurship**
Covin & Miles (1999)	all organisations	Corporate entrepreneurship includes three separate situations a)established business entering new business, b) individuals champion new product ideas and c) **entrepreneurial philosophy permeates entire organisation**	They are not inherently alternative or mutually exclusive but may exist as separate activities.
Voss, Voss & Moorman (2005)	non-profit professional theatre industry	EO is an **embedded organisational philosophy** that drives decision making and behaviour	
Davis, et al., 2010	92 firms	Looked at entrepreneurial behaviour and how it is influenced by the power of top managers	Organisations with **managers with an EO disposition are in a more favourable position to compete** in a fast-paced business climate.

Table 2: Selection of articles looking at EO as a disposition

Stevenson and Jarillo (1990) argues that when discussing entrepreneurship researchers generally do not refer to 'mom & pop' operations. In a sense what they were referring to was the difference in philosophy or underlying ethos of the firm. Covin & Miles (1999) were even more explicit when they stated that corporate

entrepreneurship could be defined in three separate ways with one of them being the entrepreneurial philosophy that permeates the organisation. It is this philosophy or disposition that Voss, Voss & Moorman (2005) argues that drives decision making and behaviour and therefore is the basis that separates EO disposed firms from the rest. In this research these 'others' have been termed as small business owners (SBO) using the definition first proposed by Carland et al (1984) Davis, et al (2010) in their research on how power of the managers moderates the EO behaviour also argues that organisations with managers having an EO disposition are expected to be more successful. Therefore, the important conclusion from this selection of a few prior studies (Table 2) is that firms with an EO disposition need to be first identified before their actual behaviour and its impact on performance can be studied. In other words, it is pointless to study the impact of EO type behaviour on performance for firms that do not possess this EO disposition. This research clearly demarcates between EO and non EO (i.e SBO) type microenterprises and that only firms stated to have a EO type disposition were included in this research.

EO as a firm level behaviourial construct

This research however agrees with the viewpoint presented by Covin & Lumpkin (2011) that simply having the necesary disposition does not mean that the firms are Entreprenuerial Oriented. It is their behaviour and actions that matter. Once the firms have been identified as having the necessary EO disposition then we can study their level EO behaviour on a firm level. Unfortunately as Covin & Lumpkin (2011) along with George and Marino (2011) argue the EO construct suffers from a plethora of conflicting definitions. They argued Miller (1983) in his original conceptualisation of EO firms only referred to those firms that are simultaneously proactive, risk-taking and innovative and that these attributes should be regarded as sufficient. This was the basis on which Covin and Slevin (1991) developed their initial nine-item operationalisation of the EO construct.

The general consensus is that EO is a firm level phenomenon and should be seen in that way (Covin and Lumpkin 2011:857). This research has therefore approached the EO construct from a firm level perspective and have used the questionnaire used by Runyan et al (2008) to measure the EO construct. While the original concept developed by Miller was meant to cover a wide range of organisational processes and not necessarily restricted to small firms (Miller, 2011; George & Marino, 2011), it was Lumpkin and Dess (1996) who proposed that it should be restricted to small firms. In addition to the three original measurements of innovativeness, risk-taking and proactiveness, they also proposed that the measurements of 'autonomy' and 'competitor aggressiveness' should be included. However, the mainstream of research using the EO construct are inclined to use Miller's (1983) and subsequently Covin and Slevin's (1991) three item definition of the construct (Wiklund, et al., 2009) to study small firms and this is what has also been used in this research.

The original EO construct was meant to reflect the 'deliberate action' propensity of any small firm. It was Carland, et al. (1984) who first broached the idea that EO and its opposite construct Small Business Owners (SBO) could be used to classify small businesses as two distinct groups. Runyan et al (2008) investigated the validity of this separation and found that the two groups were indeed distinct and separate. Following this, the template and questionnaire developed by Runyan et al (2008) forms the basis of the investigation of the EO construct for this research. The SBO type enterprises though measured have not been included in this research. The only minor adjustment that has been made in order to maintain consistency in the design of the survey instrument used for this research was to convert some of Runyan, et al (2008) bi-polar items into 7 point Likert scale questions. Although entrepreneurial studies have explored these different typologies since the mid-1980's, it is a relatively recent phenomenon in the context of economic theory especially at a micro level (i.e. at firm level). Baumol (2010), is perhaps the first to propose that microenterprises could be classified as

'innovative' and 'replicative' and that the former should be the basis of developing any micro-economic theory of entrpreneurship. Since this definition is very similar to what was proposed by Carland, et al. (1984), we have retained the original EO and SBO categorisation in this research.

EO and its impact on performance

As mentioned in section 1.1 the study of the relationship between EO and firm performance is extremely popular. Table 3 below presents a selection of some of these studies.Majority of studies found that EO has a positive relationship with performance. Lumpkin & Dess (1996) study which informs the definition of EO used in this research presented a 11 separate propositions but argued that EO had a positive relationship with performance but that the magnitude of this relationship was contingent on other factors. Matsuno, et al. (2002) however found that the EO-performance relationship is however negative when measured directly. It is only positive when moderated by market orientation.

From this viewpoint, it is possible to study other non-observable constructs (e.g Absorptive Capacity) pertaining to the firm that might impact on this EO behaviour (Covin & Lumpkin, 2011). Although additional concepts like Absorptive Capacity (ACAP) do not directly define EO, they are capable of providing a deeper and richer understanding of the firm's EO capabilities and its relationship with the firm's performance.

Typically, however the previous research has measured performnce using conventional measures. As argued in section 1.1 when stating the problem statement and discussed in further detail in section 2.3 this research is interested in looking at the potential wealth or value creation. Whether this EO-performance relationship especially when integrated with ACAP is still positive, when this performance measure is used would be an important test besides being able to fulfil the primary objective of this research. That is, being able to identify high performing entrepreneurial oriented microenterprises.

2.2.2 Typology of the micro enterprises to be used in this research
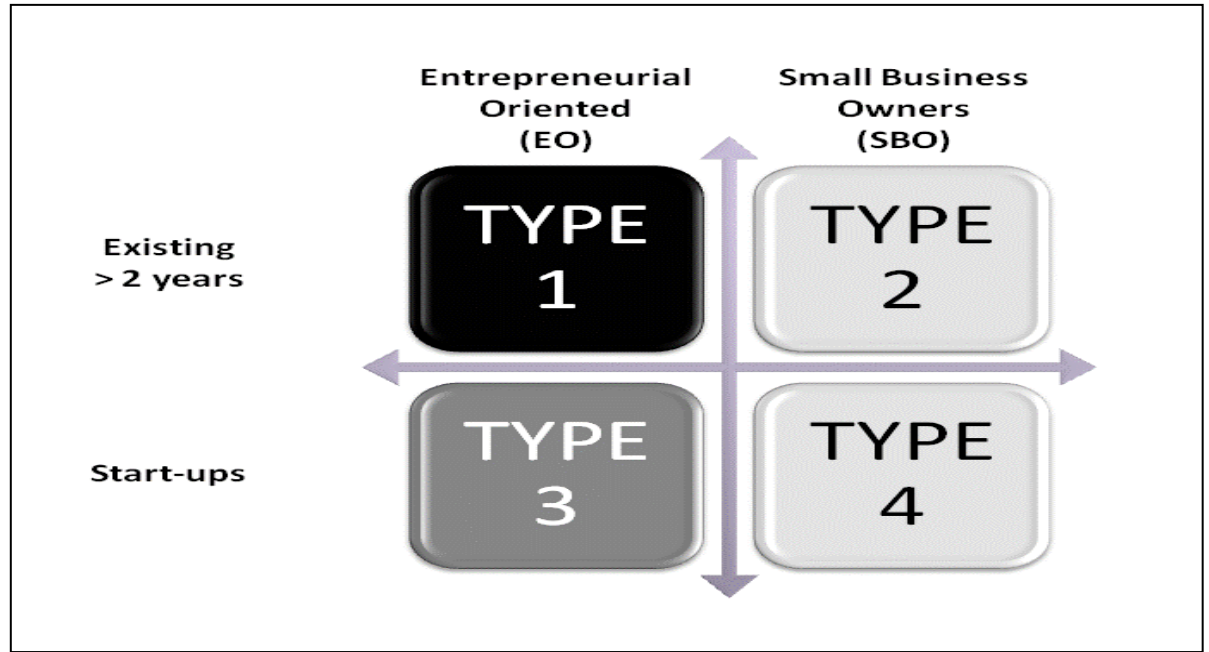
Figure 1: Microenterprise typologies
Source: Authors own formulation

As Lumpkin and Dess (1996) asserted, there is no dearth in the number of typologies developed and in that sense it could be argued the typology used in this research is another addition. However, presenting a suitable typology will be extremely helpful to set the boundaries of this research. As stated in the preceding section Carland, et al.(1984), in emphasising the importance of entrepreneurs as originally mentioned by Schumpeter (1934) were perhaps the first to present the idea that entrepreneurs could be classified into two categories -entrepreneurial oriented (EO) and small business owners (SBO). Covin and Slevin (1991) and subsequently Runyan et al (2008) using the distinction presented by Carland et al (1984) were able to demonstrate that entrepreneurial orientation (EO) and small business ownership (SBO) were distinct and separate constructs.

Author (s)	Type of paper	Sample/Target	Performance Conceptualised as	Results
Miller & Bromiley (1990)	empirical	493 US manufacturing firms	Return on Equity and Return on Assets	Looked at one sub construct of EO namely risk and its impact on performance. The results show that uncertainty in the income stream and strategic risk both negatively influences performance.
Zahra & Covin (1995)	Longitudinal studies	103 US firms (4 digit SIC in 28 sectors)	Return on Sales (ROS) for a 3 year period	Wide range of observed correlations suggests business strategy and technology policy are different constructs.
Lumpkin & Dess (1996)	Conceptual	start-up ventures and existing firms	multidimensional performance measure such as sales growth, market share, profitability, Overall performance and stakeholder satisfaction	In total 11 propositions were presented. EO has a positive relationship with performance but its magnitude is contingent on other factors
Wiklund (1999)	empirical	Data collected over three years (1996-98). Final total of 132 Swedish SME	A 7-item scale was used comprising of 3 financial performance indicators [gross margin, Gross profits and cash flows compared to competitors] and 4 measures of growth. [Sales growth, employment growth, sales growth compared to competitors and market value growth compared to competitors.]	EO is positive and significant in the prediction of financial and growth performance measures. The relationship between EO and performance is stronger with time. Financial capital availability has the largest influence on performance.
Matsuno et al (2002)	empirical	364 US firms (4 digit SIC)	3 self reported measures- market share, percentage of new product sales to total sales and ROI	EO had a positive effect with performance when moderated by market orientation and organisational structure. EO however had a negative impact on performance when measured directly
Wiklund & Shepherd (2003)	empirical	Data collected over three years (1997-2000). Final total of 384 Swedish SME	Self assessment using 10 different dimensions of performance (sales growth, revenue growth, growth in the number of employees, net profit margin, product/service innovation, process innovation, adoption of new technology, product/service quality, product/service variety and customer satisfaction.	EO moderates the relationship between a bundle of knowledge based resources and performance. The findings support the argument that the relationship between firms resources and performance must also consider the organization (that is EO)
Covin, Green & Slevin (2005)	empirical	115 US firms (>50 employees)	Firms' sales growth rate. Average rate of growth over the recent three year period	EO has a positive effect on Sales growth but only marginally significant (p<0.1) EO has a negative beta (p<.001) when strategic decision -making participations is used as interaction term

Lumpkin et al (2006)	empirical	194 firms from Inc 500 (1997 sample). & 138 firms from Inc 500 (2000 sample)	revenue growth and employee growth	While firm level innovation has a positive impact on performance for very young firms, its impact is negative for older firms. Riskiness has a positive influence for young firms but not for older. Older firms however enjoy greater performance benefits from competitive aggressive strategy making behaviour. Proactive strategic behaviour yields positive performance benefit as ventures age.
Wiklund et al (2009)	empirical	Data collected over two years (2006-07). 413 small business managers	Influence of five perspective (EO, environment, strategic fit, resources and growth attitude) on performance both individually and collectively. Performance has been measured using four metrics (sales, employee, rating of sales and employee growth in comparison to competitors in a 5 point Likert scale)	EO has a positive and significant relationship to growth. Attitudes also have a positive relationship to growth. Totally, the model can explain 30% of the variance in the growth. Components also have an indirect effect through EO and this highlight the importance of understanding the antecedents of EO.
Rauch et al (2009)	meta-analysis of 51 prior research	microenterprises, SMEs and also large firms	Performance is predominantly focuses mainly on financial aspects of performance. The studies rely on self-respect or archival data collected from secondary sources.	Correlation of EO with performance is moderately large (r= 0.242). The correlation for microenterprises is 0.345, 0.198 for SMEs and 0.240 for large firms. EO seems to have a stronger effect size for small firms. For high tech firms the correlation was 0.396 and 0.231 for other industries implying high tech firms benefit more from EO.
Davis, et al (2010)	empirical	92 firms	Perceived performance measures. Net profit as a measure of performance. Individuals were asked to provide an importance and their satisfaction on two 5 point Likert scales	EO is positively related to net profit
Su et al (2011)	empirical	223 manufacturing firms in China. Firms <8 years old were classified as new ventures (101 firms), established firms (122 firms)	Participants were asked to rate their organisation relative to their competitors over the last three years on a)return of assets b)market share c) net profit d) return on sales and e)sales	The linkage between EO and performance is U shaped for new ventures. For established firms the relationship between EO and Performance is linear and positive.

Sharma & Dave (2011)	empirical	319 SME paddy processing units in India	Performance was measured based on the owner's judgement about their firm as compared to past years. It comprised of average of sales, growth and profit	EO has a significant relationship with performance. This relationship is more significant for first generation of firms. Existing firms have a lower relationship. Risk taking has the highest impact on performance.
Zainol & Ayadurai (2011)	empirical	162 Malaysian SMEs	Performance measured by the participants self assessment of their firm in relation to competitors in terms of profit growth before tax, sales growth rates, market share and overall performance	EO has a significant relationship with performance. It however does not mediate between personality traits and performance.
Krause et al (2012)	empirical	164 Dutch SMEs	Perceived performance measures used. They are sales growth rate, employee growth, gross margin, profitability and cash flow.	EO dimensions of innovativeness and risk taking are not significantly associated with performance. Proactiveness is significantly associated with performance.

Table 3: Selection of prior research exploring the EO-Performance relationship
Source: Authors own summarisation

This research seeks to develop a typology of the different type of microenterprises that may be prevalent based on this distinction.

Distinction should also be made between existing enterprises and start-up enterprises. Existing enterprises, given their years of operation are assumed to exhibit sufficient firm level characteristics/attributes and organisational ethos that allows us to distinguish them as EO or SBO type enterprises. Covin and Slevin (1991) and Runyan et al (2008) postulated that, to be an EO type enterprise, it should exhibit three fundamental characteristics namely, innovativeness, pro-activeness and risk-taking. Carland et al (1984) on the other hand argued that Small Business Owners (SBO) are small business ventures in any business that are independently owned and operated, not dominant in the field, and which do not engage in any new marketing or innovative practices. Runyan et al (2008) extended this definition to argue that for small business owners (SBO) the central purpose of setting up business is that it is an extension of their personality and intended to further their personal goals and generate income for their families. SBOs also exhibit a high emotional attachment to the business. These businesses are at times more interested in achieving '*acceptable*' business performance rather than maximising performance. Some argue that it is possible that some SBO type microenterprises do not actually want to grow and that non-financial returns and satisfaction may at times be more important than just financial profitability.

Start-up businesses by their very definition do not have any history and therefore in order to distinguish and predict whether they fall in the category of entrepreneur oriented (EO) or small business owners (SBO), it becomes necessary to incorporate other variables that measure the personality traits of the would-be start up entrepreneur. However, as stated earlier this is not the focus of this research. The essential focus of this research is on **TYPE 1** microenterprise i.e. entrepreneurial oriented (EO) microenterprises that have existed for a minimum period of two years prior to the date of this research. Although some of the sample businesses in this research may be categorised as more **TYPE 2** microenterprises**,**

i.e. small-business owners (SBO) who have been in existence for more than two years, they do not form the subject of this research. In addition, a separate framework for selecting **TYPE 3** start-up micro enterprises might be necessary. They have therefore been excluded from the remit of this research. **TYPE 4** SMEs i.e. start-up SBO type microenterprises only provide some subsistence or livelihood and do not have much impact on economic growth. They have therefore been ignored in this research.

2.2.3   Micro enterprise's absorptive capacity (ACAP)

As EO has been defined as a 'deliberate act' looking at it from the perspective of strategic choice (Child, 1972 republished 1997; Lumpkin & Dess, 1996), then, the '*capacity to act*' or the capacity to make a strategic choice by senior managers should be an important extension to any study of the EO construct. In this research we have viewed this '*capacity*' as Absorptive Capacity (ACAP) first presented by Cohen and Levinthal (1990). This is similar to the arguments presented by Liao, et al. (2003) who argue higher levels of responsiveness (*acting* upon knowledge acquired) are associated with *capacities* of knowledge acquisition and internal dissemination.

Since the introduction of the concept by Cohen & Levinthal (1990) ACAP has been given multiple connotations (Volberda, et al., 2010). As stated in section 1.4, the ACAP construct is extremely popular as a research topic and therefore naturally prone to confusion in its definition and usage. ACAP has been considered as the capability for achieving innovation (Lin, et al. 2012; Gray, 2006), gaining competitive advantage (Zahra & George, 2002), coping with environmental change (Lichtenhaler, 2009), improving alliance performance (Mowery, et al., 1996), or even handling technological sourcing (Rothaermel & Alexandre, 2009). Table 4 below lists a few prior studies which explores the role of ACAP using different sets of dependent variables. As a result this has made the

concept extremely ambiguous with diverse definitions (Zahra and George 2002: 185). Additionally, the ACAP concept has predominantly been used to understand the knowledge transfer processes within large firms or at best SMEs. There are hardly any studies where this concept has been applied to microenterprises and in that sense this research can be seen as a novel attempt.

In order to justify the use of ACAP in this research on microenterprises, it is important to first retrace the theoretical underpinnings of the concept. The concept of ACAP is generally classified under the 'knowledge management' subject area. Interestingly, in the EBSCO database for example , it is classified as part of the 'Economics' subject area.

Omidvar (2013) in a review of the literature on ACAP since the introduction of the concept by Cohen & Levinthal in 1990 identifies two possible streams which he terms as the Cognitive and the evolutionary/dynamic capability.   Cohen & Levinthal's concept which takes a Cognitive approach links the dynamics of individuals into organisational learning. This was based on two inter-related premises

      a) organisation learning is more than the sum of individual learnings

      b) that organisation cognition are more enduring than those of individual.

Additionally, taking the cue from studies of how individuals develop their memory and cognition powers Cohen & Levinthal (1990) argued that it was the prior related knowledge or problem solving experience that makes individuals recognise new knowledge. They believed that this same approach could be applied to firms. It is this *prior knowledge* that the firm accumulates and which determines the effectiveness of their later efforts to acquire external knowledge. Therefore the broader the scope of the prior knowledge then higher the probability of detecting new external knowledge and in turn being able to absorb it.

Author (s)	Type of paper	sample/Target	ACAP Conceptualised as	Dependent Variable Conceptualised as	Results
Bosch et al (1999)	empirical	case study (Het Financieel Dagblad) & SDU NY - Netherlands	Transfer of knowledge across and within subunits, structure of communication, and a broad and active network of internal and external relationships.	assimilating new knowledge	The framework provides and explanation of how knowledge environment co-evolve with the emergence of organization forms and combinative capabilities. Not only limitations in a firm's current knowledge, but also the rigidity of organization forms and combinative capabilities may generate inertia in adapting absorptive Capacity.
Chen & Ching (2004)	empirical	542 Taiwanese Financial service companies	Using Cohen & Levinthal definition this was measured as CRM absorptive capacity, employee knowledge, employee business knowledge, CRM training, Cross functional CRM involvement, CRM training quality, Help sources, relationships with IT staff/consultants	CRM performance measured as value-added product and services, increased customer trust, enhanced image, reduced customer anxiety, customer service time, service quality, one-stop features, new markets, increased revenue, reduced new customer acquisition costs, marketing sales cost reduction	IT intensity and ACAP is positively related to market orientation, customer service (two important components of CRM practices). CRM practices have a positive impact on CRM performance. Additionally, ACAP has a direct and positive impact on CRM performance
Acs & Plummer (2005)	empirical	63 US counties in the state of Colorado. All new ventures and existing firms	defined as Incumbents as establishments of more than 100 employees, divided by the total number of establishment in the county	rate of conversion of new knowledge into economic knowledge	New venture creation is a superior method than the absorptive capacity of incumbent firms for converting new knowledge into economic knowledge
Colin Gray (2006)	empirical	1500 UK SME owners	Using Zahra & George (2002) demarcation of ACAP into potential ACAP (PACAP) and Realised ACAP (RACAP) this study focuses on PACAP, that is acquisition and assimilation of knowledge.	Actual growth and adoption of innovation (ICT applications). Actual growth measured by asking respondents to indicate whether sales over the past year have been up, down or remained the same and their expectations for the coming quarter.	Significant difference between SMEs with respect to ACAP as indicated by levels of education, staff development, growth orientation and propensity to innovate. SMEs that display attribute of high absorptive capacity firms also displayed stronger growth orientation and performance. The SME culture is crucial. Desire to grow does lead to actual growth

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Francalanci & Morabito (2009)	empirical	466 SMEs in Italy	ACAP has been operationalized using four orientation ;Process, Training, Change & Flexibility	Business performance has been measured using self-reporting methodology. It looked at competitive advantage in terms of economic performance, financial performance, achieving organizational objectives, future expectation	The finding support the mediation effect of ACAP between IS (IT system integration) and sustainable competitive advantage.
Hui & Idris (2009)	empirical	215 Malaysian SMEs registered in the Multimedia Super Corridor (MSC)	consists of three components; external knowledge acquisition, intra-firm knowledge dissemination and knowledge utilization	Innovative capability measured in terms of product innovation, process innovation, strategic innovation, behavioural innovation and market innovation.	External knowledge acquisition has a positive relationship with innovation. Intra-firm dissemination of knowledge is positively related to innovation. Firms with higher levels of innovation are likely to exhibit higher levels of knowledge utilisation.
Wang & Han (2011)	empirical	96 Chinese firms	ACAP has been measured in terms of acquisition, assimilation, transformation and exploitation.	Used two proxy measures to reflect Innovative performance. First variable indicates the ability of the firm to produce technical innovations. Second measure looks at managerial innovation - new strategy, marketing, HRM and leadership	ACAP has a moderator role between knowledge resources and innovative performance.
Kohlbacher et al (2013)	empirical	257 SMEs across 6 EU countries covering 12 clusters.	ACAP measured through 4 constructs as suggested by Jansen (2006) which essentially uses the measurements for PACAP and RACAP	Explorative and exploitative innovation. The scale for explorative innovation captured a firm's extent of departure from existing knowledge and effort to attract emerging customers and markets. Exploitative innovation captures a company's extent of building upon existing knowledge and meeting existing customer needs	ACAP positively affects both exploitative and explorative innovation. Both these effects depends on environmental dynamism and environmental competitiveness

Table 4: Selection of prior studies of the role of ACAP in SMEs
Source: Authors own summarization.

In a related article Cohen & Levinthal suggested that firms with higher levels of ACAP will tend to be more proactive (a concept measured as part of EO) and that these *'prepared firms'* are better at anticipating the emergence of valuable developments (Cohen, et al., 1994). Therefore, ACAP is expected to have a moderating role in the EO-performance relationship.

The evolutionary/dynamic capability approach on the other hand takes the view that ACAP directs the evolutionary path that the firm takes (Lewin, et al., 2011). ACAP is therefore seen as the moderating factor that affects the strategy (or actions as defined by EO) that the firm takes to achieve its objectives (Van Den Bosch, et al., 1999). ACAP of a firm evolves at two levels - macro level (i.e with its knowledge environment) and at a micro level (i.e within the firm). Lewin, et al., (2011) proposing a routine-based model suggested that ACAP could only be operationalised by looking at two sets of metaroutines (internal and external). Therefore, besides the stock of 'prior related knowledge' as argued by Cohen & Levinthal (1990) the organisational form and also the combinitive capabilties also have a role (Van Den Bosch, et al. 1999: 553). *Combinitive capabilities* are defined by the firms systems capabilities, coordination capabilities and socialisation capabilities (Van Den Bosch, et al., 1999: 556).

ACAP, which is more a process driven view has been used in this research to understand the knowledge resource of the microenterprise. This is because it is a more dynamic perspective than the traditional way of looking at knowledge through the images of embodied, embedded, embrained, encultured and encoded (Collins, 1993). Blackler (1995:1021) states this rather eloquently " *However , traditional assumptions about knowledge, upon which most current speculation about organisational knowledge is based , offer a compartmentalised and static approach to the subject*". It is therefore imperative to look at knowledge as a dynamic concept. Blackler (1995) drawing from various streams of thought ranging from philosophy to cognitive science proposes an active process suggesting that knowledge is "*mediated, situated, provisional, pragmatic and*

contested. As the definition of ACAP will show, it encompasses all of the above five attributes. In another research Neilson (2005), in tracing the evolution of strategic management and knowledge management for the past four decades, shows that the concept of 'Absorptive Capacity' falls within the purview of the 'process view' of knowledge management. While agreeing with the view that knowledge is seen as an asset and that ACAP is concerned with how to enhance the processes for accumulation and internalisation of this knowledge, it is difficult to understand as to why Neilson criticised it as 'internally focussed'. In fact, it could be argued that while Absorptive Capacity looks at knowledge as an asset and looks towards its enhancement, it is not only internally oriented but also very much externally focussed (Lewin, et al., 2011) . As the first part of the definition by Cohen and Levinthal clearly states, the focus is on '*new and external*' information which by definition implies an outward focus with its related complexities, national innovation systems and milieu (Dutz 2007), scope for strategic alliances and inter-firm knowledge transfers (Smedlund 2007; Dyer & Singh, 1998; Mowery et al 1996).

	CONTENT VIEW	PROCESS VIEW
Unit of Analysis	Types of Knowledge	Collective Knowledge
Level of Analysis	**Intra-organisational** - PRK Vs Explicit - Knowledge as resource - Knowledge as embedded **Inter organisational** - Knowledge transfer - Network as repository of knowledge	**Intra-organisational** - Organisational Learning - **Absorptive Capacity** - Intellectual Capital **Inter-organisational** - Knowledge as strategic tool - Network as Growth Opportunity
Main Focus	Individual Vs group Vs Organisational codifications, exploitation and protection of knowledge	Ideas, techniques and prescriptions Accumulation and distribution of knowledge
Approach	Descriptive analysis of activities	Practical analysis of practices
Strategic view	Ontological/ structural	Pragmatic/organic
Strategic Objective	Enhancement of efficiency and effectiveness	Enhancement of processes

Main Criticism	- Static/Protectionist - Limited openness to external knowledge/ creation of new knowledge - Ignores cognitive/behaviourial aspects	- Lack of dynamism - Internally oriented - Knowledge as asset - Limited emphasis on synergies - Short – term focus
Major Constributors	Hymer (1959) Polanyi (1962) Winter (1987) Prahalad & Hamel (1990) Kogut & Zander (1995) Liebeskind (1996) Conner & Prahalad (1996)	Simon (1960) Cyert & March (1963) Argyris and Schön (1978) Nelson & Winter (1982) Cohen & Levinthal (1990) Nonaka (1994) Hamel & Prahalad (1994) Blackler (1995) Moore & Birkenshaw (1998)

Table 5: Comparison of Knowledge Management Perspectives

Source: Neilson (2005:5)

Neilson (2005) criticises this process view of collective knowledge as 'limited emphasis on synergies' and 'short-term focus'. Lane and Lubatkin (1998) taking the evolutionary/dynamic capability perspective reconceptualised the firm level Absorptive Capacity as a capability for interorganisational learning and their focus was on the student-teacher relationship between two firms which they termed as a '*learning dyad'*. This focus on capability and especially viewing ACAP as part of the '*dynamic capability*' (Teece, et al 1997; Zahra & George, 2002) is an extension of the original construct proposed by Cohen and Levinthal (1990). Dyer and Singh (1998) extending on the issue of motivation proposed that a firm's capability to identify, assimilate and apply inter-organisational learning opportunities is dependent on the 'social interactions' and collaboration processes that the members of the firms develop over time. This view is also endorsed by Kostopoulus, et al. (2007) and Vega-Jurado, et al (2008). Therefore, Neilson's criticism that the ACAP construct measuring collective knowledge has a *'limited emphasis on synergies'* might not be valid.

ACAP provides scope for both internal and external synergies. However, as argued in the preceding chapter issues of deriving external synergies or in other words 'Relational capital' is essentially about managing the 'power relationship' (Peterson, et al., 2008 ; Liao & Welsch, 2005 ; Maloni & Benton, 2000 ; Kale, et

al., 2000). While this is critical for large firms, this might be of limited value in the context of microenterprises, since by definition they have limited power. However, the internal synergies or 'social interactions' (Dyer and Singh 1998) still remain relevant. Zahra and George (2002) taking similar 'process' and 'dynamic capability' view propose that internal knowledge sharing (we assume this to mean internal communications) and integration are critical. They propose a more nuanced definition where they separate the overall concept of Absorptive Capacity into '*potential (PACAP)*' and '*realised (RACAP)*' subsets and define it "*as a set of organisational routines and processes by which firms acquire, assimilate,transform and exploit knowledge to produce a dynamic organisational capability*". (Zahra and George 2002 : 86). However, the ACAP components that have been developed for the purposes of this research, are based on the original definitions of Cohen and Levinthal (1990). These have then been tested to verify how well the overall ACAP construct is being validated in the context of microenterprises. While we have taken recognition of the modification proposed by Zahra and George (2002) in terms of PACAP and RACAP, these have not been tested in this research. In short it could be argued that in this research we have deliberately treated ACAP as an *'umbrella concept'* (Hirsch & Levin, 1999). They defined an umbrella construct " *as a broad concept or idea used loosely to encompass and account for a set of diverse phenomenon*" (Hirsch & Levin, 1999: 200). Since ACAP as a concept and theory is so well researched in the context of large firms and even SME's the approach taken in this research for microenterprises could be viewed as 'too general' and it could be argued that a rigorous methodological approach should be possible. There are however a number of limitations with this 'validity police' (Hirsch & Levin, 1999: 200) perspective as explained in the following paragraphs.

As argued earlier knowledge creation in microenterprises is a function of personal tacit level and from the level of codified knowledge within the firm. Cohen and Levinthal (1990) in their seminal article defined absorptive capacity as " *the ability of the firm to recognise the value of new,external information, assimilate it*

and apply it to commercial ends…and is a function of the firms prior related knowledge". Arguably, a closer review of the above definition would mean that ACAP comprises of three distinct constructs

(1)   *value of new, external information (INFOC)*

(2)   *its assimilation and application to commercial ends* and thus the resultant internal and external communications, discussions and processes (COMint)

and finally

(3)   its dependence on the *prior related knowledge (PRK)* of firms

In short, ACAP by its very definition is multidimensional and made up of at least three constructs, if not more. These have been termed as INFOC, COMint and PRK respectively for the purposes of this research. Hui & Idris, (2009) used a similar classification in their study where they disaggregated ACAP into external knowledge acquisition, intra-firm knowledge dissemination and knowledge utilization constructs. It is important at the very outset to be able to justify the choice of the three latent constructs that are claimed to represent ACAP in the context of microenterprises. In order to do this it is important to explain why the concept of ACAP in the context of microenterprises needs to be modified and adapted.

Microenterprises by their very definition are firms with less than 10 employees. Therefore , the separation between individual knowledge and firm level knowledge which is the cornerstone of the cognition stream of thinking as espoused by Cohen & Levinthal (1990, 1994) is at best tenous for these microenterprises. This would be even more pronounced for microenterprises comprising of less than 5 employees. In short the knowledge asset of a microenterprise is to a large part the owner/manager themselves (Thorpe, et al., 2005: 262). To term these owner/managers as 'boundary spanners' (Kostova & Roth, 2003) would be over ambitious since microenterprises by definition seldom

have too many boundaries internally due to their limited size. These owner/managers are more often than not 'gate-keepers' who translate the information (Hillebrand & Biemans, 2004) or at best 'change agents' (Jones, 2006) who have the requisite problem solving, ownership and legitimacy to transform and exploit new knowledge. It is expected that majority of owner/managers act as 'gate-keepers' which has its inherent limitations as there is the danger that the managers are locked onto their tight bounded rationality (Petts, et al., 1998) and are myopic in outlook (Menon & Pfeffer, 2003) and in the process path dependent (Cohen & Levinthal, 1990) on existing knowledge. Being able to move beyond the constraints of old knowledge requires cognitive creativity (Ward, 2004) which is relatively a rare capability amongst majority of owner/managers of microenterprises. It is this trait which distinguishes high performance potential microenterprises from the rest.

Again, to claim that the ACAP of microenterprises is entirely dependent on the cognitive approach and therefore by default on the knowledge residing in the individual level of owner/managers would be somewhat one sided. Since microenterprises have limited assets or access to their own assets to develop knowledge (R&D, business units etc) they are also dependent (perhaps even more so than conventional SMEs) on their relations with customers, suppliers , regulators and professions to collect new information (Meeus, et al., 2001). Therefore, a microenterprises knowledge is not bound only by their boundaries or the individuals but also in the inter-organisational relationships they develop over time (Dyer & Singh, 1998). The benefit of this evolutionary/ dynamic capability approach is that resolves the problems associated with assuming that individual and firm cognition processes are the same (Omidvar, 2013). This evolutionary/ dynamic capability approach however assumes that the organisation has in place necessary routines and processes to absorb the knowledge (Lewin, et al., 2011; Ward, 2004; Wong & Radcliffe, 2000).

Internal Communication as the starting point

This research takes the view that 'internal communication' is the starting point for the whole process of knowledge creation. As mentioned earlier Liao, et al. (2003) argue that the capacity to disseminate information is critical to develop Absorptive Capacity. We have already argued that knowledge has an impact on performance. It therefore follows that 'internal communication' should have an impact on performance. Again, prior studies have shown that the EO-Performance has a positive relationship (please refer to Rauch et al , 2009). This research argues that this positive EO-Performance relationship is contingent on how the role of 'internal communication' is defined. Internal communication' has previously been defined as one of the three sub-constructs that make up ACAP. As Cohen and Levinthal (1990) argued, firm level ACAP is dependent not only on the sum total of the prior knowledge of the diverse individuals that make up the team within a firm but also on how and to what extent the organisation as a whole is able to exploit this knowledge. An organisation's absorptive capacity (ACAP) therefore develops cumulatively. ACAP of the firm develops as its individual members assimilate and interact with the external environment. ACAP is also developed from the interaction between units and sub-units within the firm (Liao, et al., 2003). Thus, to understand a firm's ACAP we need to understand not only the communication structure between the firm and its external environment but also between the various units within the firm (Lewin, et al., 2011). This internal communication structure (COMint) therefore drives the absorptive capacity (ACAP).

The concept of internal communication structure however, has to be viewed a little differently in the context of microenterprises. DeSouza and Awazu (2006) in their study of how small firms disseminate knowledge found that there is a separation in what they termed as 'common' and 'core' knowledge.   While 'common' knowledge was easily shared and its loss did not have any major impact on enterprises, the 'core' knowledge needed to be closely controlled. It has been

stated earlier that knowledge has to be immobile and 'locked in' (Barney 1991, 1995) to create competitive advantage for the firm. Therefore, sharing this core knowledge for a microenterprise might actually be detrimental to the long-term value of the firm. Little wonder that Basly (2007) when studying small family firms described them as 'hermetically sealed' and maybe this is a necessity rather than an oddity.

Unfortunately, the conventional communication structures discussed in prior literature [Lane and Lubatkin, 1998; Moon and Kym, 2006; King and Grace, 2008; Peterson, et al. 2008; Liao and Welsch, 2005; Carson, et al. 2004] reflect a degree of underlying 'normative bias'. These prior studies tend to imply that more open communication structures are naturally beneficial for enhanced performance. While this is certainly true for medium and large organisations (please refer to de Waal (2012: 111) for the importance of openness) or even SMEs (Liao, et al., 2003), the reverse might actually be more applicable in the context of microenterprises. In short, less communication might be more beneficial for microenterprises and this is one of the issues that is investigated in this research. As argued previously the knowledge asset of a microenterprise resides predominantly in the owner/manager (Thorpe, et al., 2005: 262) and they predominantly act as 'gate-keepers' (Hillebrand & Biemans, 2004, Tushman, 1996). Sharing this knowledge openly across the organisation would be detrimental to the firm. At the same time being able to convert some of this individual prior related knowledge (PRK) into organisational knowledge through routines (Lewin, et al., 2011; Ward, 2004; Wong & Radcliffe, 2000), internal ties (Darby & Zucker, 2003) or even external ties (de Jong & Freel, 2012; Liao, et al. 2003; Meeus, et al. 2001) is equally important for long term value. As Foss, et al.(2015) argue in their research of 474 Danish SMEs decentralisation and formalisation have direct, positive and significant associations with opportunity realization. It is therefore expected that high performing microenterprises are those that have a mix of control of what is communicated and yet the same time a certain degree of formalisation, decentralisation and dissemination of information

that nurtures creativity (Foss, et al., 2015; Ward, 2004). In short a balance between the individuals mental models (Lane, et al., 2006) and strategies and the firms level of formalisation (Foss, et al., 2015) through systems. data storage etc. Therefore the existing knowledge, personal judgement and most importantly the comunication skills of the owner/manager in a microenterprise becomes most important (Carson & Gilmore, 2000).

Information Collation and Collection

It is generally accepted that the rapid changes in information have a major role in the performance of a microenterprise. The ability of the firm to assimilate external information would very much depend on the individual who act as the interface or '*gate-keepers*' (Jones, 2006; Hillebrand & Biemans, 2004;Tushman, 1996). Arguably, there are two aspects to this information issue. On the one hand there is the ability to collect the requisite information and on the other, the ability to actually apply this information. We have termed this as the INFOC construct.

Gherardi & Nicolini, (2000: 330) in a critique of this approach stated " *learning is treated as the acquisition of the body of data, facts and practical wisdom accomulated by all generations that have preceded us, a view similar to the 'brick laying' model of scientific discovery*". While there is some merit in this criticism especially considering the fact that generating internal knowledge is far more valuable than external knowledge (Menon & Pfeffer, 2003), it is however a fact that majority of microenterprises are simply recipients or user of external knowledge. As Rodrik (2004) states majority of firms are not involved in major 'blue sky' innovations but essentially small incremental projects like either introducing a product/service in the domestic market that is available in the world market or alternatively finding a new application for an old product/service that is already available. This is particularly true for microenterprises and therefore collecting and collating external information becomes particularly important. This is part of the external meta routines described by Lewin, et al. (2011).

Prior Related Knowledge

The concept of *'prior related knowledge'* in this research is included within the definition of ACAP by Cohen & Levinthal (1990). There is however a symbiotic relationship between 'prior related knowledge' and Human Capital (Dyer and Singh, 1998; Lane and Lubatkin, 1998). Therefore, the question that needs to be explored is what Human Capital is and how is it related to *'Prior related knowledge'*. Human Capital has been defined as "*that in the minds of individuals: knowledge, competences, experience, know-how*" (Skryme, 2005). In short, it refers to the 'mental models' within the minds of the owners/managers of microenterprises. These 'mental models' have an important bearing on ACAP (Lane, et al., 2006). This Human Capital has become central to organisations in the 21st century (Bartlett & Ghoshal, 2002).

Oelsnitz (2007) in his review of a book on Human Capital Management argues that there is incoherence in this field of research. This view is endorsed by Royal & O'Donnell (2008) who asserted that there appears to be two schools of thought and approaches on the concept. On the one hand Human Capital is defined as *"the practices used in organisations which work towards the long-term sustainability of the organisation"* and on the other hand it refers to *'social capital'* (Royal & O'Donnell, 2008: 368). In the majority of prior studies, there appears to be a tendency to equate human capital with education both formally and generally (Keeley, 2007). Keeley (2007) however found that while education and training are an important prerequisite, it is not the only factor at play especially when human capital is viewed from the organisational or entrepreneurial perspective. A more detailed 'growth accounting' perspective is given by Coulombe and Tremplay (2009) who argued that Human Capital is a major endogenous outcome albeit from a macro economic perspective. As discussed in the preceding chapter, 'endogenous outcomes' at a macro level is partly the sum of the endogenous outcomes in the micro level i.e. a firm level characteristic. Therefore, studying Human Capital at a firm level is important.

At a firm level, Diochon et al (2008) looked at the individual level Human Capital traits that might predict the possibility of business start-up. Others have argued that it can be a predictor of the internationalisation potential of SMEs (Ruzzier, et al., 2007) and that Human Capital is an important prerequisite for business opportunity identification and pursuit Ucbasaran, et al., (2008). Bontis & Serenko (2009) were of the view that Human Capital has a major impact of organisational performance and this study therefore has an important bearing on this research.

The Human Capital or 'Prior Related Knowledge' has been operationalized through five different measures in this research. It could be argued in the context of microenterprises that these 'mental models' (also referred to as prior related knowledge) are reflected in the documents and files created, designs and strategies followed by the organisation. This is the internal Meta routines described by Lewin, et al. (2011).

ACAP and Performance

Neilson (2005) final criticism was that ACAP measuring collective knowledge has a short-term focus. Again, this criticism is questionable. Sabri (2005) argues that knowledge is a continuous and ongoing organic renewal of organisational processes. It is this knowledge that assists the firm to predict and anticipate future opportunities and threats and adapt its processes accordingly. Therefore, knowledge by this definition is long term and continuous and not short-term as Neilson claims. When looking at how this knowledge affects performance Rappaport (1998: 695) claims, "*Accounting numbers and traditional financial ratios will be affected by the movement from industrial companies to knowledge companies. Shareholder value calculations will not*". Therefore, conventional measures of performance are not able to account for this long-term perspective which shareholder value calculations with its focus on "present *value of anticipated cash flows*" (Schuster & Jameson, 2003) is more adept in doing. This justifies why potential 'wealth' or 'value' have been used to measure performance in this research. As previously discussed, ACAP assists in creating this knowledge

while EO helps to 'lock in' this knowledge. Together, it is argued they assist the microenterprise to achieve superior performance.

This research looks at the direct role of ACAP on business performance and also its relationship if any with EO in explaining performance. Additionally, since ACAP looks at acquisition, assimilation, transformation and exploitation of knowledge which by definition is long term then the performance measure must be able to reflect this aspect. As argued in section 2.3 conventional performance measures are incapable of reflecting this long term perspective (Rappaport, 1998).

ACAP on a macroeconomic level

On a broader macroeconomic level, the issue of Absorptive Capacity (ACAP) is important as highlighted by the extensive research and studies conducted on the growth of economies. In the context of developing economies, literature shows that the backwardness of an economy up to a certain limit gives it a relative advantage to catch up with the more relatively advanced peers (Stokke 2004). The relative economic backwardness theory developed by Gerschenkron (1962) postulated that the more backward the economy, the higher the rate of productivity growth, provided the gap between a developing country and it's more developed peers does not fall below a certain level. This threshold value is important. If the country or economy falls below this level, there is a chance that it will fail to catch up and disparity will be observed. A large part of the economy's ability to catch up is dependent on Absorptive Capacity (ACAP) of the economy as a whole. It could be argued that this overall ACAP in turn is dependent on the Absorptive Capacity (ACAP) of the individual organisations that make up the economy.   In the context of developed economies like the UK this ACAP is also important as it is an important predictor for the economy to remain in the forefront of innovation and knowledge creation.

Conclusions

Developing a detailed ACAP construct for microenterprises taking into account the above dichotomies would be beyond the scope and remit of this research. The prime objective of this research is to test whether the performance of a microenterprise measured in terms of wealth or value creation can be predicted by using two umbrella constructs like EO and ACAP. Both these firm level characteristics are generally well researched and documented for SMEs and even large firms. However, the concepts of EO & ACAP have generally not been applied for microenterprises. Therefore the novelty of this research is to test if the concepts developed so far for large firms or SMEs would be equally applicable for microenterprises albeit as 'umbrella constructs'. Additionally, measuring performance in terms of 'wealth or value creation' as discussed in section (2.3) has generally not been applied in the context of microenterprises.

2.3   Measuring Performance

The central argument in this research is that the prediction of high performance of microenterprises is dependent on the EO and ACAP attributes. It is recognised that besides EO and ACAP, other attributes like Capabilities, Inter-organisational learning linkages and Organisational Intellectual Capital also play an important role. However, as discussed in Chapter 1, these attributes have been either subsumed into the EO & ACAP 'firm level characteristics' used to explain performance or alternatively removed from the analysis. It is expected that the intangible assets (EO and ACAP) studied in this research will have a substantial impact on performance (Marr & Adams, 2004). A number of studies have argued that there is a positive relationship between EO and performance[9]. However, the

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[9] Please refer to (Lumpkin & Dess, 1996; Wiklund, 1999; Covin, et al., 2005; Lumpkin, et al., 2006; Rauch, et al., 2009; Davis, et al 2010); Su, et al., 2011; Sharma & Dave, 2011; Zainol & Ayadurai, 2011;Wales, et al., 2013, Sciascia, et al., 2014, Rodriguez-Gutierrez, et al., 2015)

magnitude of this relationship varies between studies and the methods used to measure performance even more so (Rauch, et al., 2009). It has been argued in Chapter 1 that it is the firm's 'wealth' or 'value' that should be the measure of performance and this is now explored in more detail in this section. This section therefore looks at the different concepts and metrics that are presently prevalent and justifies the selection of a methodology for measuring the performance of microenterprises.

2.3.1 *Performance Measurement Models (PMM) for SMEs*

As the following table highlights there is actually no dearth of models, frameworks or researches looking at the performance of SMEs. However, most of these studies using the typologies presented by Taticchi, et al., (2010) are either looking at integrated frameworks for SME PMM (Type 1) or looking at specific issues (Type 2). Type 3 models are essentially applications or adaptations of PMM models from large companies while Type 4 refers to innovative researches looking at alternative PMM models for SMEs.

Year	Name of the Model/ Framework	References	Type
1995	Model for quality- based performances	Noci(1995)	3
1997	BSC application to SMEs	Chee et al (1997)	3
1998	Customer Orientation and Performance	Kwaku and Satyendra (1998)	2
1999	Activity based costing in SMEs	Gunasekaran et al (1999)	3
2000	Quality model in an SME context	McAdam (2000)	3
2000	Computer based performance measurements in SMEs	Kueng et al (2000)	2
2000	OPM a system for organisational performance measurement	Chennel et al (2000)	1
2000	Performance measurement in the implementation of CIM in SMEs	Marri et al (2000)	3
2000	Performance measurement based on SME owners objectives	Watson et al (2000)	4
2001	Effective performance measurements in SMEs	Hudson, Lean and Smart (2001)	1
2001	Indicators for performance measurement in SMEs	Hvolby and Thorstenson (2001)	4
2001	Theory and practice in SME performance measurement systems	Hudson, Smart and Bourne (2001)	4
2002	Dynamic integrated performance measurement systems	Laitenen (2002)	1
2004	A strategic planning model for SMEs based on the BSC	Davig et al (2004)	3
2005	Practice of performance measurement	Sharma et al (2005)	4
2007	BSC implemented in a not for profit SME	Manville (2007)	3
2007	A BPI framework and PAM for SMEs	Khan et al (2007)	2
2008	A performance measurement model based on the grounded theory approach	Chong (2008)	4

Table 6: Performance measurement models, frameworks and researches for SMEs
Source: Adopted from Taticchi, et al., (2010: 12)

However, as Garengo, et al., (2005) in their review of performance measurement models in SMEs concluded while PMM is seen as extremely important in SMEs very few actually carry out any form of performance management. While the above table shows there is sufficient evidence of focussing on the development of PMM for SMEs there is actually very little research focusing on performance measurment of SMEs itself (Garengo, et al., 2005: 40). If this is true for SMEs then the problem is even more acute when it comes to measuring performance in microenterprises.

Taking Taticchi, et al., (2010) typologies on board this research is attempting to argue and focus on a specific performance measurement for microenterprises. In a sense it is proposing a hybrid measurement model that falls somewhere between Type 3 and Type 4. It is drawing on some of the earlier 'value added' performance measurment models applied to large firms in the 1980's and adapting and applying it to microenterprises. In the process the aim is to argue that there is need to shift the debate of measuring the performance of microenterprises from the conventional 'growth' metrics to a more 'value or wealth' creation model. The following sections expands on this argument.

2.3.2   Defining Performance

 As discussed previously, the central problem of understanding the concept of performance is that there is no single accepted definition (Henricsson et al, 2004; Combs et al, 2005; Franco-Santos, et al., 2007). It is generally viewed as a multidimensional and multifunctional construct (Lumpkin & Dess, 1996; Delmar et al, 2003; Sardana, 2008). The problem with accepting this perspective is that no two-research results are comparable and more importantly, there is no precise way to compare performance between firms. Despite this lack of a precise definition, there is no dearth in the usage of the term. A quick search in the ABI/INFORM

Proquest[10] database revealed that there were around 2773 peer reviewed scholarly articles between January 1990 and June 2015 where the word 'business performance' appeared in the abstract. Nearly 243 of these articles had the word in the title of the article.

This research attempts to deconstruct the word 'performance' and proposes that there is a need to bifurcate the word business performance into '*internal business performance*' and '*comparative business performance*'. Internal business performance refers to a measure of results and outcomes that are intrinsic to an individual firm. Comparative business performance on the other hand refers to a measure of results and outcomes that can be compared between two or more firms. The comparative business performance does not reflect any of the intrinsic characteristics of any individual firm. Arguably, the two, i.e. the 'internal business performance' and 'comparative business performance' are not the same and have completely different theoretical grounding. Majority of prior studies mistakenly use 'internal business performance' to compare the performance of two or more firms. This issue becomes critical since there have been many prior attempts to present empirically tested models looking at antecedents that explain business performance. Yet the very definition of the dependent variable remains imprecise. This research argues that only 'comparative *business performance*' measures should be used to compare between firms. This measurement should be generic across firms irrespective of their industries, sectors or even size and must be devoid of any intrinsic characteristics or aspirations of the firm being measured. In short, it cannot be a problem driven construct (Carton & Hofer, 2006). This begs the question can such a generic measure be identified?

Franco-Santos, et al (2007) while reviewing the definitions in use in literature for business performance measurement (BPM), identified definitions from the operations perspective, reporting process, strategic control perspective and finally

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[10] Accessed on 30 June 2015

management accounting perspective. Sardana (2008) on the other hand classified the various perspectives as follows:

1.   Financial cost accounting measures

2.   Integrated performance measurement approaches

3.   Balance measures

4.   Assessment framework

This is almost similar in terms of the classification by Carton & Hofer (2006) who classified performance in the following five categories of content:

1.   Accounting Literature perspective

2.   The balanced scorecard perspective

3.   The strategic management perspective

4.   The entrepreneurship perspective

5.   The macroeconomic perspective

Given the multiplicity of perspectives and their related measurements, it is little wonder that there is no consensus as to what is actually meant by 'business performance'. Franco-Santos, et al. (2007) stated in the rationale for their article that *"... This lack of clarity creates confusion and comparability issues, and makes it difficult for researchers to build on each other's work"*. Coad (2009:143) states, "*random, utterly random, everything is random"* when describing performance. Carton and Hofer (2006: 43) made an even more *tongue in cheek* observation:

> *"Unfortunately, despite all of the scholarly and practitioner attention paid to the subject, the best way to characterise our current understanding of the concept of organisational performance would be to paraphrase the Supreme Court's definition of pornography, that is ' I can't tell you exactly what it is, but I will know it when I see it'....".*

A possible way to resolve this lack of consensus is to use a truncated version of the definition provided by StudyMode.com[11] *"Organisational performance comprises the actual output or results of an organisation"* The operative word here is '*actual output or results*' or in other words '*results and outcomes'*. These 'results and outcomes' form the basis of any performance measurement. They can be measured against its intended outputs (or goals and objectives) of the organisation which in this research we have termed as '*internal business performance*' or "*organisational effectiveness*". Alternatively, these results and outcomes can be compared between two or more organisations and have been termed as '*comparative business performance* ' or *"organisational performance" in* this research. In the subsequent section, the difference between organisational effectiveness and organisational performance is explored in more detail.

2.3.3 *Organisational Effectiveness Vs Organisational Performance*

This research takes the view that measuring organisational effectiveness is not the same as organisational performance. Unfortunately, most literature in this area makes use of these two terms interchangeably (for example, view the section in Carton and Hofer (2006: 47). This has meant confusion and ambiguity on what can be defined as organisational effectiveness and its relation if any, to organisational performance. The argument here is that the two can and should be viewed as different. We have defined 'internal business performance' to mean organisational effectiveness (Venkatraman and Ramanujam 1985). Organisational effectiveness is a product of an organisation's individual values and preferences (Cameron 1986a). In that sense, it is dependent on the perceptions and preferences set by managers within an organisation. It is therefore, by definition unique and cannot be compared between two organisations. Cameron listed five (5) areas

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[11] Source: http://www.studymode.com/essays/Definitions-Of-Organizational-Performance-663067.html

where there is consensus and three (3) areas where there is conflict in the conceptualisation of organisational effectiveness (Cameron, 1986b):

1. *Despite the ambiguity and confusion surrounding the construct of organisation effectiveness, it is central to the organisational sciences.*

2. *Because no conceptualisation of an organisation is comprehensive, no conceptualisation of an effective organisation is comprehensive. As the metaphor, describing an organisation changes so does the definition or appropriate model of organisational effectiveness.*

3. *The consensus regarding the best sufficient set of indicators of effectiveness is impossible to obtain. Criteria are based on the values and preferences of individuals and no specifiable construct boundaries exist.*

4. *Different models of effectiveness are useful for research in different circumstances. Their usefulness depends on the purposes and constraints placed on the organisational effectiveness being investigated.*

5. *Organisation effectiveness is mainly a problem driven construct rather than a theory driven construct.*

In the same article, Cameron identified three areas where there is no consensus

1. *Evaluators of the effectiveness often select models and criteria arbitrarily in their assessment relying primarily on convenience.*

2. *Indicators of effectiveness selected by researchers are often too narrowly or too broadly defined or they do not relate to organisational effectiveness.*

3.   Outcomes are the dominant type of criteria used to assess effectiveness by researchers whereas effects are most frequently used in policy decisions and by the public.

It is quite clear from the five areas of consensus identified by Cameron that organisational effectiveness is a problem driven construct and therefore cannot be compared between organisations. It is little wonder therefore that Cameron after six years of intensive research finally concluded that there was no general theory on organisational effectiveness. Hirsch & Levin, (1999) specifically points to the death of an umbrella concept like organisational effectiveness. Richard, et al. (2009:3) defining organisational effectiveness states "…. *is broader and captures organisational performance plus the plethora of internal performance outcomes normally associated with more efficient or effective operations and other external measures that relate to considerations that are broader than those simply associated with economic valuation (either by shareholders, managers or customers) such as reputation*". Franco-Santos, et al. (2007) in their meta analysis of over 300 documents noted about 17 different definitions of Business Performance measurement (BPM) systems which they categorised under three broad groups each made up of separate headings (*shown in parenthesis*) as Features (*8*), Roles (*17*) and Processes (*13*). They assert while these 38 different headings are extremely helpful for researchers to explicitly define the term '*business performance*' these different headings still do not address the central problem as to whether the measurements can be used to compare between firms.

In the author's opinion, performance can be measured at various ontological levels. Borrowing from the Neo Schumpeterian (Hanusch, et al., 2006), classification performance could also be defined from the macro, meso and micro levels namely,

a)   Strategic business unit (SBU) level performance - micro level

b)   Organisational level performance - micro level

c)   Industry sector level performance - meso level

d)   Macro industry level performance across sectors.

Figure 2 : Difference between Organisational Effectiveness and Performance
Source: Authors own
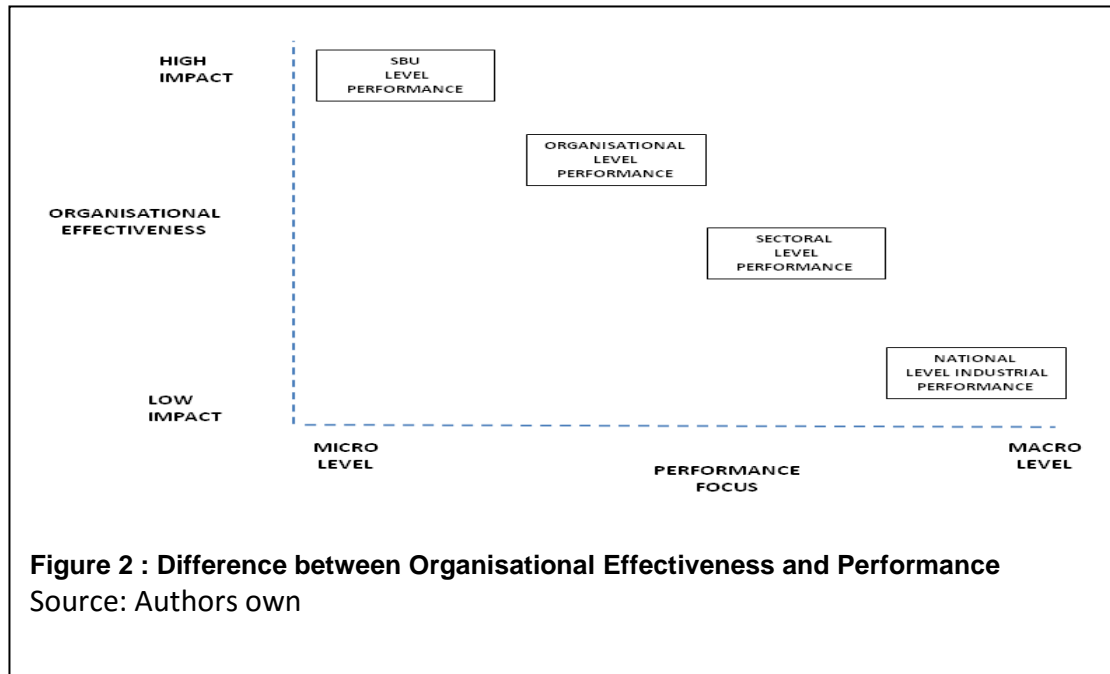
It is argued that at a Strategic Business Unit (SBU) or organisational level, performance is determined or is predominantly driven by individual performance perceptions and contextual issues. At this stage, measurement of performance is very much dependent on perceptions and measurements of effectiveness. However, on a sector level or on a more macro/national level, the potential relationship between organisational effectiveness measurement and performance could be assumed weaker. Figure 2 above shows the relationship between organisational effectiveness measures and organisational performance measures graphically.

When comparing the performance of respective organisations across sectors or industries at the sector or national industrial performance level, it should be possible to develop a generalised measure of performance. Carton and Hofer (2006, pp 3) in their book 'Measuring Organisational Performance' argued this

rather succinctly. They defined performance as the ability of the firm in achieving shareholder wealth. They termed this rate of shareholder wealth creation (SWC) as a composite score. SWC was calculated as a function of the growth rate of total assets, change in the ratio of liabilities to total assets, positive improvement in the firms' viability (Altman Z score) and return on assets (ROA). These findings however were based on mid-sized publicly traded US based organisations. What needs to be investigated is whether this measure could be applied to UK based microenterprises. Rappaport (1998) when proposing the concept of 'shareholder Value Add (SVA)' argued that the determinants could be divided into micro and macro value drivers.

While the micro value drivers are firm specific and therefore not comparable between two enterprises, it should be possible to compute a 'generic value' using the 'macro' value drivers. This is explored in more detail in the subsequent sections of this research. The benefit of computing a 'generic value' is that the issues of organisational effectiveness with its dependence on contextual and personal preferences factors are eliminated when computing the performance measure. What we are left with is a measure of performance, albeit generic, i.e. measuring the returns or 'rents' earned from the usage of various productive assets namely human, physical and capital resources. This is comparable across enterprises. It is important to emphasise that the 'generic value' computed is not the same as the '*actual*' value of the firms. The actual value, which is dependent on the micro value drivers, is intrinsic to the particular firm and measures organisational effectiveness. It is therefore not comparable.
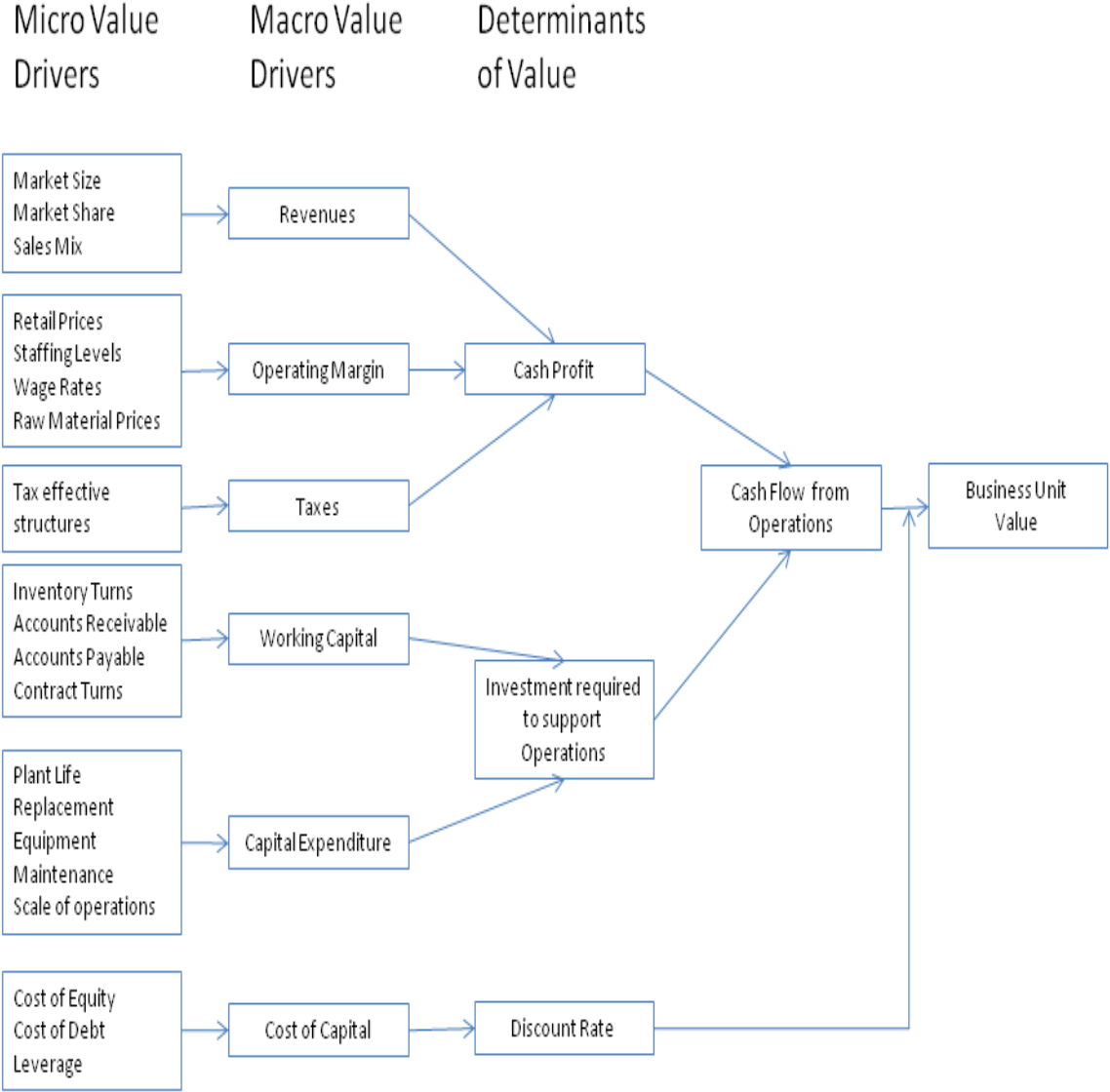
Figure 3: Micro and Macro Value Drivers

Source: Adapted from Rappaport (1998: 2800)

2.3.4 Different Performance measurement models

The bulk of prior research in this area appears to point to a conceptual confusion between the antecedents or variables that lead to enhanced performance and the measurement of performance. The focus of the classifications in the various

articles (Balsano, et al. 2008 ; Jamrog, et al. 2007; Nohria et al 2003, Kaplan and Norton, 1996 to cite a few), appear to be predominantly on the identification of the variables that lead to better performance and not the measurement of performance in itself. For example, the Balanced Scorecard (Kaplan and Norton 1996) model for analysing the firm's performance is generally hailed as an important milestone in understanding performance. For the first time a framework and methodology was formulated to show how both financial and non-financial measures could be incorporated when measuring the performance of the firm. The major problem with this model is that the variables chosen are dependent on the strategic objectives of the individual firm. The performance achieved therefore, by definition, cannot be compared with another firm. Delmar et al (2003) proposed that it is futile to look for one measure or even try to compare between firms. They argued that instead, any of the six different measures proposed by them should be used and that the choice of measurement would depend on the age and type of industry being studied. Their theory however effectively renders many of the results from prior studies redundant and questionable.

This research therefore proposes a methodology that attempts to resolve this conundrum and provide researchers with a single measure of performance that can be compared between firms. With the exception of the accounting literature, factors such as the macroeconomic perspectives, the balanced scorecard, strategic management and entrepreneurship perspectives are all *multi constituency* and *multi dimensional* (Carton & Hofer, 2006). Multi constituency has been defined as "*having different meanings for different stakeholders*". While multi dimensionality of the measure is not a problem, multi constituency certainly poses a major hurdle when measuring comparative business performance. We therefore need to devise a method of measuring performance that applies universally across organisations, sectors and industries. In short, it is generic.

From the economics (IO) perspective, the firm's growth is used as a measure of performance. This has conventionally been computed using the *change in size* as

the unit of measure. This size in turn is measured either using number of employees, sales turnover or total assets. While growth in the number of employees can be a very useful measure from an industrial policy making perspective, it is somewhat redundant when one is researching a specific sub sector such as microenterprises. Microenterprises by definition are enterprises that employ less than 10 employees and the possibility of any high growth in the number of employees in a given year is somewhat limited. As an example let us assume a firm adds one additional staff to their present number of two employees. That would imply a growth rate of 50%. The question that arises is whether this would be a realistic as a measure of performance. The same logic could also be extended to measuring the change in total assets. Microenterprises by definition have a relatively small asset base (human or otherwise) and therefore any small increase in these assets would show a very high growth rate which may lead to misleading conclusions.

The deficiency of using historical accounting systems and sales growth as a measure of performance

It is only amongst the accounting literature perspectives with its well-established conventions that one can find a certain degree of universally accepted consensus as to how performance should be measured (Combs, et al., 2005). However, one of the major criticisms of the use of accounting statements to gauge the performance of the firm is that they generally rely on values that are historical in nature. These 'backward looking' measures (Schuster & Jameson, 2003) while suitable for gauging past results do not help us to understand how the firm may perform in the future. Furthermore, these historical values are derived from accounting statements that are based on different accounting conventions. "*These conventions are more suitable for auditing purposes than for assessment of performance"* (Walsh, 1996).

Conventionally, borrowing from the 'Industrial Organisation (IO)' economics perspective, it is 'sales growth' that is generally the most popular amongst the various financial measures. The reason why historical sales growth is generally used as a measure is perhaps best summarised by Wiklund (1999: 39)

> "….*sales growth is a more accurate and easily accessible performance indicator than accounting measures and hence superior to indicators of financial performance*."

Wiklund maintained that sales growth was the best growth measure, a view endorsed by Covin et al (2005) simply because it is easily accessible and generally computed by firms. Previous studies have computed this sales growth based performance over a three year period or even a single year [please refer to Wiklund 1999; Wiklund and Shepherd 2003; Wiklund et al 2009]. The problem in using shorter periods is the inherent distortions in the data because of business cycles and special economic circumstances (for example the worldwide downturn during the period 2008-2010). Some studies have therefore used longer periods in order to overcome this deficiency. For example, a study by Levy (2012) measured performance by taking an average of the sales growth over the lifetime of the firm. However, it is recognised that sales growth by itself is not without its limitations (Tan, et al., 2009). As Coad (2009, pp 9) puts it rather succinctly, "*One disadvantage of sales though is that it need not necessarily correspond to the actual value-added to a company*".

Even Wiklund (1999) despite encouraging the use of sales growth as a measure, concedes [quoting Zahra (1991)] that a firm may trade-off long-term growth for short-term profitability. Therefore, simply using revenue growth or profit growth, as many studies (for example see Wiklund 1999; Jamrog, et al. 2007) are prone to do, may not reflect actual performance. Neither can sales growth be compared across firms. This is because 'sales growth' is dependent on the strategic plans and objectives of the particular firm. These strategic plans and objectives are in turn

dependent on the perceptions and preferences of the managers within the enterprises and therefore not comparable.

Introducing the concept of 'Value' and the owner/manager as the 'Shareholder'

In order to overcome the limitations of using conventional performance measures and its lack of consensus, this research proposes that a 'forward looking 'measure (Schuster & Jameson, 2003) which measures the 'potential value' of the enterprise might be helpful . This will be particularly beneficial since in the computation of this performance measure the present economic situation will have to be taken into account. As Van Den Bosch, et al., (1999) argued the external environment will have a major impact on ACAP and it could be argued this will also impact on the EO concept. This will give policy designers and decision makers an even better understanding of the underlying factors at play thus helping them to take more informed and proactive decisions. In short, any empirical research becomes more dynamic in nature and thus more suitable for change and adaptation. Naturally, any such measure has to be equally valid when compared to the more conventional performance measures and this has been tested subsequently.

In chapter 1, it was argued that the 'wealth' or 'value' that a firm creates should define performance. This is even justified from an economic theory perspective (Reinert 2011; Coad 2009; Reinert 2007; Hanusch et al 2006). Rappaport (1981) was one of the first proponents who argued that the success/performance of the firm should be analysed from the perspective of creating '*value*' for the common stockholder. Carton & Hofer (2006: 55-56) present the following reasons why the common stockholder could serve as the single constituency from whose perspective performance should be measured.

1. *Since shareholders are residual claimants, all other resource providers must be satisfied before they receive a return.*

2. *Maximising the returns to shareholders requires balancing the satisfaction of all other stakeholders*

3. *Since common shareholders commit resources to the organisation for the longest period, their perspective is closest to the focus of strategic management issues, namely performance.*

4. *Common stockholders can be considered to have a relatively homogenous perspective of performance. Common stock investors can invest in any number of organisations. Consequently, shareholders require at a minimum, a risk-adjusted return on their capital that is comparable to similar equity investment opportunities.*

However, in the context of a microenterprise it is somewhat unclear as to how a shareholder should be defined. One can assume that in the majority of cases especially in the micro sector, the major shareholder is generally the owner/founder of the business (Birley & Westhead 1990). Taking into account the previously mentioned reasons as to why a shareholder should be the basis of understanding a firm's performance, we could argue that a microenterprise owner is in many ways similar to a shareholder.

1. The business owner is the residual claimant after all other resource providers have been satisfied and the last to receive any return on his/her investment.

2. The business owner has to satisfy and maximise the returns of all the other stakeholders in order to maximise his/her own return.

3. Unlike all the other stakeholders whether they be customers, suppliers or employees the business owner has to have a long-term perspective since they are the last to receive any return on their investment.

4. In the context of the micro sector, there are many business opportunities where the business owner/entrepreneur can invest. The decision to choose

a particular business for investment is similar to what is faced by a common shareholder. This decision is based on a minimum risk adjusted return that the investor would like to obtain.

There is however, considerable debate (Runyan, et al 2008; Covin and Slevin, 1991; Carland, et al 1984) as to whether all microenterprises are necessarily dependent only on returns, i.e. profits and growth. It is expected that only firms whose underlying ethos is about 'innovation, growth and profitability', will be concerned with increasing their financial returns, achieving growth and creating long-term value. In short, the Entrepreneurial Oriented (EO) type of firms or Type 1 as discussed in section 2.2.2. It could therefore be argued that EO microenterprise owners are likely to behave more like shareholders than their SBO type counterparts. With this revision, it becomes possible to justify the argument that EO type firms aim to create value, their focus on profitability and growth remain paramount. This takes us to how we may go about selecting an appropriate measure of performance that is comparable across firms, sectors or industries.

2.3.5   *Selecting an appropriate measurement of Performance*

This section discusses how a financial based measure of comparative business performance can be developed. Rauch, et al. (2009:765) in a meta-analysis exploring the magnitude of the EO-Performance specifically in 51 studies, found that the EO-performance relationship focuses predominantly on the financial measures divided between self-reporting and archival financial data. Given the consensus on the use of financial measures (Combs, et al., 2005) this research has used the financial accounts of the respondents reported to the UK Companies House[12] . This research sides with the approach proposed by Carton & Hoffer,

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[12] www.companieshouse.gov.uk

2006 in the sense that it measures performance from a single constituency perspective i.e. the wealth or value created for the shareholder.

Carton and Hoffer (2006), have an entire chapter dedicated to the various performance measures that need to be taken into account. They have presented five categories of performance measures namely,

1   accounting measures
2   profitability measures
3   growth measures
4   leverage, liquidity and cash flow measures
5   efficiency measures

Some other measures also need to be taken into account. Venkatraman and Ramanujam (1985) argued that there could be two sets of business performance, namely financial performance and operational performance. Under financial performance one could measure sales growth, profitability (various ratio analysis), and also market and value-based measurements. They argued that one could include Tobin Q, the ratio of the market value of firm and the replacement costs of assets. Under operational performance (which they called non-financial), they suggested that one could use measures such as market share, new product introduction, product quality, marketing effectiveness, manufacturing value and some technological measures that are directly related to business performance. As argued in the preceding section, use of some financial measures like sales growth to measure performance is questionable. As mentioned, the core of this research is how knowledge can be created and protected (please refer to section 2.2: 31). Therefore, any investments towards this knowledge creation are inherently long term. Conventional financial ratios are incapable of accounting for these types of investments (Rappaport, 1998: 695).   Additionally, since the bulk of microenterprises are not publicly traded, it is not possible to calculate the market value or for that matter the Tobin Q score. Therefore, the only option is to calculate the 'wealth' (Carton & Hofer, 2006) or the 'value' (Rappaport, 1998) created by the enterprises.   Again, as discussed earlier (Venkatraman &

Ramanujam, 1985) use of operational measures that generally refer to non-financial variables such as market share, changes in intangible assets such as patents or human resources, customer satisfaction and stakeholder performance might not be an option. Apart from the fact that these metrics reflect organisational effectiveness issues, an additional issue was highlighted by Venkatraman & Ramanujam (1985) and reported by Carton and Hoffer (2006). Where self- reporting mechanisms (i.e. where managerial input is required) are used to acquire data the possibility of misreporting a case remains particularly high, as managers are prone to inflate figures. In order to avoid this only objective measures and secondary sources of information have been used in this research. This information is financial in nature. As indicated, this research looks at 'Shareholder Wealth Creation (SWC)' as proposed by Carton & Hofer (2006) and 'Shareholder Value Add (SVA)' as proposed by Rappaport (1998) as two possible methods to calculate the 'comparative business performance' of the firm.

Bose and Oh (2004) identified seven (7) value drivers that explain the value and performance of a firm:

- Profitability
- Uniqueness of Innovation
- Reputation of research team and firm
- Growth prospects
- Quality of management
- Economic factors
- Risks

It should be possible to measure the performance and value of the firm by operationalising these value drivers, which in turn should allow us to classify enterprises as high, medium or low performance. However, the operative word here is '*operationalisation*'. The question is how we measure some of these value drivers and more importantly in what way so that they are comparable between firms (Fernandes, et al 2005). Selecting only the entrepreneurial oriented (EO)

firms to test our conceptual framework should allow us to take into account many of the variables identified by Bose and Oh (2004) such as profitability, growth prospects, uniqueness of innovation and risks. All these have a bearing on performance. However, others argue that it may be simpler to use subjective measures of performance rather than hard objective data in the context of SMEs. This is mainly because of the paucity of data available. There are in fact, sufficient research findings to support that subjective measures of performance are as robust as objective measures for analysis (Rauch, et al., 2009). However, the focus of this research is not about measuring performance per se, but rather whether EO and ACAP as 'firm level characteristics' can explain this performance. We therefore need a measure of performance that is comparable across different firms. Therefore, based on this requirement the use of objective measures as suggested by Carton and Hofer (2006) may be justified in the classification of the sample firms as high, medium and low performing. The time period of the data used to measure this performance also has a major implication.

a)   *Time period of data*

Selecting the appropriate time period of the data has an important bearing on the validity of the research. This is necessary in order to take into account the fact that there could be sufficient lag between the action taken on the causal variables that make up the performance measure and the effects generated in the dependent variable, i.e. performance. It is well known that management can very easily manipulate various accounting measures through adjustment of reserves, revenue recognition policies, capitalisation policies, strategic investment to create future products/services and deferred maintenance charges (Walsh, 1996). These manipulations in the short term could artificially enhance the performance of the firm. However, it is relatively more difficult to manipulate the performance of the firm over a longer period. The actual performance of the firm will be ultimately evident over a longer period. Therefore, using a period of data (covering three,

four or even ten years) for analysis should allow us to circumvent and/or neutralise any intervening and/or manipulating factors that might affect the performance of the firm.

b)   Composite Model of Organisational Financial Performance

1.   Shareholder Wealth Creation (SWC) Index

Carton and Hofer (2006) developed a model using three-year period data to calculate the composite score of the **shareholders wealth creation (SWC)**. The statistical study looked at a wide variety of financial measures typically used to measure performance using a sample of 120 US enterprises and data spread over 3 years. The research looked at return on Equity (ROE), Return on Assets (ROA), residual income, growth rates of sales, cash flow and expenses to determine which factors "*provided the greatest relative information about the market-adjusted return to shareholders*" (Carton & Hofer, 2006). They termed this market adjusted return to shareholders as the 'Shareholder Wealth Creation (SWC)' score. Interestingly, they found the Altman Z score, which is typically used to predict financial distress, to have the highest power to explain the variability of SWC. They found that the change in the Altman Z-score explained 59% (Adjusted R^2 = 0.59). Using an iterative process, they were able to narrow the independent variables to growth rate in total assets (GR AST), change in liabilities to total assets (CLIAB/AST), return on assets (ROA) and the Altman Z Score. The regression equation that was significant at $p < 0.001$ had an R-square of 0.63. The regression equation with the standardised co-efficient of the model were

$$\textbf{SWC3} = \textbf{0.275GR AST} + \textbf{0.317}\left(\frac{\textbf{CLIAB}}{\textbf{AST}}\right) + \textbf{0.846C ALT Z} + \textbf{0.115 ROA}\quad\textbf{(2.1)}$$

Where

SWC3	= shareholders wealth creation over a three-year period
GR AST	= growth rate of total assets
CLIAB/AST	= change in liabilities to total assets
CALT Z	= change in Altman's Z-Score
ROA	= return on assets

They found that incorporating the change in residual income return on investment was significant to the model. However, in terms of explanation power there was an increase of only 0.01 in the R-square of the model. Given the marginal improvement weighed against the difficulty in computing the residual income, they decided to exclude this variable. Using this score, they were able to classify the microenterprises as high performing, medium performing, and/or low performing firms. Carton & Hofer (2006) classified the firms SWC>1 as high performing, SWC = 0~1, as medium performing and those with SWC<0 as low performing. This classification has been used in this research.

2.   Shareholder Value Analysis (SVA)

While the above SWC method developed by Carton and Hofer (2006) was chosen as a methodology to measure performance in this research, it is also recognised that the SWC method may lack validity in the context of UK based microenterprises. Though the microenterprises used in this research are all registered with the UK Companies House they are however not publicly traded. The SWC methodology requires a *'market adjusted rate of return to shareholders'* as its dependent variable in order to derive the revised regression equation to generate the SWC categorization in the context of these UK based microenterprises. Since this will not be available for the non-publicly traded microenterprises a proxy figure looking at the ' rate of return to the Owners Fund (OF)" will be used. It is therefore unclear at this stage whether this will give us valid results. As an alternative measurement, the Shareholder Value Add (SVA) was also used. The SVA originally developed by Alfred Rappaport (1981) was used to estimate the shareholders 'value' created by a business over a planned period. In their official guide, The Chartered Institute of Management Accountants (2004) termed this SVA as part of value based management (VBM) which they defined as

"A managerial process which effectively links strategy, management and operational processes to the end of creating shareholder value".

According to Value Based Management.net, a dedicated management portal[13], VBM encompasses all three of the following:

1. *Creating Value (ways to actually increase or generate maximum future value*
2. *Managing for value (governance, change management, organisational culture communication and leadership*
3. *Measuring value (valuation)*

The Chartered Institute of Management Accountants (CIMA) presents this VBM graphically as shown in Figure 4. However, as discussed in the preceding chapter, this research does not look at issues of value-based management. Instead, it examines whether the two 'firm level characteristics' namely EO and ACAP can successfully explain this 'value' and thereby identify 'high performance 'microenterprises. This research therefore aims to compute the 'shareholder value' that is comparable across firms. The Chartered Institute of Management Accountants (2004) proposes five alternative methods, which they term as 'value metrics' namely Shareholder Value Add (SVA), Economic Profit (EP) and Economic Value added (EVA), Cash Flow Return on Investment (CFROI) and Total Business Returns (TBR).

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[13] http://www.valuebasedmanagement.net/
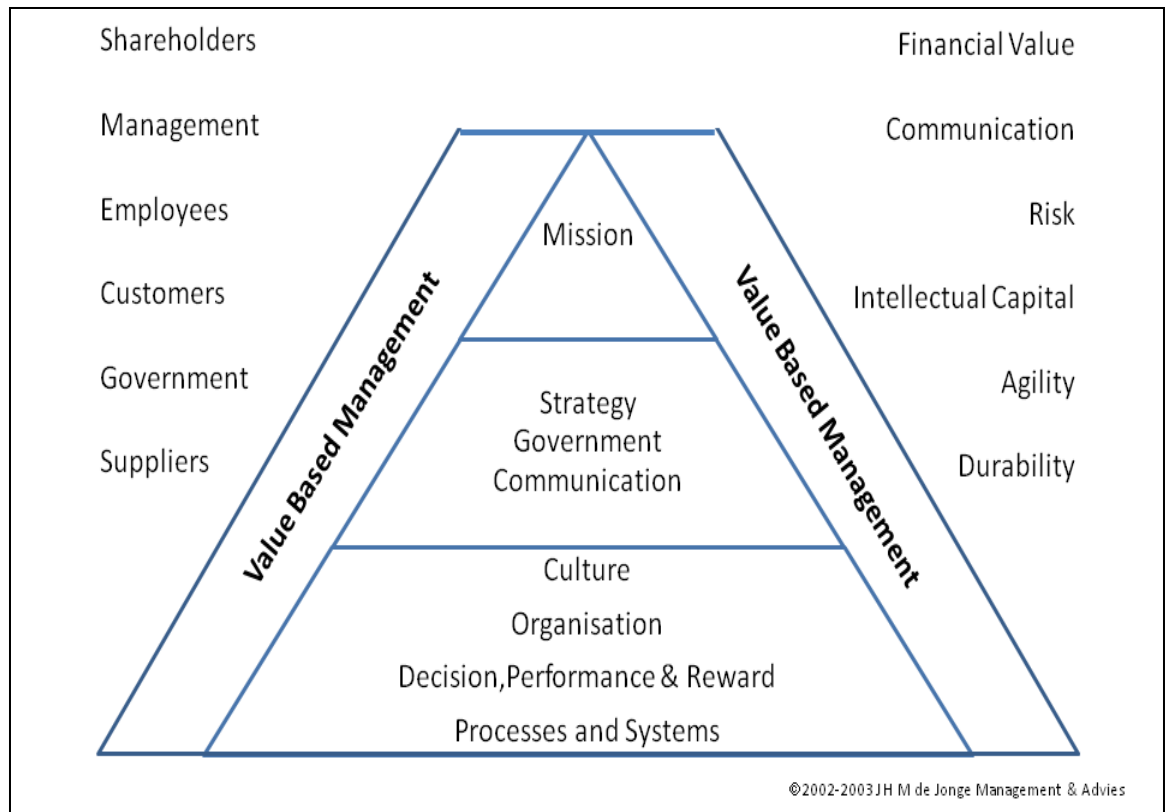
Figure 4: Value Based Management
Source: Adapted from
http://www.valuebasedmanagement.net/faq_what_is_value_based_management.html

These models have been derived from the Gordon growth model (Gordon, 1959) which was developed to determine the value of a stock, based on future series of dividends that grow at a constant rate. This Gordon growth model is represented by the following equation:

$$Stock\ Value\ (P) = \frac{D}{k-G} \qquad (2.2)$$

Where D = expected dividend per share one year from now, k= required rate of return, G = growth rate of dividends. Equation 2.2 looks at present stock value. However, the underlying assumption used in this equation forms the basis of all the 'value metrics' mentioned previously. The value metrics are based on predicted

financial flows (earnings) which are then discounted to derive a discounted value. As Penman (1998) states:

> *"There are a variety of equity valuation techniques used in practice and discriminating among them is difficult. Many involve forecasting the future but they differ as to what is to be forecasted. Some forecast dividends, some forecast cash flows, some forecast earnings or residual income, and some forecast operating profit".*

This research relies on the Shareholder Value Add (SVA), which uses forecasted cash flows. The choice of SVA is deliberate. Microenterprises seldom publish detailed annual accounts. In fact, UK microenterprises under special dispensation under the Companies Act of 2006, Part 15, are allowed to present abbreviated accounts. There is no distinction made between Profit after Tax (PAT) and Retained Earnings (RE). The SVA method in many ways is the simplest of the five methods. The others namely Economic Profit (EP) and its derivatives Economic Value Added (EVA), Cash Flow return on Investment (CFROI) and Total Business Returns (TBR) require substantial amount of accounting data and adjustments before the value can be calculated. In the context of microenterprises and the limited accounting data that is reported, these methods are not deemed suitable. SVA in its simplest form can be represented as follows:

$$SVA = \sum PV \; (Future \; FCFs) - Capital \; Invested \qquad (2.3)$$

Where PV= Present Value, FCFs = Free Cash Flows

In order to calculate Free Cash Flows (FCFs), the net operating assets made up of Fixed assets (FA) and Net Working Capital (NWC) need to be identified. This is assumed to grow at a similar rate as the growth in sales revenue. As Walsh (1996) argues, it is reasonable to assume that there is a linear relationship between items that make up 'net working capital' with sales revenue. Whether it is equally justified to assume a similar linear relationship between sales revenue and fixed assets is however unresolved (please refer to Santarelli, Klomp, & Thurik, 2006)

for a detailed literature review and discussion of *Gibrat's Law of Proportionate Effect* which forms the basis for this relationship). The bulk of prior research in this area indicates that the applicability of Gibrat's Law (i.e. firm size and growth are independent) has been rejected (Santarelli, Klomp, & Thurik, 2006: 43-65). For that reason, it would not be misplaced to assume that such a linear relationship actually exists. Additionally, the main objective of this SVA calculation is to derive a 'generic' measure of value of the firm that can then be compared between the different enterprises. However, if the 'actual' value of the firm is calculated, then care would need to be taken for assessing the fixed assets requirement at any point of time.

The net operating assets (NOA) can then be used to calculate the free cash flows (FCFs). To do this it will it be necessary to make a few assumptions regarding the forecasted period and the projected sales growth rate. In the bulk of discussions regarding future cash flows, the time period generally ranges from four (4) to five (5) years (Laitinen, 2005; Lundholm & O'Keefe, 2001; Penman, 2001; Rappaport, 1998 ; Walsh, 1996). This research has used a 4 years forecast. Additionally, the choice of the projected sales growth rate is critical. Walsh (1996: 266) in exploring a numerical example of using the SVA methodology suggested a 10% per annum growth rate. This research has used this benchmark growth rate of 10% to be applicable to all microenterprises included in the sample to allow comparability between firms. This benchmark sales growth rate of 10% has been compared against the 10 years (2000-2010) average sales growth for the whole sample (15%) and the 3 years (2008-2010) data (7.5%). Since the 3 years data (2008-2010) was part of what has been termed as the downturn years, it is expected that the chosen growth rate will be higher than this 3 years data. It is however expected to be lower than the 10 years data. This is represented as follows:

$$3 \; years \; (2008 - 2010) avg. \, sales \, growth \, rate \; (7.5\%)$$
$$< 10\% \; projected \, sales \, growth \, rate$$
$$< 10 years \; (2000 - 2010) \; avg. \, sales \, growth \, rate = 15.0\%$$

The underlying assumption is that the future will be much like the present. Penman (2010:501) in a study using NYSE and AMEX firms over years 1964 to 1999 found growth in Net Operating Assets (NOA) to be in the range of 8% to 15% after 5 years. It can be argued that growth in Net Operating Assets (NOA) is the same as growth in sales. This is explained using the following equation

$$NOA = Sales \; x \; \frac{1}{ATO} \tag{2.4}$$

Where NOA = Net Operating assets & ATO = Asset Turnover. Thus, if ATO is kept constant, then forecasting growth in NOA is the same as forecasting growth in sales. Therefore, assuming a similar range of 8% to 15% sales growth as what Penman (2010) found for the NOA data would be acceptable. A conservative growth rate of 10% for the forecasted growth in sales has been used for the purposes of this research.

In order to calculate the Net operating profit after tax (NOPAT), it is necessary to take into account the percentage of profit margin that is measured as follows:

$$Profit \; Margin \; (\%) = \frac{PBIT}{Sales \; Revenue} \tag{2.5}$$

Where PBIT = profit before interest and tax. Tax has been calculated on the PBIT using the corporate tax rates for 2010 as published by the UK HMRC[14]. Additionally, NOPAT and the cash flows for the Investments and working capital, has been calculated for each projected year. The NOPAT, investment cash flows (ICF) and working capital cash flows (WCCF) are then netted off to derive the Net Free Cash Flow (NFCF). This NFCF has then been discounted using a weighted

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[14] www. hmrc.gov.uk

average cost of capital (WACC) to derive the present value (PV). The PVs of the forecasted years (years 1~4) is then netted off with the PV of the 'Terminal Value' to obtain the value from operations (VO). This is represented as follows:

$$VO = PV \ (\ years \ 1{\sim}4) + \ PV \ of \ TV \qquad (2.6)$$

Where VO = Value of operations, TV = Terminal Value, PV = Present value. The Terminal value (TV) is calculated as follows:

$$TV = \frac{NOPAT_{year \ 4}}{WACC} \qquad (2.7)$$

It is important to explain how the weighted average cost of capital (WACC) has been calculated. In order to calculate the WACC, the book weights of the Owners Fund (OF), Long Term Loans (LTL) and Short Term Loans (STL) have been taken. The Owners Fund (OF) is a sum of the Issued Capital (if any), Capital reserves and Revenue reserves as stated in the Balance Sheet for the most current year of the annual accounts available . The LTL and STL were similarly derived from the Balance sheet. In order to calculate the after tax costs for LTL and STL, the average interest rate as published in FTSE index[15] was used. In order to calculate the after tax costs of equity (or 'owners' fund), the capital asset pricing model (CAPM) formula was used as follows:

$$COE = RFI + \ \beta \ (\ aROE) \qquad (2.8)$$

Where COE = Cost of Equity, β = Beta co-efficient, RFI= Risk Free Interest, aROE = average return on equity. To do this, the Risk Free Interest (RFI) rate was obtained from the Bloomberg[16] index and the average return on equity (aROE) from the FTSE index[17]. The Beta co-efficient (β) is a measure of the specific firms

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[15] www.FTSE.com

[16] www.Bloomberg.com

[17] www.FTSE.com

risk profile compared to that of the total equity market. This generally ranges from 0.50 to 1.50 (Walsh, 1996: 280). Since the objective is to derive a measure of performance that is actually comparable across firms, this research has deliberately used the upper extreme in its calculations to be applied uniformly across all microenterprises used in this study. The WACC so derived was then used to discount the Free Cash flows for the respective years of forecast and the Terminal Value (TV) to obtain the total value of operations (VO). The final shareholder value add (SVA) was derived as follows:

$$SVA = VO - LTL - STL - OF \qquad (2.9)$$

Where SVA = Shareholder Value Add, VO = Value of operations, LTL = Long Term Loans, STL = Short Term Loans and OF = Owners Fund. In addition, the Internal of Return (IRR) was also calculated. The IRR is the rate that makes the present value of the stream of future cash flows exactly equal to the investment (Walsh, 1996, pp 254). Walsh (1996, pp 284) defined a high growth/performing firm as one which has a positive SVA and IRR > WACC. This research has used a more stringent measure for high performing microenterprise as one with a SVA>0 and IRR > 2* WACC. A detailed methodology and operationalisation of the SVA has been given in Chapter 4.

The conceptual framework used for this research has been developed based on the literature review and the arguments presented in this chapter. This is discussed in more detail in the following chapter.

3 DEVELOPING THE CONCEPTUAL FRAMEWORK

Michael Porter (1991:97) in his attempt to develop a dynamic theory of strategy provides a comprehensive argument against using the conventional approaches to theory building and hypothesis testing. He argues:

> "…. *On the one hand, one might approach the task of developing a theory of strategy by creating a wide range of situation-specific but rigorous (read mathematical) models of limited complexity. Each model abstracts the complexity to isolate a few key variables whose interactions are examined in depth. The normative significance of each model depends on the fit between the assumption and reality. No one model embodies or even approaches embodying all the variables of interest, and hence the applicability of any model's findings are almost inevitably restricted to a small sub-group of firms or industries whose characteristic fit the model's assumption….*"

He cites the following fundamental problems of using a model development approach

    a)   These models while providing clear conclusions are highly sensitive to the assumptions underlying them

    b)   It is hard to integrate these different models into a general framework for approaching any situation

    c)   These models at best provide insight into complex situations which are specific to a particular company

Porter proposes building 'frameworks' to take into account many variables to explain a complex situation like understanding the competitive environment of a

firm. His argument (Porter 1991:98) for choosing a framework methodology instead of a model is as follows:

> *"...A Framework, such as the competitive forces approach to analysing industry structure, encompasses many variables and seeks to capture much of the complexity of actual competition. Frameworks identify the relevant variables and the questions that the user must answer in order to develop conclusions tailored to a particular industry and company. In this sense they can be seen as almost expert systems...."*

This research seeks to develop a similar conceptual framework of how 'high performance potential' micro enterprise can be identified and proposed associated hypotheses which were later tested using statistical data analysis techniques.

3.1   The conceptual framework

 The conceptual framework at the centre of this research has some resonance with the work by Johan Wiklund (1999, 2003, 2009). Wiklund (1999) began his investigation looking at the sustainability of the EO-Performance relationship. Wiklund's study was triggered by the question that the EO-performance relationship as postulated by Dess et al (1997) may have a '*normative bias*'. Dess's study seemed to imply that being Entrepreneurial Oriented (EO) is inherently good and that firms should pursue this at all costs. However, given that the EO construct is resource consuming, it is possible that higher levels of EO do not necessarily always lead to better performance. Consequently, EO might have a negative relationship with performance in the short term under certain conditions. Wiklund (1999) however found in his study that EO has a positive relationship with performance irrespective of the time period. This was because he used sales growth as the indicator of performance, which as discussed in the preceding chapter (section 2.3.3) might not be the most efficient measure of performance.

As previously argued, performance should be measured by the 'wealth' or 'value' it is creating for shareholders, which in this research is the entrepreneur (Rappaport, 1981; Carton & Hofer, 2006). Arguably, an entrepreneur does not set up business simply to achieve high sales growth. He/she sets up business to create wealth/economic value for oneself (Reinert 2007; Hanusch, et al., 2006). Focusing on wealth or value allows us to align many of the underlying firm level characteristics as highlighted previously (please refer to Figure 5 below). The EO construct in this research as in the research by Wiklund (1999) has been set at a firm level rather than at an individual level. Wiklund (1999) argues that looking at entrepreneurship from a firm level rather than at an individual level implies that a number of internal and external factors can affect the EO activities undertaken by the firm. Additionally, it puts the EO in a management framework that allows it to be aligned with other external constructs namely ACAP and performance, which are measured at the firm level. As a logical extension, Wiklund and Shepherd (2003) researched the link between knowledge based resources, EO and performance. They found that knowledge based resources (which they termed as discovery and exploitation of opportunities), is positively related to firm performance and that EO enhances this relationship. This research differs from the study by Wiklund and Shepherd (2003) by explicitly attempting to converge three different streams of subject areas. It empirically investigates how EO (part of Entrepreneurship studies) and ACAP (part of knowledge management / Economics) impacts on performance (part of management accountancy). Logically, the thesis also finds resonance with the integrative model of small business growth developed by Wiklund et al (2009) who took into account different levels of analysis. They looked at individual (human capital and attitudes), the firm (resources, EO and growth) and the environment (industry, task environment and changes in task environment). This research takes a similar approach but adopts a more parsimonious approach. It only looks at that firm level characteristics (EO & ACAP combined) to gauge its impact on performance

(potential to create value) at the firm level. The following figure presents the framework that is going to be investigated in this research:
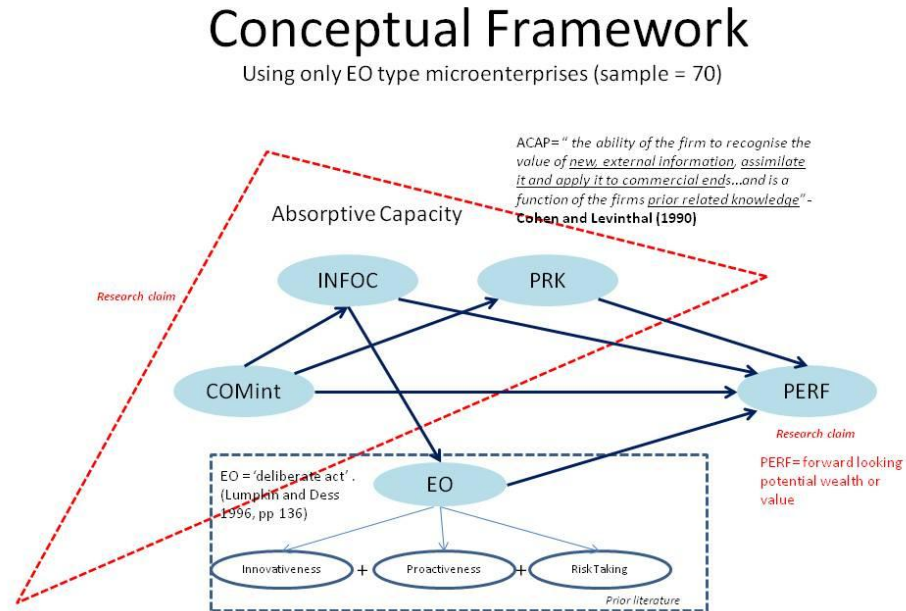
Figure 5: Proposed Research Framework
Source: Author's own conceptualisation developed from literature review

3.2   Research Hypothesis

Demarcating between EO and SBO type microenterprises

As discussed in section 2.2.1, Carland, et al (1984), Covin and Slevin (1991) & Runyan, et al (2008) postulated that entrepreneurial orientation (EO) is a distinct separate construct from small business orientation (SBO). This is also reflected in the recent discussions by (Baumol, 2010) albeit using different terms like 'innovative' and 'replicative'. As emphasised throughout, the focal point of this research is the EO type enterprises and this study deliberately demarcates between EO and SBO type of microenterprises. In section 2.2.1, it was argued that it is the EO disposition that separates the EO type microenterprises from the rest. To do

this the responding microenterprises were asked to select from a set of statements that best reflected their underlying cultural ethos. In order to explore the validity of this demarcation the above alternative hypothesis needs to be tested

$H_1(1)$: *That the EO and SBO type subgroups **are independent** of each other when measured in terms of potential value creation .*

Entrepreneurial Orientation

As discussed previously (Section 2.2.1), EO has been treated as a firm level construct in this research. Miller (1983) in his original conceptualisation of EO firms only referred to those firms that are simultaneously proactive, risk-taking and innovative and that these attributes should be regarded as sufficient. This was the basis on which Covin and Slevin (1991) developed their initial nine-item operationalisation of the EO construct. The template developed by Runyan et al (2008) to measure EO which forms the basis of this research is also derived from the Covin and Slevin (1991) measurement. They presented a uni-dimensional construct. This research will however need to test the following alternative (H1) hypothesis.

$H_2(1)$ *The nine measures covering Innovativeness, Proactiveness and risk-taking attributes of a firm used to measure EO **cluster** around a uni-dimensional construct.*

Absorptive Capacity

It has been argued (Section 2.2.3) that the ACAP construct comprises of three components namely INFOC, COMint and PRK. This research used the original definition by Cohen and Levinthal (1990), and broke it into three sub components namely

(1) *Value of new, external information* - which in this research this has been termed as INFOC

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(2)   *Its assimilation and application to commercial ends-* that has been termed as COMint

And finally

(3)   *It depends on the firm's prior related knowledge -* which has been termed as PRK

These definitions bear close resemblance to prior research by Hui & Idris (2009) mentioned previously but this needs to be tested.

H₃(1):   *That the manifest variables used to measure INFOC, COMint and PRK sub constructs that are argued to make up ACAP* ***cluster*** *around three distinct group and* ***are not*** *uni-dimensional.*

Potential value measure is sufficiently generic

As discussed in the preceding chapters (section 2.3.3) this research has argued that using potential value as a measure of performance might be more suitable than using conventional measures. It had been argued that while this performance can be multi-dimensional it could not be multi-constituency or a problem driven construct. This implies that this performance measure must be uniformly applicable to the EO Vs SBO, High technology intensity Vs Low technology intensity or even Family Vs Non family type microenterprises. The above hypothesis [H₄ (1)] will test whether this performance measure is equally applicable to these different groups. The results are shown in section 5.5.5.

H₄(1):   *That the 'potential value creation' performance measure is* ***generic*** *when measures in terms of EO and SBO, high technology intensity and low technology intensity and family and non family type subgroups*

Additional Hypotheses

As argued in the preceding section (3.1) when discussing the main effects between EO and PERF as shown in figure 5 a number of hypotheses needs to be tested. The following table summarises the different alternative hypotheses that will be tested. The rationale behind these hypotheses is discussed in more detail subsequently.

H_5(1): The principal components that make up the EO and ACAP constructs have a significant relationship with the 'value of the firm'
***H_6 (1):** Internal Communication has a significant but negative relationship with value creation for microenterprises.*
H_7(1): Ability to take RISK has a significant and positive relationship in creating value
*H_8(1): **Short term** ACTIONS of managers has a non-significant relationship in creating value for microenterprises*
H_9(1): External information is non-significant in creating value for microenterprises
H_{10} (1): A balance between organizational infrastructure and strategies is necessary for creating higher value.
H_{11} (1): Younger firms have a higher propensity to create value or alternatively they have a higher probability of being classified as high performers.

Table 7: Table of additional hypotheses tested in this research

H_5 (1):   *The principal components that make up the EO and ACAP constructs have a significant relationship with the 'value of the firm'*

In section 2.2.1, EO has been defined as 'deliberate act ' (Lumpkin & Dess, 1996). Simultaneously, in section 2.2.3 we have argued that ACAP provides the '*capacity*' of the managers to act.   This hypothesis argues that together both of these constructs are expected to have a significant relationship with the value of a firm. As already discussed, the EO-PERF relationship has been researched extensively (Lumpkin and Dess 1996; Wiklund 1999; Covin et al 2005; Lumpkin et al 2006; Rauch, et al. 2009; Davis, et al 2010; Su et al 2011; Sharma and Dave 2011; Zainol and Ayadurai 2011; Sciascia, et al., 2014; Rodriguez-Gutierrez, et al., 2015 to cite just a few). Rauch, et al (2009:765) in a meta-analysis of 51 similar studies on EO-Performance found that the relationship was positive.   In fact, the relationship was found to be the strongest amongst microenterprises ($r=0.345$) than compared to SMEs ($r= 0.198$) or its larger counterparts ($r=0.240$). Similarly, the relationship between ACAP and PERF has been researched extensively albeit predominantly for large firms or at best SMEs. (Cohen and Levinthal,1990; Lane and Lubatkin,1998; Zahra and George,2002; Lane, et al 2006; Kostopoulus, et al 2007; Vega-Jurado et al 2008; Volberda, et al., 2010; Omidvar, 2013; Foss, et al., 2015)

H_6 (1):   *Internal Communication has a significant but negative relationship with value creation for microenterprises*.

As previously argued the level of Internal Communication (COMint) is generally seen an important capability (Lane and Lubatkin 1998; Moon and Kym 2006; King and Grace 2008; Peterson, et al. 2008; Liao and Welsch 2005; Carson, et al. 2004). However, in the context of microenterprises too much communication of any kind could actually have negative consequences. DeSouza and Awazu (2006) in their study of how small firms disseminate knowledge found that there is a separation in what they termed as 'common' and 'core' knowledge.   While

'common' knowledge was easily shared and its loss did not have any major impact on enterprises, the 'core' knowledge needed to be closely controlled. It has been stated earlier that knowledge has to be immobile and 'locked in' (Barney 1991, 1995) to create competitive advantage for the firm. Therefore, sharing this core knowledge for a microenterprise might actually be detrimental to the long-term value of the firm.

H_7 (1): Ability to take RISK has a significant and positive relationship in creating value.

Central to the arguments for economic development and growth of the Neo-Schumpeterian school (Hanusch, et al., 2006) is the ability to take risk. As Reinert, (2011) argues it is imperfect competition rather than perfect competition that actually matters if 'economic welfare' or 'economic value' is to be created in an economy. By default what this implies is that enterprises must be able to withstand and survive in this imperfect competition environment and therefore have the ability to take risk. This is also endorsed by Tellis, et al., (2007) when they argued that 'economic value' is by definition future oriented and 'risk-taking' capability is an important requirement. Besides this 'risk-taking' capability is an important sub construct of the EO concept as discussed in section 2.2.1.

H_8 (1): Short term ACTIONS of managers has a non-significant relationship in creating value for microenterprises.

The day-to-day tactical moves or actions might be relevant for short-term revenue gains or profits. However as Coad (2009:9) states " *one disadvantage of sales though is that it need not necessarily correspond to the actual value-added to a company*". The value of an enterprise is a combination of multiple facets (see Figure 4: 91) and therefore actions by managers in a select few areas will have limited impact. As discussed in section 2.2.1, EO is defined as 'deliberate act ' (Lumpkin & Dess, 1996). This 'deliberate act' is however, predominantly driven by the two sub constructs of 'innovativeness' and 'proactiveness' that make up this

EO construct. The other sub construct of 'risk taking' it could be argued is more a dispositional issue and more long term oriented.

H₉ (1):   *External information is non-significant in creating value for microenterprises.*

It is generally accepted that the rapid changes in information have a major role in the performance of a microenterprise. The ability of the firm to assimilate external information would very much depend on the individual who act as the interface or '*gate-keepers*' (Jones, 2006; Hillebrand & Biemans, 2004;Tushman, 1996). Therefore it is the information of these 'gate keepers' that is most important. For microenterprises it is the level and generation of internal knowledge that is far more valuable than external knowledge (Menon & Pfeffer, 2003), Moreover , majority of microenterprises are simply recipients or user of external knowledge. As Rodrik (2004) states majority of firms are not involved in major 'blue sky' innovations but essentially small incremental projects like either introducing a product/service in the domestic market that is available in the world market or alternatively finding a new application for an old product/service that is already available. This is particularly true for microenterprises and therefore collecting and collating external information is of limited important and this is part of the external meta routines described by Lewin, et al. (2011). Smallbone et al (in Storey, 2006: 108) mentions five broad types of adjustment that a small firm (though equally applicable to microenterprises) has to make in order to survive and grow namely,

- product and market adjustment
- production process adjustments
- employment and labour process adjustment
- ownership and organisational adjustments
- locational adjustments

In the present day and age, the rate of change and the speed of adjustments required are increasing disproportionately. Microenterprises with their limited wherewithal are bound to find it difficult to make the appropriate adjustments and this is expected to be non-significant on their wealth/value creating potential.

H_{10} (1): **A balance between organizational infrastructure and strategies is necessary for creating higher value**

As argued previously the knowledge asset of a microenterprise resides predominantly in the owner/manager (Thorpe, et al., 2005: 262) and they predominantly act as 'gate-keepers' (Hillebrand & Biemans, 2004, Tushman, 1996). Sharing this knowledge openly across the organisation would be detrimental to the firm ($H_7(1)$). At the same time being able to convert some of this individual PRK into organisational knowledge through routines (Lewin, et al., 2011; Ward, 2004; Wong & Radcliffe, 2000), internal ties (Darby & Zucker, 2003) or even external ties (de Jong & Freel, 2012; Liao, et al. 2003; Meeus, et al. 2001) is important for long term value. As Foss, et al.(2015) argue in their research of 474 Danish SMEs decentralisation and formalisation have direct, positive and significant associations with opportunity realization. It is therefore expected that high performing microenterprises are those that have a mix of control of what is communicated and yet the same time a certain degree of formalisation, decentralisation and dissemination of information that nurtures creativity (Foss, et al., 2015; Ward, 2004). In short a balance between the individuals mental models (Lane, et al., 2006) and strategies and the firms level of formalisation (Foss, et al., 2015) through systems. data storage etc.

H_{11} (1): Younger firms have a higher propensity to create value or alternatively they have a higher probability of being classified as high performers.

Owner/ Managers of small firms and particularly for microenterprises more often than not act as 'gate-keepers' who translate the information (Hillebrand & Biemans, 2004) or at best 'change agents' (Jones, 2006) who have the requisite problem solving, ownership and legitimacy to transform and exploit new

knowledge. This has its inherent limitations as there is the danger that the managers are locked onto their tight bounded rationality (Petts, et al., 1998) and are myopic in outlook (Menon & Pfeffer, 2003) and in the process path dependent (Cohen & Levinthal, 1990) on existing knowledge. Being able to move beyond the constraints of old knowledge requires cognitive creativity (Ward, 2004) which is relatively a rare capability amongst majority of owner/managers of microenterprises. It is this trait however which distinguishes high performance potential microenterprises from the rest. Acs & Plummer, (2005) were of the view that younger firms are more adept at accessing and absorbing new knowledge and converting them to economic knowledge than old incumbent firms.

In summary, this research seeks to investigate 11 (eleven) major hypotheses in total covering the microenterprises used in this study. In the following chapter, each concepts/ constructs discussed in the earlier chapters will be operationalized and their exact measurements developed. These variables have been subsequently measured in the survey instrument. (Please refer to Chapter 9)

4. EPISTEMOLOGICAL AND ONTOLOGICAL DISCUSSION & JUSTIFICATION FOR CHOSEN METHODOLOGY

This chapter provides specific definitions of the different variables and constructs measures to be employed in this research. This section also sets the validity tests that these variables have to satisfy in order to expand on and operationalize the various concepts presented so far. It is however, important to first ground the research from a philosophical standpoint.

4.1   Epistemology

This section discusses the epistemological logic followed in this research. Epistemology or 'the theory of knowledge' generally deals with the nature, scope and source of knowledge. Any discussion on the philosophy of the research must naturally start with the philosophical assumptions of the researcher himself. As Johnson and Duberley (2000:84) state "*such self -comprehension not only entails identifying our epistemological pre-understanding and their philosophical derivative'*. Therefore, this section starts with the discussion on the author's background and philosophical principles before the philosophical positions and perspectives presented by other authors regarding firm level characteristics, performance and their relationship are explored.

The genesis of this research stems from a practical question that has been confronting the author as a management consultant, trainer and lecturer in international business and economics. *Is it possible to identify high performing enterprises by looking at some firm level characteristics?* At one level, being able to answer this question would help to avoid getting involved in projects assisting enterprises that lack the potential and thus reduce expending personal resources

unnecessarily. On the other hand, it could provide a way forward to look at issues of economic development.

Therefore, the author has taken the philosophical view that *'performance'* can be empirically measured. This performance measure needs to be comparable across enterprises, sectors and industries. That is, it is multi-dimensional but not multi-constituency and is not a problem driven measure. The author has taken the view that measuring performance from the perspective of 'growth metrics' as most prior research has done might be misleading. This argument as to whether performance should be measured in terms of 'growth metrics' or in terms of 'value' is discussed in the following paragraphs. It is first important to explain why the author has taken this stance against the use of 'growth metrics'. This essentially emanates from the authors understanding and philosophical view regarding economics and economic development.

It is an accepted fact that the central concern for any economy is the creation of *'welfare'*. Therefore, this question regarding performance of enterprises ultimately relates to 'economic welfare'. In that sense, how this performance should be measured is also valid from an economic policy perspective and perhaps even more pertinent in the context of developing or peripheral economies. However, this link between performance of enterprises and economic welfare has been broken over time. Especially since the 1950's economists and policy makers (read Washington institutions) taking a positivist ontological stance have propounded the idea that free trade and free market principles are universally applicable to all countries. Using Adam Smith's and Ricardo's argument for using *'the comparative advantage of nations'* and *'labour hours as a unit of measure'* and the profits thus created as the basis of comparison has given this approach the necessary garb of 'objectivism' and 'scientific validity'. This research anchored, as it is on Schumpeter's principle concepts of 'creative destruction' is mindful of his verdict on Ricardo's central idea "*It is an excellent theory that can never be refuted and lacks nothing but sense*" (quoted from Reinert 2007:222).

The positivist approach to economic development that emanated from these theories has effectively meant reducing the relationships down to simple formulas and doing away with difference in countries, cultures and human behaviour. The basic understanding of economics has been reduced a simple linear equation. That free-trade and free market leads to higher Gross Domestic Product (GDP) and this in turn leads to higher profits and therefore higher wealth. The 'economic value' of the work or the fact that higher profits are not necessarily synonymous with creating 'economic value' even though well recognised by economists and policy makers (see Coad 2009) does not enter into this equation. It is now increasingly becoming apparent that majority of developing and peripheral economies having been locked into the so-called 'free market' and 'free trade' model are actually regressing rather than progressing in terms of 'real income' or wealth (Dicken, 2011). The growing gap between the rich and poor countries is evidence of the damning failure of the so-called free market -free trade model. As Reinert (2007) puts it rather bluntly they are "*locked into poverty*" or '*primitivisation*'. Whether by omission or by commission these economies are straitjacketed by stringent dogmas of a 'free market-free trade' model which gives them very little leeway to achieve real sustainable growth.

Based on this the author has therefore taken a philosophical stance that the free-trade economic model being imposed on economies may be premature and out of context in many instances. What these economies actually need is 'imperfect competition' rather than 'perfect competition' and by identifying and nurturing these 'high performing' microenterprises' it may be possible to generate the necessary environment for 'flux' or 'creative destruction' so necessary to create wealth in any economy. Moving the discussion over to measuring 'value' instead of 'growth' might be a way to re-connect to the core issue of 'economic welfare'. Whether measuring performance in this way will actually explain 'economic welfare' is beyond the remit of this research and is possibly a topic for future research but the validity of measuring performance in terms of 'value' will serve as an important starting point.

This research is restricted to measuring performance from a 'wealth creation' or 'value creation' perspective. It then goes onto investigate if certain firm level characteristics like Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP) can explain the variation in this performance measure. Since the prior research in this area has predominantly taken a positivist approach this research has taken a similar philosophical stance. Additionally, some of constructs (e.g. the concept of Entrepreneurial Orientation) used in this research have used templates from previous studies which were also positivist in nature. Therefore staying with a positivist approach allows us to maintain comparability with the prior studies.

Despite its critics, this positivist approach has remained the dominant approach in management research. Table 8 below presents the central tenets of a positivist management research. The central aim of a positivist approach is to identify causal explanations. This research similarly aims to investigate if EO when integrated with ACAP can explain the performance of microenterprises. Additionally, in the process this research aims to successfully identify the 'high performing' microenterprises. Naturally, for any of the finding to be valid this research has to satisfy the strict principles of validity. The following section has explored this extensively. This is particularly important since this research is attempting integrate the concepts of EO with ACAP which has not been done previously.

As already discussed, the EO-PERF relationship has been researched extensively (Lumpkin and Dess 1996; Wiklund 1999; Covin et al 2005; Lumpkin et al 2006; Rauch, et al. 2009; Davis, et al 2010; Su et al 2011; Sharma and Dave 2011; Zainol and Ayadurai 2011 to cite just a few). Rauch, et al (2009:765) in a meta-analysis of 51 similar studies on EO-Performance found that the relationship was positive. In fact, the relationship was found to be the strongest amongst microenterprises (r=0.345) than compared to SMEs (r= 0.198) or its larger counterparts (r=0.240). All these studies have an underlying positivist approach. They have however, predominantly used 'growth metrics' as a measure of performance

Aims of Research	
Generation of causal laws	The aim of research should be to identify causal explanations and fundamental laws that explain regularities in human social behaviour
Research Approach **Unity of natural and social science method**	The method of the natural sciences is the only rational source of knowledge and should therefore be adopted in the social sciences. This implies preoccupation with: - Internal validity - external validity - reliability - operationalisation
Relationship of researcher with researched **Independence theory and neutral observational language**	The observer is independent of what is being observed. Therefore, the observer can stand back and observe the world objectively.
Value freedom	The choice of what is to be studied and how to study it can be determined by objective criteria rather by human beliefs and interests.
Correspondence theory of truth	Theory can be tested against irreducible statements of observation - the 'facts' of the situation. Research is concerned with producing accounts that correspond to an independent reality.

Table 8: Central tenets of positivism in management research. (Pfeffer -1995)
 Source: Reproduced from Johnson and Duberley (2000, Kindle Loc 591)

This research however has argued that there could be a question of validity in using this 'growth metrics'. Taking a positivist approach it would be expected that this 'growth metrics' would be devoid of any bias in its measurement and that it would satisfy the core principles of independence theory, value freedom and the correspondence theory as shown in Table 8. As argued in section 2.3.2, it is unclear if the conventional 'growth metrics' actually satisfy these principles and actually reflect organisation performance. It was argued that they might actually be measuring organisational effectiveness, which by definition cannot be compared, as it is a problem driven concept (Cameron, 1986a, 1986b). Majority of the literature looking at EO tend to take the performance measure as a given construct without actually questioning the validity of its measurement. This research following the principles of positivist research as shown in Table 8 sets

out to ensure and test that the performance measure used in this research is unbiased. In short, it satisfies the basic principle of 'value freedom'.

As the identification and selection of high performance microenterprises is central to this research, it becomes even more imperative to identify and present a precise definition and calculation of this performance measure. This identification in fact becomes crucial given the general lack of consensus on the definition of performance (Franco-Santos, et al., 2007). Arguably, the performance calculation presented in this research albeit 'generic' in nature, is equally applicable to all microenterprises irrespective of sector, industry or internal strategies and is therefore comparable and justifiable. This has been subsequently tested extensively in section 5.6.5. It may be said that this research has taken a '*foundationist*' approach from an epistemological standpoint. This approach is defined as "*that all knowledge and justified belief rest ultimately on a foundation of non-inferential knowledge or justified belief*" (Fumerton, 2010). The benefit of following this approach is that we can satisfy all the core principles of a positivist approach as shown in Table 8.

Since EO is one of the firm level characteristics then we are by definition restricted to only microenterprises that have this EO disposition (Voss, et al., 2005). This is why we have restricted the research to only entrepreneurial oriented (EO) type of microenterprises (i.e. TYPE 1 as described in section 2.2.2). According to Carland, et al. (1984) and Runyan et al (2008), the other types of microenterprises namely small-business owners (SBO) (i.e TYPE 2 as described in section 2.2.2) do not have growth as one of their objectives, and their definition of performance will not necessarily be wealth or value oriented. It is because of this reason that SBO type microenterprises have not been included in this research. That is not to say that SBO type microenterprises do not create wealth or value and therefore by definition 'economic welfare'. However, SBOs by definition are 'not innovative' (Carland, et al., 1984) and are 'replicative' (Baumol, 2010) and they are not interested in creating any 'flux' or 'creative destruction' (Hanusch, et

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al., 2006) or sources of 'imperfect competition' (Reinert 2007). Therefore, both EO and SBO type can ultimately create 'economic welfare' but there a qualitative difference between the two. Though beyond the remit of this present research this qualitative difference in the 'economic welfare' created by the EO and SBO type of microenterprises can best be explained taking a 'creative realism' approach. As Johnson and Duberley (2000: 2268) states

> " Central to critical realism's project is the abstract identification of the structures and mechanisms although not directly observable underlie and govern the events of experience and hence explain why regularities occur".

Economic welfare as the term implies is essentially abstract and not directly observable. It has different connotations and meanings. To understand what drives this underlying structure different explanatory models can be developed. Therefore the processes used to create the wealth or value by the two EO & SBO groups could be studied separately before their different impact on 'economic welfare' can be understood. Bhaskar (2011) termed this as 'retroduction' and described it as " *the construction of an explanation for , that is, the production of the knowledge of the mechanism of, some identified phenomenon...(which involves)...the building of a model , utilising such cognitive materials and operating under the control of something like a logic of analogy and metaphor, of a mechanism, which **if** it were to exist and act in the postulated way would account for the phenomenon in question.*"

For the purposes of this research only entrepreneurial oriented (EO) microenterprises are being studied using a positivist appproach suggested earlier. In the future it should be possible to study seperately how SBOs with their firm level SBO characteristics integrated with ACAP can explain their performance. However, in order to restrict the study to EO type microenterprises, it is first necessary to demarcate between EO and SBO type microenterprises. The next

section presents an overview of the logic and rationale of the measurement system used in this research.

4.2   What are we measuring?

Like all other previous studies in management, this research also makes observations of a real world phenomenon, object or action. In order to describe the attributes of this phenomenon, object or action, it assigns different variables and then assigns values to these variables by making observations. The object itself is latent and therefore not directly measurable. Therefore, many manifest variables have been developed in the course of looking at the relationship and association (if any) between EO, ACAP and PERF objects. These variables are expected to explain the characteristics of each of these objects. However, the variables chosen may not represent the entire object and it is possible that some 'information' about the object will be lost. It is also possible that other researchers will choose different combinations of variables to explain the same object. Keeping this in mind only variables that have been previously well researched and documented have been selected.

Babbie (1998 :123) categorised observations as 'facts', 'indirects' and 'constructs'. He defined facts as *'items of information that the respondent believes to represent truths and you generally accept as true*".   In this research demographic details of the respondent like, age, gender, position, number of years of experience in total and in different positions whether in the same organisation or others and firm level details like age of the firm, type of business (family or otherwise), sector and technology intensity can be accepted as facts.

This research however, predominantly relies on what Babbie (1998) termed as 'indirect' questions. In trying to measure a latent variable like EO or the three components (INFOC. COMint & PRK) which arguably make up the ACAP construct, it is essentially measuring the orientation of each of these latent variables. As Babbie (1998) asserts "*survey research does not permit the direct*

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measurement of behaviour". As a result, it becomes necessary to rely on indirect measures to measure the orientation and as such, this research may not be fully measuring the actual orientation but at best an approximation.

Finally, this research when defining and measuring performance has largely relied on previous research. This research has used the 'Shareholder Wealth Creation (SWC)' methodology proposed by Carton and Hofer (2006) to measure performance. Alternatively, this research has also used the Shareholder Value Add (SVA) methodology first presented by Rappaport (1981). To construct this SWC index or compute the SVA value for the sample microenterprises the annual reports for three years (2008-2010) was downloaded from the Companies House, UK. The SWC index was constructed from these three years financial data. For the SVA computation, the latest set of annual reports (2010) was used to compute the value. This financial data can be accepted as facts.

4.2.1   Theory Building or Theory Testing or both?

The legitimate question that arises is whether this research trying to build a theory or whether it is testing an existing theory or in fact trying to do both. It may be fair to say that this study in many ways encompasses both the polar positions of theory testing and theory building. This is not an uncommon situation in the majority of management related research. Kerlinger (in Carton & Hofer ,2006) held that management researchers operate both as theorists and empiricists, a view that is endorsed by Lewis and Grimes (1999) and Mahoney and Sanchez (2004). Both these studies argue that this should be more the norm rather than an exception.

As explained in Chapter 1 the goals of this research are two fold. On the one hand it tests some of the pre-existing knowledge in this area in the context of the UK and on the other tries to identify key firm level characteristics and their relationships if any to performance. The ultimate goal lies in being able to predict

and explain potential high performance in EO type microenterprises and this has been done by posing and testing the main hypothesis (11 in total).

This research has relied on literature from diverse areas such as economic development and the role of microenterprises, competitiveness, SME and entrepreneurship research, knowledge management, strategic management, financial management and aspects of behaviourial science such as organisational learning, innovation, and Intellectual Capital. The evolution of each of these different streams have been traced as far back as possible before weaving it together to develop a cogent argument and conceptual framework for the research.

Research Process

This research uses TETRAD 4.3 algorithms to first validate the clustering of the EO and ACAP constructs. A population of 2090 microenterprises out of a total of 3000 enterprises was targeted (after removing 910 charitable and public service micro enterprises and those with restricted telephone numbers). A total of 165 companies responded which constituted a response rate of 7.89%. These 165 microenterprises were then categorised as EO (70) or SBO (95) based on their disposition (Voss, et al., 2005).

The observed data (N=70) for the EO type microenterprises collected through the survey was finally tested for multicollineraity before being used to identify principal components via the conventional Principal Components Analysis (PCA) methodology. These identified components were then applied to develop a valid Multiple Linear Regression (MLR) to test the level of relationship with performance. Finally a valid Ordinal Regression (OR) model was tested to identify 'high performing' microenterprises. The issues of non-response bias (if any) and the validity of demarcating the 165 responses into EO (70) and SBO (95) type microenterprises were first investigated before undertaking any subsequent analysis

The decision to use these two different sets of analysis is deliberate. The TETRAD programme which uses heuristic based algorithms undertakes a form of Exploratory Factor analysis (EFA) to identify the latent constructs (called clusters in the TETRAD programme). Additionally, the factors derived from the TETRAD programme looks at the *common variance* in the observed data. Again if the sample is limited (<250) then these factors based on observed data will lack statistical power to be used to develop a predictive model. The PCA technique which is a data reduction methodology and looks at the *maximal amount variation* of the observed data would be more suitable to develop a predictive model in situations where the sample size is less than 250. This difference between EFA and PCA methodologies is dicussed in more detail in section 6.1

Strict standards of reliability and validity keeping in mind the principles of a positivist approach (Table 8) have been followed throughout the research. A detailed description of the type of validities tested in this research are discussed in section 4.2.4. The ability of this research to gauge the potential of a microenterprise and present a methodology to predict its high performance has important and practical contribution. Systematic additive work can result in the future from this research.

4.2.2 Types of Scales/indices used in this research

This research like many other studies relied on converting concepts into constructs, which in turn were converted into measurable attributes or variables. These variables were then observed and the hypothesized relationships tested.

A 7-point Likert response format was used for each question and is therefore Ordinal in nature. Ordinal data are variables that have an ordered ranking in their scale (e.g., 7 point Likert scores with 1 = strongly disagree, 4 = Neutral and 7 = strongly agree). Special care has been taken when reporting the types of data and

the variation in the responses for each item has only been reported using the Median or the Mode and interquartile frequencies.

When developing a predictive model using Principal Component Analysis (PCA) and subsequently either the Multiple Linear Regression (MLR) or Ordinal Regression (OR) this research has relied entirely on the observed data (N=70) generated from the survey instrument (please refer to Chapter 9).

The Shareholder Wealth Creation (SWC) scores that have been computed are '*Ratio'* measures while the Shareholder value (VAL-RECIP) it is a *continuous* measure. Ratio measures have similar characteristics as interval measures in the sense that the distance between variables can be expressed in standard intervals. However, unlike interval measures ratio measures have a true zero point. Additionally, the benefit of using ratio mesures is that these measures can be mathematically manipulated in equation form. Standard parametric tests have been applied when analysing the SWC scores on its own on a stand alone basis. In the case of SVA measure, the reciprocal value (VAL_RECIP) was taken as a measure instead of the absolute value. This was done in order to ensure *Normality* and *homegeniety of Variance* (Levene's Test). This VAL_RECIP measure was used the dependent variable when testing its relationship with the Principal Components identified for EO and ACAP. Since the ultimate objective of this research was to identify 'high performing' microenterprises then this Val_RECIP measure was combined with the Internal Rate of Return (IRR) measure to categorise the enterprises as high, medium or low (please refer to Table 12 below). These catgorisations are in turn *ordinal* measures and was used as the dependent variable in developing the predictive model using Principal Component Analysis (PCA) and Ordinal Regression (OR).

All of the covariates such as Age, Gender, Role, Type, Technology Intensity, Sector, Education, Work experience have also been coded as nominal variables. Nominal variables are those whose attributes are mutually exclusive and exhaustive. The nominal measures provide names or lables for the different

categories . The associative power between each of these nominal variables have been analysed using non-parametric categorical tests such as Chi-square and related log-linear analysis.

4.2.3   Issue of validity and accuracy

Face validity

As the term implies, the validity issue that this research must fulfill is whether there is sufficient consensus amongst authors from previous research on both the constructs and the variables being used to measure the constructs. As discussed in the literature review in Chapter 2, there is sufficient consensus on constructs such as Entrepreneurial Oriented (EO).

However, a more nuanced approach is needed when discussing the face validity of constructs like Absorptive Capacity and its sub components of INFOC, COMint and PRK or the concept of business performance. On a macro level, i.e. looking at the concept of Absorptive Capacity and Performance as a whole or as an 'umbrella construct' (Hirsch & Levin, 1999), one could argue that there is sufficient consensus to its existence and relevance. However as stated, in both these cases the problem remains in trying to find a uniform definition or description of the constructs. As highlighted in the literature review in Chapter 2, different authors have approached and defined this differently. This research has tried to reconcile this dilemma in relation to Absorptive Capacity contructs by selecting one prominent definition, i.e. the one seminal definition by Cohen and Levinthal (1990) from which the discussions around this construct have emanated and has subsequently been enhanced and debated by other authors.

For the construct measuring performance however, this proved impossible. The word 'business performance' like the word 'competitiveness' does not seem to have a consensus as such.   Different experts have approached this construct

differently and arrived at different conclusions. The nearest definition and methodology for measurement that arguably, meets the requirement of this research was presented by Carton and Hofer (2006) where they measure 'shareholder wealth creation' along with the alternative 'shareholder value added (SVA)' methodologies by Rappaport (1981) which measures shareholder value. This research has therefore relied on these two methodologies as the basis to measure performance and they have been subsequently adapted and modified to make it applicable to UK based microenterprises.

Content validity

In order to address the issue of content validity, it is first important to understand what it actually means. Haynes et al (1995) defines it as " *the degree to which elements of an assessment instrument are relevant to and representative of the targeted constructs for a particular assessment purpose*". The operative words in the definition are '*relevant to*', '*representative*', '*targeted constructs*' and '*particular assessment purpose*'. In short, an assessment instrument (e.g. the survey questionnaire) must be relevant and represent the constructs being measured in this research. It is recognised that this validity is relevent only in the context of this particular research objective and cannot necessarily be generalised for other research purposes.

Accepting this definition unilaterally however implies that applying these constructs in the future to contexts other than for what it has been designed may not be feasible or possible. This would defeat the long term prospects of conducting similar comparable research, and the operative word here is '*comparable*' in order to develop a robust validated framework. At the same time, designing constructs that are inattentive to contextual differences would imply working at a '*global macro level*' which "*encompass the constellation of potentially diverse meanings associated with a given context*" Adcock and Collier

(2001:530). For obvious reasons, operating at this level may not help in achieving our immediate research objective.

As stated previously, the overall objective of this research is to be able to identify and select potential high performance microenterprises based on their firm level characteristics such as Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP). This research argues that EO and ACAP should be important predictors of high performance for a microenterprise. While EO may have been originally conceived to be applicable to all firms (Miller, 2011) there is sufficient evidence in subsequent research (Covin and Slevin, 1991 and others) that it is particularly relevent to small firms (SMEs) and particularly microenterprises. The same however cannot be said for the ACAP construct. As highlighted in Chapter 2 the ACAP construct has predominantly been researched in the context of large firms. Therefore, the challenge is to be able to translate this construct to make it applicable to microenterprises. Care has to be taken that while it must be relevant to the microenterprises being studied in this research it must at the same time not be defined too narrowly so as to lose its universality.

Therefore, the content validity of the framework that is being tested through this research should not only satisfy the narrow definition presented by Haynes et al (1995) but also have the potential of universalisation. In this respect, this research concurs with the views of Adcock and Collier (2001: 530) who state " *seek a middle ground between a universalisation tendency, which is inattentive to contextual differences and a particularisation approach, which is sceptical about the feasibility of constructing measures that transcend specific contexts*" . In short, this research follows a 'middle path'.

In ensuring the content validity of the different constructs being measured in this research, some of the 35 different items listed by Haynes et al (1995 : 251- 253) as an appendix to their article was used. These have been listed here but discussed in detail in the subsequent sections where each of the constructs have been operationalised.

- Specification of the constructs targeted by the instrument
- Specification of the domain of the constructs
- What is to be included and more importantly what is to be excluded.
- Specification of the facets and dimensions of the construct

    Factors of construct to be covered

    Dimensions (index)
- Specification of the intended function of the instrument
- Initial selection and generation of items
- Matching items to facets and dimensions using tables
- Establishing quantitative parameters for each item –scores, index
- Quantitative evaluation of item reliability

Predictive validity

Predictive validity or Criterion-related Validity as it is also known is based on measuring the correlation of the variable or construct of interest with some external criterion (Babbie, 1998). The dependent variable in this research is the SWC score which is a composite index and the SVA value which is a continuous variable. Carton and Hofer (2006) found that Return on sales (RoS) was a valid external criteria to establish the predictive validity of their construct. This research uses the same criterion in order to establish the predictive validity of the the SWC index and also the SVA Value in the context of the UK. It is expected that there will be a strong positive correlation between Return on Sales (RoS) and each of the different measures.

Construct validity

Construct validity is defined as the way a measure relates to others within a particular construct (Babbie, 1998). This is done in two ways - Convergent Validity and Discriminant Validity. Convergent Validity assesses " *the degree to which two measures within the same construct are correlated*". Discriminant

validity on the other hand is the "*degree to which conceptually similar concepts are distinct*" (Hair, et al. 2005 :137).

Both 'content' and 'predictive' validities can be tested emperically. In the first case it is expected that individual items used within each construct would load onto a singular construct and not have any cross loadings.

4.3   The study sample

On a consolidated level, this research uses four (4) independent predictor variables namely, Entrepreneurial Orientation (EO), and Absorptive Capacity (made of the sub constructs INFOC, COMint & PRK) and the dependent variables SWC or SVA. Each of the variables is made up of a number of subcomponents and the total numbers of variables studied in this research are thirty-nine (39). Additionally, on an individual level the respondents' age, gender and the role of the respondent in the organisation were measured. Since this research is at a firm level these individual level descriptive data are not relevant for the purposes of the conceptual model that is being investigated. However, they assist in verifying the quality of the data collected. It is the firm level descriptive data like years of operation, type of business (whether family or non-family), sector and technology intensity that were collated for the 70 EO type microenterprises that are particularly relevant and have been used in the analysis.

As composite variables are being used we will ultimately be dealing with only 5 (FIVE) latent variable scores, that is 4 (FOUR) independent variables listed above and 1(ONE) dependent variable namely PERF. Using the rule of thumb that each predictor variable should be supported by a sample of at least 20 observations (Hair, et al., 2005), the total minimum observations that need to be generated are approximately 100. This research is based on data collected from 165 UK based microenterprises and therefore the minimum observations requirement can be said to be met. However, as this research specifically focuses on EO type enterprises

and on that score there were only 70 out of the 165, which could be classified as EO type, the sample size was not considered sufficient. However, as this research is investigating concepts that are relatively untested in the context of microenterprises (e.g. integrating EO & ACAP to understand it impact on a forward-looking measure of performance) the risk involved in aiming for larger sample sizes was disproportionately high. It was deemed more prudent to first test the proposed concepts with a smaller sample size and in one economy (i.e. UK) before expanding it to a larger sample and multiple economies. The final predictive model using PCA and Ordinal Regression used the observed data (N=70) generated from the survey. This observed data was also been used for reporting some of the basic descriptives. In order to establish the predictive validity of the PERF construct an *imputed* dataset of the observed data was used after conducting a *'missing value analysis'*.

Drawing on the definition of a microenterprise presented in section 2.1.1, the following criteria was used to generate the requisite sample:

1. UK enterprises (any sector) with total employees less than 10.
   AND

2. UK enterprises (any sector) with total assets of less than €2 million (£1.8 million)
   AND

3. UK enterprises (any sector) with total turnover of less than €2 million (£1.8   million)
   AND

4. Only Active companies
   AND

5. Companies with Telephone numbers (excluding CTPS & TPS)
   AND

6.   Only Independent companies

       AND

7.   Legal Form (Private limited company, Public limited company, limited
       partnership)

The UK companies' database accessed for this research was DASH UK. DASH is a comprehensive database of companies, directors and shareholders[18] and the researcher was given access to 3000 such company details free of charge. The database provides the following information:

- Company Details: address, telephone number, company type, date of incorporation, year started, legal form, status
- Company Financials: last statement date, turnover year one/year two, pre-tax profit year one/year two, net assets year one/year two, total assets year one/year two, nominal capital, issued capital
- Business Growth: e.g.: over 20%, 5-20%, -5 to +5%, -5 to -20%, under -20%
- Shares: type of shares, total value of shares, shareholder type, shareholder name
- Remunerations: average remunerations, total director remunerations, director name, position
- Activity: line of business (or sector), UK SIC code & SIC Code Description

A tentative search on the DASH-UK company search portal resulted in a total of 3232 microenterprises, which met the criteria mentioned earlier. The table below gives a summary of the results generated from this search.

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[18] Revised on 3rd November 2011 via Manchester Business School alumni website. Main website
http://www.bvdinfo.com/Products/Company-Information/National/DASH.asp

As discussed in section 2.1.1, a microenterprise under the EU and UK definition, is defined as one having less than 10 employees and a turnover of less than £1.8 million or total assets less £1.8 million as per the EU definition given in Table 1. However, it was decided that a more stringent selection process would be followed in this research and all three criteria (namely, <10 employees, <£1.8 million turnover and <£1.8 million in total assets) were used to ensure that the sample population only comprised of microenterprises.

Selected criteria	Specified values or options	Total Database	Search result
Number of employees	Last available year, Min = 1; Max = 10	1, 409,353	1,409,353
Total Assets (GBP)	Last available year, Min = 1, Max = 1,800,000	1,671,189	28,352
Turnover (GBP)	Last available year, min = £100,000; Max = £1,800,000	196,975	23,679
Status of companies	All active companies	4,048,176	23,679
Companies with a telephone number	Excluding CTPS, Excluding TPS	1,414,050	7,304
All independent companies		6,991,488	7,304
Legal form	Private limited company, public limited company, limited partnership	2,230,352	3472
Total number of companies selected			**3472**
Of which Business Growth figures not available			**240**
Total number of companies available for research			**3232**
Of which High Growth of turnover (>20% +) Medium Growth of Turnover (+5%~ +20%) Low Growth of Turnover (-5%~ + 5 %)			**789** **1212** **1231**

Table 9: Search results from DASH UK database

In addition to the completion of the survey instrument, it was necessary to generate the required financial data in order to compute the performance measure. A minimum of at least 2 years financial figures were required given that 9 of the 13 data fields are presently not available in the DASH database. Complete P/L and

Balance sheet accounts with the following data fields were accessed through the UK Company House[19].

1. Total assets (available through DASH)
2. Total liabilities (needs recalculation : Total assets – Net assets = Total liabilities)
3. Current assets
4. Current liabilities
5. Issued shares/owners fund invested (available through DASH)
6. Capital reserves (if any)
7. Revenue reserves (if any)
8. Long term loans
9. Total revenue/earnings (available through DASH)
10. Operating costs
11. Interest paid
12. Tax paid
13. Dividend paid to shareholders or Directors
14. Additional information requirement
    1. Name of Managing Director/owner(available through DASH)
    2. Full postal address including contact telephone number (available through DASH)
    3. Email address if any (optional) –(available through DASH)
    Mobile number if any (optional) – (available through DASH)

4.3.1 Unit of analysis

The unit of analysis in this research is at an organisational level. However, in the context of SME studies, it is generally recognised that the individual

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[19] Available online http://www.companieshouse.gov.uk .

owner/managers attributes/skills are closely associated with the performance of the organisation (Covin & Slevin, 1991; Thorpe, et al., 2005; Macpherson & Holt, 2007). This is generally true for all types of organisations but in the context of SMEs and especially microenterprises, this is even more pronounced. Therefore, when attempting to understand the relationship (if any) between performance and firm level characteristics of microenterprises, the individual attributes and skills of the owners/managers become inseparable. These aspects were incorporated into the framework.

4.4 Identifying, defining, posing and measuring the variables

This section defines each of the variables used in this research and outlines the questions formulated and the response format presented. There is a need to distinguish between the 7-point Likert response format and the scale for each variable into micro and macro level scales. This *micro* level scale (Carifio & Perla, 2007) for each variable can be seen as a continuum from low to high with 7 anchor points (1= low and 7 =high and 5 other equidistant measures). These micro level scales (as long as they are of equal length) can then be grouped to form the overall *macro* scale needed to measure each of the constructs used in this research. As stated 4(four) independent constructs namely EO, INFOC, COMint and PRK have been used. As suggested by (Babbie, 1998), looking at the scales from this perspective should allow the development of a composite index to test the correlation of each of the variables within a particular construct and thereby establish its reliability.

4.4.1 *Entrepreneurial oriented (EO) Vs Small Business oriented (SBO)*

As stated in section 2.2.1 the Entrepreneurial Oriented (EO) firms as postulated by Covin and Slevin (1991) and further used by Runyan et al (2008) should exhibit three fundamental characteristics namely, innovativeness, proactiveness and risk-taking.

Therefore, a possible definition of Entrepreneurial Oriented (EO) microenterprise would be "*microenterprises that possess a high level of innovativeness, proactiveness and risk taking capabilities*" (Carland, et al.,1984; Covin & Slevin,1991; Runyan, et al.,2008). In order to explain the above definition, it is necessary we expand on what we mean by innovativeness, proactiveness and risk taking capabilities. Carland et al (1984) provide some general concepts based on previous researches but do not specify any specific measurements for EO type microenterprises.

The Small Business Owner (SBO) type business in contrast is defined as "*any business that is independently operated, not dominant in the industry and does not engage in any new marketing or innovative practices. A small business owner is an individual who establishes and manages the business with the principal purpose of furthering personal goals and policies and sees the business as an extension of his or her personality, intricately linked with family needs and desires*" (Carland, et al 1984).

Although Runyan et al (2008) claimed that there is a distinct difference between the EO and the SBO type enterprises; this was not explored in earlier studies. While Carland et al (1984) was the first to propose a distinction between EO and SBO type of business no serious effort was made to measure what is meant by SBO type of businesses. Essentially, they were seen as inversely related to the EO firms implying that a high EO score meant a low SBO score and vice versa. Therefore, the fact that SBO firms would also have performance considerations albeit quite different from the EO type firms was largely ignored. As mentioned in section 4.1 and earlier SBO's can also create wealth and value and therefore ultimately 'economic welfare'. It is the process used to generate this wealth or value that is different. Runyan et al (2008) based on previous research, developed specific measures for *innovativeness, proactiveness , and risk taking propensity* for the EO type of microenterprises and two distinct measurements namely, *purpose and goals* and *emotional attachment* for the SBO type of

microenterprises. These measures have incorporated in the questionnaire used in this research. Appendix 1 adopted from Runyan et al (2008) gives a list of all the different variables that were measured, their respective measurement scales and response format.

Definition, Domain, Scale and scope of each sub component

<u>**Innovativeness**</u>

Innovativeness has been dealt at length by most authors like (Miles, I, 2008; Balsano, et al. 2008; Runyan, et al., 2008; Borgelt & Falk, 2007; Wince-Smith, 2005; Covin & Slevin, 1991; Carland, et al., 1984) and all cited in this research. Surprisingly, none of them actually defined what they mean by innovation and what it constitutes. This is probably because they found it unnecessary to define a word so widely used in common parlance. Oxford Dictionary[20] defines the word innovation as "*a new method, idea, product, etc.:*" which is not very helpful as almost everything and anything new could be termed as 'innovative'

Therefore, in order to be able to use this concept it is imperative that we first define the term and set its domain, scale and scope in the context of this research. Rosenfeld and Servo (1991:29) defines *Innovation as a combination of Conception, Invention and Exploitation* and it is the end-result of all the three items mentioned that might prove useful in our attempt to find a suitable definition. It therefore exludes any discussions on the processes or methodologies used by the firm to conceive, invent or exploit.

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[20] http://oxforddictionaries.com/definition/innovation?q=innovation

Proactiveness

Again, while the concept of proactiveness has been referred to extensively in the literature when discussing Entrepreneurial Oriented (EO) type enterprises, it has seldom been precisely defined. Proactiveness in this research has been defined as "*Action and result oriented behaviour, instead of the one that waits for things to happen and then tries to adjust (react) to them. Proactive behaviour aims at identification and exploitation of opportunities and in taking pre-emptory action against potential problems and threats, whereas reactive behaviour focuses on fighting a fire or solving a problem after it occurs*"[21], it is an action and result oriented behaviour. However, all the authors (Carland, et al., 1984; Covin & Slevin, 1991; Runyan, et al., 2008) quoted in this research have used this term from a 'competitor' centric perspective. Perhaps this 'confrontationist' approach is symptomatic of the fact that all of these authors are from the US. However, the philosophy of Sun Tzu who stated, "The *supreme art of war is to win a battle without fighting*" provides a more nuanced and less confrontational meaning of the term (Giles, 1910).

As one of the objectives of this research is to replicate the research and construct used by Runyan et al (2008), we have retained their measures. These are more competitor centric with the exception that we have introduced one new measure (Proac2) which looks at whether the firm is a first-mover when it comes to introducing new products, services or administration methods. However, since this is not directly 'competitor' centric, it is debatable whether it will correlate highly with the other two questions and be a good measure of the construct being measured.

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[21] http://www.businessdictionary.com/definition/proactive.html accessed on 14th December, 2011

Risk Taking

Again, the term 'risk taking' like the previous two terms (Innovativeness & Proactiveness) have been used extensively by the authors without actually defining it. A quick search on the Business Dictionary online website revealed that the word 'risk' itself has over six different categories like Business, Financial, Food, Insurance, Securities trading and workplace. There are over 17 different types of risk taking within 'financial risk taking' itself. It is therefore necessary to provide a precise definition of 'risk taking' and the definition applied in this research as is any behaviour that has "*The probability of loss inherent in an organization's operations and environment (such as competition and adverse economic conditions) that may impair its ability to provide returns on investment*" (source: BusinessDictionary.com).

Therefore, the two polar positions in the context of risk for an organisation are low returns on investment on the one hand and high returns on investment on the other with the behaviour of the organisation as the causal factors. High Returns equals' high risk while Low Returns equals low risk. The three questions (Risk1, Risk2 & Risk3) look at different facets of this behaviour. Question 2.1.7 (Risk1) looks at the degree to which the firm actually targets high return (or high risk) projects. Question 2.1.8 (Risk2) looks at how the organisation views managing change either through a revolutionary process (by definition more risky) or through a less risky evolutionary process (Greiner, 1994;Christensen & Overdorf, 2000). Question 2.1.9 (Risk3) on the other hand looks at the overall posture of the firm to proactively look for new opportunities (therefore by definition more risk taking), rather than wait for development.

Purpose & Emotional Attachment (for SBO type enterprise)

Runyan et al (2008) drawing on previous studies argue that it is the purpose or goal of the owner managers and their close links to the business that differentiates the SBO from EO type businesses. Majority of these previous studies base their argument on the psychological traits of the business owner. Carland, et al. (1984,

pp 358) for example states "*A small business owner is an individual who establishes and manages a business for the principle purpose of furthering personal goals. The business must be the primary source of income and will consume the majority of one's time and resources. The owner perceives the business as an extension of his or her personality, intricately bound with family needs and desires*".

This research replicates the research done in the US to validate if the concept would equally apply to UK based microenterprises. For the '*Purposes*' construct, Runyan et al (2008) used five different measures. Arguably, Question 2.2.4 (Purp4) measuring the degree to which the respondent depends on the income from the business is of the highest order. This is followed by Question 2.2.1 (Purp1) which measures the desire to be independent. Question 2.2.3 (Purp3) claiming that the goal is non-financial in nature is expected to be negatively correlated with Purp4. While Question 2.2.2 (Purp2) measures to what degree SBOs, avoid growth and expansion. The emotional attachment of the SBOs is measured by four variables.

Since the essential focus of this research is on the EO type enterprises, the data collected for the SBO type enterprises has not been used or analysed in this research. Some comparisons have been made between EO and SBO but that has essentially been restricted to analysing PERF and not the others.

4.4.2 Absorptive Capacity

Cohen and Levinthal (1990) defined absorptive capacity as "*the ability of the firm to recognise the value of new external information,assimilate it and apply it to commercial ends*" and this is the definition that has been operationalised in this research.   In order to understand Absorptive Capacity at a firm level we not only need to understand the' prior knowledge' of the individuals involved, but also of the teams and how it is disseminated. Therefore, the communication structure

between the firm and the external environment and also between its various units has a critical role. Additionally, the character and distribution of expertise within the firm also has a direct impact on the Absorptive Capacity of the firm. As stated previously, this research expects all the above concepts to cluster around the three distinct latent variables of INFOC, COMint and PRK on the basis of the Cohen & Levinthal definition.

The following paragraphs examine the three latent variables and their measurements. When administering the survey instrument, the questions (i.e. manifest variables) were deliberately scrambled so that respondents could not predict the sequence and logic of the questionnaire design. This was done in order to avoid any 'fatigue' and bias on the part of the respondent.

1, __INFOC__

In section 2.2.3 we cited (Davenport & Prusak, 2000) who differentiated knowledge from information. They argued that the difference lay in that, knowledge was only created after the information had been tested and validated to create new understanding. We have defined 'information collection/collation' in this research as "*Information that is collected from or created for individuals and groups*[22] ". This implies that it refers to information that is collected from external sources. It also refers to the information that may be lying within an organisation albeit unutilised or untapped. This would be manifested within the firm as how *proactively it searches* for new types of external information (INFOC1) and has the *right mechanisms/processes* in place to undertake this search (INFOC2). This would also be reflected in how quickly the new *information is disseminated* within the organisation (INFOC3).

The character or nature of expertise of the owner/ manager could be seen as a repository of information and this is expected to have a major effect on the

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[22] http://www.prenhall.com/divisions/bp/app/hoffer/student/glossaryfull.html

Absorptive Capacity of the firm. In essence, this character and nature of expertise is trying to measure if the firm has the requisite information to meet its present and future prospects. This research has taken the view that requiring the respondents to specify the exact nature of their expertise/information and then trying to deduce whether this expertise/ information matches the firms requirement would be difficult. Instead, it might be more feasible to look at the degree to which the respondents perceive his/her expertise/information to match the present and future requirements of the firm. INFOC4 is designed to do this. INFOC5 in turn, measures whether there were any occasions when the respondent's expertise was not sufficient to meet the firm's requirements.

An important prerequisite of effective Absorptive Capacity is the ability of the firm to use and apply the information collated for effective commercial ends. The definition of commercial ends could mean the design and development of new internal processes or even new products/ services. Therefore, in order to gauge how effectively the firm uses information that has been collected the research must be able to measure the changes in processes within the firm or the introduction of new products/services. This activity generally amalgamated within the 'Information processing theory' (Rogers et al 1999) has a long pedigree in strategic management literature dating back to the early 1960s. Minzberg calls this the 'programming stage' and no matter which strategic management school one follows, this is an essential prerequisite (Mintzberg & Lampel, 1999). INFOC6 looks at how the firm applies new information to improve its internal processes and operations and enhance its productivity. INFOC7 on the other hand looks at how the firm applies new information to develop new products and services to meet future needs.

As explained in section 2.3.2, the Absorptive Capacity of the firm will also be impacted by the degree and level of communication between the firm and the external environment for information gathering. The external environment of the firm comprises of customers (INFOC8), suppliers (INFOC 9) and other external

stakeholders like shareholders and relevant government authorities (INFOC 10) who all serve as important sources of information for any forthcoming changes that the enterprise has to take into account. Appendix 2 (a) shows the exact scales and questions used to measure the INFOC construct.

2. COMint

As cited in Chapter 2, the importance of sufficient communications between the various units within the firm cannot be overstated. Communication here has been defined as the degree to which knowledge and information is transferred between various departments/units within the firm. Appendix 2(b) shows the exact scales and questions used to measure the COMint construct.

The three items that make up this dimension look at different facets. COMint1 measures whether the respondent firm actually has a policy in place to encourage internal communication. While COMint2 looks at the operational issues of making this happen, COMint3 measures whether the firm actively tries to create an enabling environment to make the dissemination of information and knowledge within the organisation possible. This construct does not look at the type of information and knowledge that is disseminated. Neither does this construct look at what level (e.g. only amongst senior managers or across all managers) this information is disseminated.

3. PRK

As stated, prior related knowledge of the firm has a direct role in ACAP. In order to understand the level of prior related knowledge it is necessary for the firm to have the required processes/mechanisms in place to measure this attribute. Prior related knowledge also refers to the tacit component of knowledge (Leonard 1998:113) and was defined as " *...that is semi conscious and unconscious knowledge held in peoples head and bodies*" and is closely related to the definition of human capital " *that in the minds of individuals: knowledge, competencies, experiences, know-how* " (Skryme 2005). These '*mental models*' have an

important bearing on ACAP (Lane, et al 2006). In the context of the firm, these mental models are reflected in its documents and files, designs and strategies and the degree to which these reside in different members of the organisation.

While literature has asserted that this dimension should be an important determinant of ACAP, it will be interesting to see if this actually applies to microenterprises. PRK1 looks at the degree to which the responding firm actively encourages the documentation of the acquired knowledge while PRK2 looks at how much the firm relies on using IT based retrievable systems (such as databases, Intranet etc). Cohen and Levinthal (1990) specifically emphasised that the ACAP is more than just the sum total of the different individuals in the firm. However, it is obvious that having the right spread of expertise within the firm stands to naturally enhance the ACAP. Again, rather than trying to gauge the exact distribution of the expertise within the firm which would be difficult in a survey, this research tries to measure the distribution from the perspective of the respondent. PRK3 measures the degree to which the respondent is able to rely on the knowledge and expertise of other managers in the firm. Being able to rely on managers across the firm would imply that there is sufficient distribution of knowledge and expertise. PRK4 on the other hand looks at the depth and breadth of this distribution of expertise to resolve problems within the firm.

As part of this development of the '*mental models*' it is obvious that new information will have a major role to play. PRK5 looks at how this new information is used to develop strategies to enhance customer satisfaction. Although PRK5 is about information and arguably part of the INFOC construct, it is more related to the '*creation of models and strategies*' which is more within the purview of the PRK latent variable. That is why PRK 5 has been included in this construct. Appendix 2(c) shows the exact scales and questions used to measure the PRK construct.

4.4.3   Other Variables measured in this research

The respondents' age, gender and the role of the respondent in the organisation were measured.   The purpose of recording the age, gender, and role of the respondent was to ensure that this research was able to gain proximity to the centre of power within the organisation. Given the central role the founder/ entrepreneur/ Managing Director plays in dictating the direction of the firm (O'Farrell & Hitchins (1988) as quoted by Birley & Westhead 1990), it was necessary to be able to obtain their views.

As all the constructs used in the research are at a firm level, only those covariates that are at a firm level have been used for any further analysis. On the firm level, type of business (whether family or non-family), the years of operation, sector and technology intensity were computed from the available data. These covariates have been reported as part of the descriptive statistics.

1.   Type of Business

The responding firms were classified as family business or non- family business. A family business for the purposes of this research has been defined as "*where one or more members within the management are drawn from the owning family"*. For a detailed discussion on the different definitions of family business, please refer to Chua, Chrisman and Sharma (1999). Given the sealed nature of family business (Basly 2007) the majority are expected to belong to the SBO type.

2.   Years of operation

The years of operation or age of the firm was computed from the date of incorporation of the firm as listed in the Companies House database. This measure

will be used to look if any 'non-response ' bias exists in the sample. The aim is to ensure that the sample data used in this research is representative of the population and that there is adequate coverage of the different ages of microenterprises.

3   Sector

Typically from an economics perspective, the overall economy can be sub divided into four sectors, namely, the primary sector, the secondary sector (including manufacturing), the tertiary sector (including services) and finally quaternary sector (including knowledge industries). The National Industrial Classification System (NAICS) that modified the previously used Standard Industrial Classification (SIC) codes lists 20 different industries[23] . The respective 5-digit SIC code of the respondents included in this research was obtained from their registration with the UK Companies House and they were categorised into the following groups based on the business description given.

Covariate factor		**Measurement scales: Sector**
Sector	Derived from responses	Code
Manufacturing & repairs		1
Retail Business		2
Transportation		3
IT services		4
Financial Services		5
B2B services		6
Social services (FP)		7
Arts & Theatre		8

[23] : http://www.naics.com/info.htm

4.   Technology intensity

Once the survey was completed, efforts were made to classify the businesses in terms of their technology-intensity. Unfortunately, there is no clear definition as to what constitutes as high technology intensity business or a low technology intensity business. Majority of studies use R&D spend to understand the level of technology intensity (OECD, 2005) which, in the context of microenterprises is not very helpful. Hecker (2005) quoting a US Congressional Office of Technology assessment, defined high-technology firms as "*engaged in the design, development and introduction of new products and/or innovative manufacturing processes through the systematic application of scientific and technical knowledge*".

High technology intensity enterprises in this research are described as those manufacturing products and/or delivering services that require a substantial amount of dependency on technology and without which the firm would not be able to manufacture the product or deliver the service. On this basis, a company, which for example provides financial services or produces and designs IT software products or precision instruments, would be deemed as technology intensive. On the other hand, an enterprise providing carpentry products, hairdressing services or theatrical productions would be deemed as low technology intensive as they require relatively low levels of scientific or technical knowledge.

5   General Statement

In chapter 1 & 2 it was argued extensively that there is a distinct difference between EO and SBO type of microenterprises based on their ethos or disposition (Voss, et al., 2005). It was argued that EO firms besides being innovative, proactive and risk-taking (all attributes of the EO construct) they would also be future oriented (Tellis et al, 2007) and therefore interested in growth and profitability. This is reflected in Statement 1 (given below). Carland, et al. (1984), Covin and Slevin (1991) and Runyan et al (2008) on the other hand argued that

SBO type microenterprises are essentially driven by emotional issues and the reasons or purpose behind setting up the enterprise are essentially personal. This is summarised and encapsulated in Statement 2. Respondents were required to choose one of the two compulsory general statements in order to direct them to the appropriate sections of the survey instrument. Statement 1 classifies the respondent as EO type enterprise and directs them to questions pertaining to the EO construct while Statement 2 classifies the respondent as SBO type enterprise and directs them to questions pertaining to the SBO construct.

Covariate factor		**Measurement scales: Sector**
General Statements		Response format
S1 – A business should always strive for growth, profitability and innovation		1 (EO Type)
S2 – A business is about independence, achieving personal satisfaction and enjoying your work and lifestyle		2 (SBO type)

Table 10: Statements used to demarcate between EO & SBO

The main thrust of this research is to look at EO type enterprises (TYPE 1) and all results reported pertain only to this group. Whether this demarcation between EO and SBO is valid and the two groups are indeed independent has been tested in the subsequent chapter.

4.4.4 Organisational Performance – process and computation

This research explores whether the Shareholder Wealth Creation (SWC) index proposed by Carton & Hofer, (2006) is a suitable performance measurement model. The SWC index by its design categorises the enterprises into high, medium and low performers. As an alternative, this research has also explored if the Shareholder Value Add (SVA) methodology first proposed by Rappaport, (1981,

1998) is an appropriate model of measurement. The SVA methodology generates a value score that is continuous which has been used when studying the causal relationship between the independent variables namely, EO and ACAP and performance. As explained in section 2.3, the main objective of identifying a proper performance measurement model was however to be able to classify the microenterprises in the sample as high, medium or low performers based on their firm level characteristics. In order to do this the 'Value' score was combined with the Internal Rate of Return (IRR) to devise a template to categorise the enterprises (please refer to table 11 below).

1   Shareholder Wealth Creation (SWC)

As suggested in section 2.3.4, the following equation (Carton and Hofer 2006) was used to discriminate between high, medium and low performing microenterprises. Organisations scoring greater or equal to 1 were classified as high performing, (labelled 'SWCH' and coded 3). Microenterprises scoring less than zero were classified as low performing (labelled SWCL and coded 1). All other firms were classified as medium performing, (labelled SWCM and coded 2).

$$SWC3 = 0.275GR\ AST + 0.317(\frac{CLIAB}{AST}) + 0.846C\ ALT\ Z + 0.115\ ROA$$

Where
SWC3   =   Shareholders Wealth Creation over a three-year period
Gr Ast   =   Growth rate of Total Assets
Cliab/Ast   =   Change in liabilities to total assets
Calt Z   =   Change in Altman's Z-Score
RoA   =   Return on Assets

The terms used in this calculation are explained further

Growth rate of total assets

Drucker (1954) included the ability of an organisation to continue to attract capital as a critical performance dimension. It follows that growth in total assets could be considered as a measure of the performance of an organisation.

Change in liabilities to total assets

The liabilities to total assets ratio is calculated by dividing the total liabilities by the total assets for each year's financial accounts. The change in liabilities to total assets is calculated by looking at the difference between the ratios for each year.

Changing Altman's Z score

Altman's Z-score first advanced by Prof. Edward I Altman in 1968 is the most commonly used measure of financial likelihood of organisational failure. Typically, there are two versions of the Altman Z score, one for publicly traded companies[24] and another for non publicly traded companies. Since the sample used in this research comprises of microenterprises that are essentially non-publicly traded enterprises, it might be more suitable to use the revised standard formula for non-publicly traded firms given below:

$$Z = 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4 \qquad (2)$$

Where
X_1 = working capital/total assets
X_2 = retained earnings/total assets
X_3 = earnings before interest and taxes/total assets
X_4 = net worth/total liabilities

In the revised formula, Altman found that firms with the Z score greater than 2.60 were clearly in the non-bankruptcy category, while those firms with the Z score

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[24] Altman Z score (publicly traded companies) = $1.2x_1 + 1.4x_2 + 3.3x_3 + 0.6x_4 + 1.0x_5$ where x_1 = working capital / total assets ; x_2 = retained earnings / total assets; x_3 = EBIT / Total assets ; x_4 = market value of equity / book value of liabilities ; x_5 = sales / total assets

less than 1.10 were clearly in the bankrupt category. Firms between these two values were deemed to be in the grey zone. As discussed earlier, while the above two Altman Z scores have been very popular with financial analysts, it has seldom been used by strategic planners to measure performance. Carton & Hofer (2006) are among the few to make this connection. A quick review of the above equation will reveal its applicability for measuring performance. The Z score will either increase or decrease simply by changing any of the numerators or denominators over a period of time. This change in the Z score because of its high explanatory power (adjusted $R^2 = 0.59$) will automatically vary the SWC score. The Altman Z score is thus a powerful tool in measuring performance but generally overlooked by strategists (Calandro, 2007).

Return on assets (ROA)

ROA measures the organisation's ability to utilise its assets to create profits. It is defined by the formula:

$$ROA = \frac{net\ income}{average\ total\ assets}$$

However, the ROA calculations vary considerably between industries because of differing capital intensity, financial structures and accounting policies. Carton & Hofer (2006) quoting Brearly et al (2001), propose adjusting the ROA calculations to eliminate the effect of interest expense and related taxes from the numerator. The adjusted formula is

$$adjusted\ return\ on\ assets$$
$$= \frac{net\ income + interest\ expense - interest\ tax\ shield}{average\ total\ assets}$$

Three years of data was used in order to ensure that any short-term distortions in the data were smoothed out over a period of time. To calculate the changes in Altman's Z score, the non-publicly traded and non-listed version of the equation stated earlier was used. In order to calculate the SWC score for each of the

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microenterprises in the sample the following additional information was generated for each firm from the Companies House database[25]. The company registration number was entered into the database and the last 3 years annual returns were downloaded. The information was then entered into an Excel spreadsheet before being transferred into SPSS or LISREL for subsequent analysis. Appendix 3(a) shows the exact information that was entered to calculate the Shareholder Wealth Creation (SWC3) index. Appendix 3(b) in turn shows the computation of these inputted data in order calculate the 3 year Shareholder Wealth Creation (SWC3) Index. Based on this SWC index the sample microenterprises were categorised as follows

SWC3 index score	Code	Description
≥ 1.00	3	High performers
≥ 0.00 and < 1.00	2	Medium performers
< 0.00	1	Low Performers

Table 11: Categorisation of microenterprises using SWC3 scores

A note on the accounting practices used in the UK for small firms

The Companies Act 2006 under Part 15 and its 12 different chapters sets the provisions that have to be met by a private limited company in terms of its accounts and reports. Section 381-384 sets the provisions for companies subject to the small companies' regime. Chapter 2 (sections 386-389) sets the obligations of the accounting records that have to be maintained. Microenterprises have a special provision that allow them to provide summary financial statements. Section 427 under Chapter 7 sets the form and contents of the summary financial statement that need to be provided by unquoted companies. The qualifying criteria as per section 382 (3) are as follows:

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[25] http://www.companieshouse.gov.uk/

1.	Turnover	Not more than £5.6 million
2.	Balance sheet total	Not more than £2.8 million
3.	Number of employees	Not more than 50

It will be noted that the definition for microenterprises used in this research based on the EU classification (please refer to section 2.1.1) are substantially lower than the criteria presented by the Companies Act 2006. Therefore, all of the sample microenterprises used in this research falls within the small firms definition given in this Act. Quite a few have availed of this provision and provided only abbreviated accounts. Fortunately, the information provided satisfies all the requirements to complete the SWC calculations.

2. *Shareholder value Add (SVA)*

As discussed in section 2.3.4, a future oriented 'value' based approach may be more suitable for this research than simply relying on historical earnings. Moving the debate to focus on future potential performance might be a better approach to understanding the underlying performance of microenterprises. As discussed previously, out of the five possible approaches The Shareholder Value analysis (SVA) was considered the most appropriate. In order to conduct the SVA analysis, the Excel 2007 software package was utilised. Appendix 4(a) provides the data inputted to calculate the SVA score. The following assumptions and economic data as presented in Appendix 4(b) were used in the computation. The rationale and justification for these assumptions have already been previously discussed in Chapter 2 (please refer to section 2.3.4). Appendix 4(c) presents the exact computation and methodology followed to calculate the 'Value' based on the inputted data (Appendix 4a) and the assumptions (Appendix 4b).

To summarise the discussion from Chapter 2 the standard SVA methodology was used to compute the final value (appendix 4c). The sales revenue (Rev), Total Assets (TA), Total Liabilities (TL), Current Assets (CA), Current Liabilities (CL), Long Term Loan (LTL), Retained Earnings (RE) and Earnings before Interest and Tax (EBIT) from the most current annual report (2010) was used as the base year.

The following macroeconomic data for 2010 (Corporate *Tax Rate = 25%* (www.hmrc.gov.uk); *Average interest Rate =7.0%* (www.FTSE.com); *Risk Free rate = 4.5%* (www.Bloomberg.com); *average return on equity = 14.5%* (www.FTSE.com) was used. While the *Beta co-efficient (β)* used to compute the weighted average Cost of Capital (WACC) for the individual firm generally ranges from 0.50 to 1.50 this research has deliberately used the upper extreme in its calculations. Additionally, a fixed 10% linear growth rate was assumed for revenue, Fixed assets and Net Working Capital for the forecasted four year period from 2011-2015 (please refer to the justification in section 2.3.4). This was done to ensure that the final computation was actually comparable across the enterprises. Otherwise, there is a danger we might be measuring 'organisational effectiveness' rather than 'organisational performance' an important distinction discussed by Cameron (1986 a & b). In all some 24 different measures were computed before the final value could be derived (*Value = Net Present Value (NPV) - Long Term Loan (LTL) - Operating Fund (OF))*. In order to ensure homogeneity of variance (Levene's test) and at the same time have Normal distribution a reciprocal transformation of the value (Value_RECIP) score was done. Along with the 'Value_RECIP' calculation, the internal rate of return (IRR) was also computed. These were together used to categorise the enterprises as shown in Table 12.

Table 12: Potential Value categorisation

Category (CODE)	If VAL-RECIP >0	**AND** IRR > 2 * WACC
High Performers(3)	Yes	Yes
Medium Performers(2)	Yes	No
Low Performers (1)	No	No

Enterprises that had a Value_RECIP > 0 and the IRR > 2 times the firm's WACC were categorised as 'high performers and all the others as 'medium' and 'low' performers. Since, the aim of this research is to be able to identify the high performers a stringent criterion of the IRR needing to be at least twice the WACC was deliberately used. Attempting to categorise the sample as high, medium or low performers is quite common (for example, please refer to Carton and Hofer, 2006; Foreman-Peck et al., 2006) when studying SMEs.

5.   DATA COLLECTION, DESCRIPTIONS AND VALIDATION.

This chapter outlines the data collection process and presents some of the descriptive statistics. Additionally, it sets out to validate the EO, ACAP and performance (PERF) constructs applied in this research.

5.1   Data Collection Process

In the first instance, a standard self-administered postal survey was used to collect the data and a postal questionnaire was sent to a selection of 50 companies randomly selected from a total of 13791[26] microenterprises. This was followed-up with a telephone call to each recipient after a period of three weeks. This approach however, failed to generate any response. The alternative was to either conduct a personal face-to face interview or devise an online survey questionnaire for completion by the recipients. A third and final option was to conduct a telephone survey with the help of a professional market research agency. However, there was a logistic difficulty in using a personal face-to-face interview technique, as it would result in the sample being restricted to the Greater London region. This would mean that the data collected would not be representative of the whole of the UK. On the other hand, an online survey could be difficult to execute, as the prospective enterprises would have to be first contacted and invited to participate by email. As the email addresses of only 135 companies out of the population of 2090 microenterprises were listed in the DASH database, an online survey was not feasible. The telephone survey method was therefore considered the only practical and viable option available.

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[26] UK-DASH Database: First accessed in 2010 and first list generated on 21st April, 2011

Accordingly, a professional market research company[27] was engaged for the purpose. As cited, the benefit of this method is that it was possible to cover a wider geographical area. Additionally since the professional agency employed a team of interviewers, the survey could be completed quickly and cost effectively. The drawback of this method is that the questions had to have a simple structure and there was no scope to explore or discuss underlying nuances. Since a team of professionals conducted the interviews, the researcher had no control over the actual process and had to rely on the answers given as truthful. The researcher did get in touch randomly with a few of the respondent firms to verify that the interview had actually taken place. As regards the data itself, its authenticity and validity could only be tested through a series of statistical tests. The original survey instrument was adapted for a telephone survey (please refer to chapter 9) which was then executed over a period of two months (August – September 2011). One hundred and sixty-five (165) microenterprises participated in the telephone survey, out of a population of 2090 (response rate = 7.89%). The 3-year Annual Accounts for the 165 companies was downloaded from the Companies House database[28] so that the Shareholder Wealth Creation (SWC) score and the Shareholder Value Add (SVA) value could be computed. The following sections present the various ways in which the data was processed and analysed. The research relied on Microsoft Excel 2007, SPSS 18.0, TETRAD 4.3 and LISREL 8.8 software packages. These software programmes were used interchangeably based on the nature of the analysis undertaken.

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[27] Mr. Phil Smith, Hoshin, 5 Appleby Lodge, Wilmslow Road, Manchester M14 6HZ, Tel: 0161 256 0349, www.hoshin.co.uk

[28] http://www.companieshouse.gov.uk/

5.2   General Description of Data

This section discusses the general characteristics of the sample from two perspectives namely, the firm and the respondent levels. Further descriptive statistics relating to the individual constructs is discussed in the subsequent sections.

5.2.1   Firm Level Descriptives

1.   EO versus SBO

As part of the survey, respondents were asked to choose between two statements (Genstat) which they felt closely reflected the overall ethos of the firm. *Statement 1* was designed to reflect an Entrepreneurial Oriented (EO) type of firm while *Statement 2* a Small Business Owner (SBO) type of firm.

		Genstat	
		Frequency	Percent
	EO	70	42.4
Valid	SBO	95	57.6
	Total	165	100.0
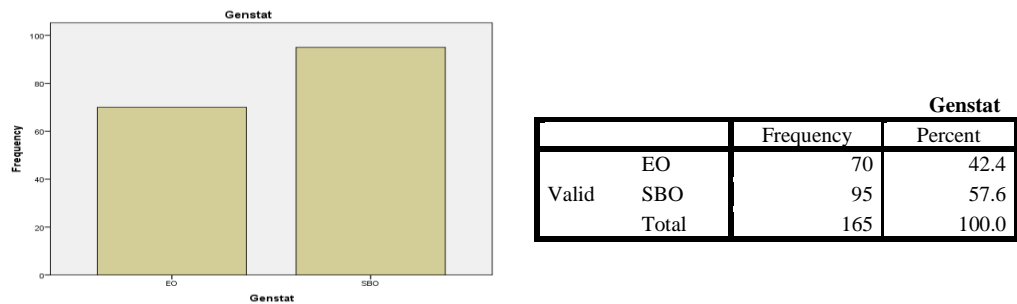
Figure 6: Distribution between EO & SBO type microenterprises

The split between EO and SBO type of firms was *42.4% Vs 57.6%* respectively. It was anticipated that the split would be even more pronounced with a preponderance of SBO type microenterprises. Whether this demarcation between EO and SBO type enterprises is valid and whether they represent two independent groups has been investigated in section 5.2.4.

2.   Years of operation

For the 70 EO type microenterprises that is the focus of the study the mean of the number of years of operation were *16.54*. This ranged from a one (1) year-old company to a 69 year-old microenterprise. It is apparent from the wide range that the sample used in this research is broadly representative of the total population and sufficiently robust to draw a conclusion for the whole of the UK

Histogram

Mean = 16.54
Std. Dev. = 13.483
N = 70
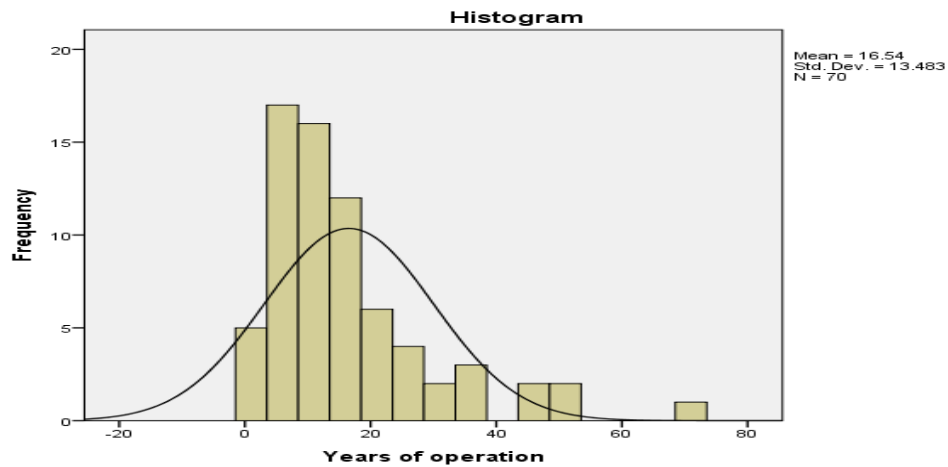
	N	Minimum	Maximum	Mean	Std. Deviation
Years of operation	70	1	69	16.54	13.48

Figure 7: Years of operation- Histogram & Distribution

As a further test, to see if the 70 EO type microenterprises used in this research and the 95 SBO type microenterprises that were discarded are drawn from the same population, an independent T-test was conducted.   On average EO type enterprises survived longer (*M=16.54, SE = 1.612*) than SBO type microenterprises (*M= 14.46, SE = 1.162*). The difference was not significant *t (163) = 1.075, p > 0.05* and it represented a low sized effect *r = 0.08*. This implies that taking a Type 2 error approach because of the limited sample size there is no sampling bias between the two groups EO & SBO in terms of 'years of operation'. As discussed in section 2.2.1 and operationalized in section 4.4.1 these two groups were derived from a population of microenterprises using their underlying

disposition. Therefore, focusing only on the EO group on this basis could be seen as valid.

3.   Type of Business

		Frequency	Percent
	Family Business	19	27.1
Valid	Non family Business	51	72.9
	Total	70	100.0
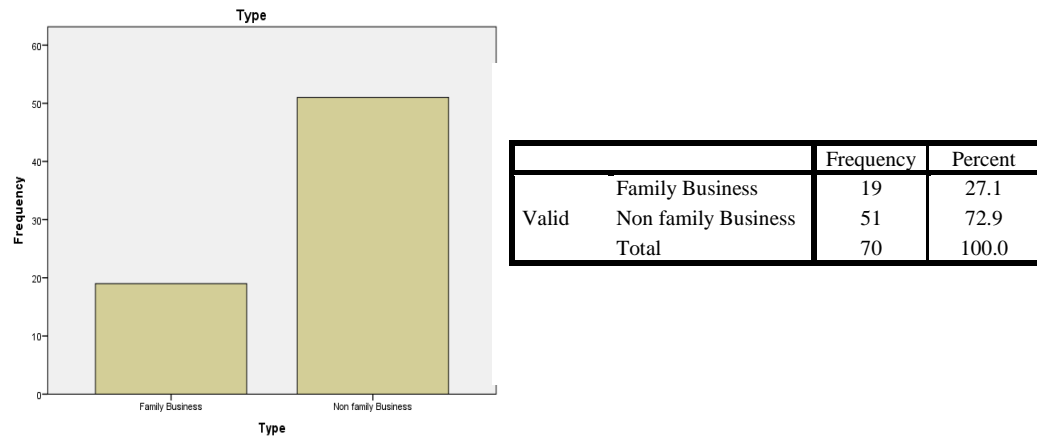
Figure 8: Distribution between family & non-family businesses

In order to categorise the type of enterprise, respondents were asked to specify if their business could be classified as a family business or a non-family business. A family business was defined as one where "*one or more members within the management team are drawn from the owning family*". A total of *19 (27.14%)* microenterprises classified themselves as family businesses while *51 (72.85%)* microenterprises described themselves as non-family businesses.

4.   Technology Intensity

The 70 respondent firms were categorised as low or high technology intensity firms based on the definition presented earlier. The *majority (60%)* of the microenterprises have been categorised as Low technology intensity firms while *28 (40%)* microenterprises classified as high technology.

	Tech_int		
		Frequency	Percent
	Low technology intensity	42	60.0
Valid	High Technology Intensity	28	40.0
	Total	70	100.0
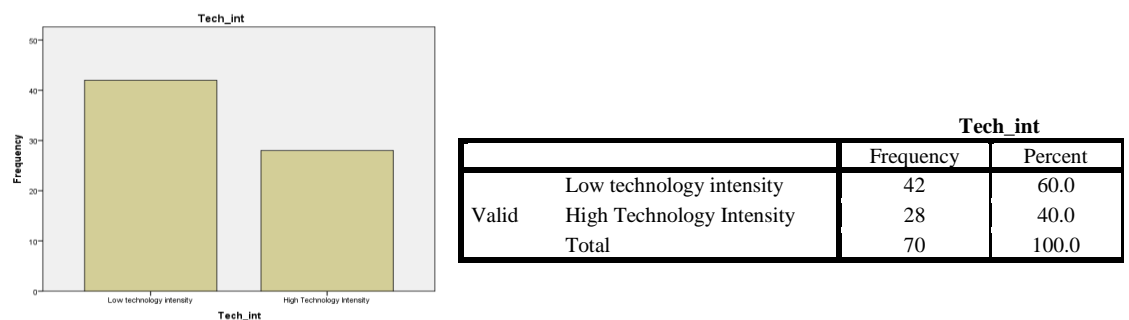
Figure 9: Distribution between High & Low technology intensity microenterprises

5.   Sector

The breakdown in terms of sectors has been restricted only to the EO type (70 in total) microenterprises since they are the focus of this study. The maximum responses were from the Art & Theatre category *(24.3%)* followed by the financial services *(14.3 %)* and B2B services *(12.9%)*.

		Frequency	Percent
Valid	mfg & rep	8	11.4
	Retail	9	12.9
	Transport	3	4.3
	IT services	7	10.0
	Financial services	10	14.3
	B2B services	9	12.9
	FP Social services	7	10.0
	Arts	17	24.3
	Total	70	100.0
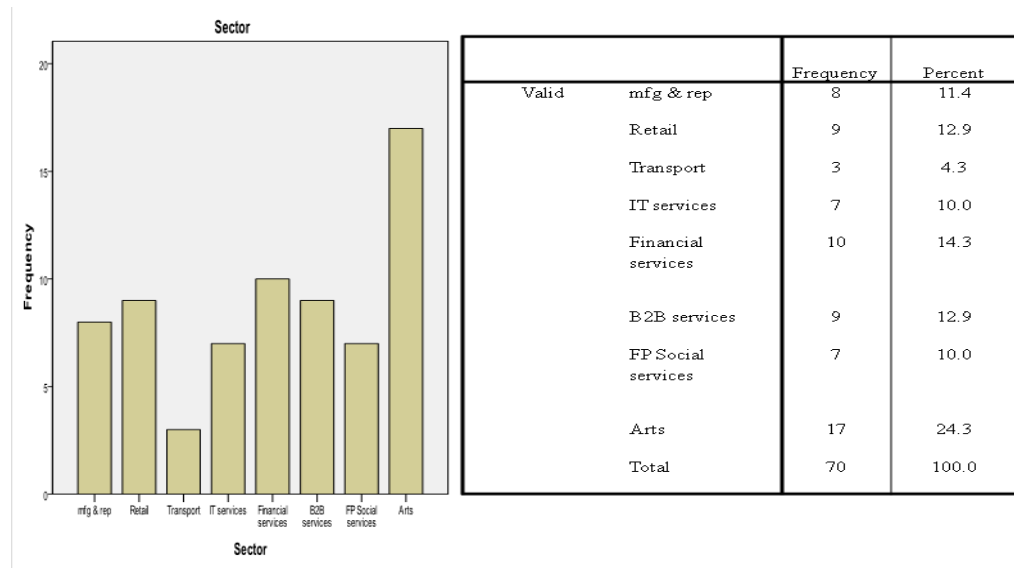
Figure 10: Distribution by sectors

6.   Performance calculations

As indicated in section 4.3.4, annual accounts over a three-year period were downloaded from the Companies House database to compute the conventional performance measures and the SWC and SVA measures of the sample microenterprises. The validity of these measures has been tested in section 5.6.

5.2.2 Respondent level

The general description at the respondent level has been provided in this section. Since this research is looking at firm level attributes these individual level descriptive only serve as a quality control measure for the data collected and have not been used subsequently for any of the analysis.

1.   Role of the respondent

As mentioned previously, the objective of the survey was to reach the owners, founders and managing directors of the enterprises as who were the main driving force for the operations of the firm and in turn, the performance.

		Frequency	Percent
	Owner Founder	17	24.3
	Partner	2	2.9
Valid	MD appointed by Board	7	10.0
	Manager/Director	44	62.9
	Total	70	100.0
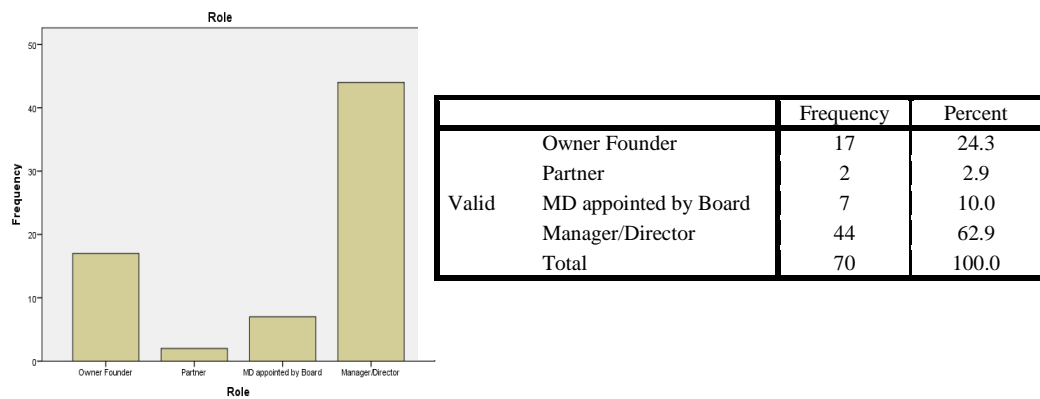
Figure 11: Distribution by Role of the respondents

As shown in figure 11, *17 (24.2%)* are Owner- Founder (OF) while senior managers and Directors (Man/Dir) account for *44(62.9%)* of the total respondents. As all respondents are in a senior position within the firm, it is reasonable to assume that they are sufficiently knowledgeable about the various facets of their firms.

2.   Age of respondent

Of the total 70 respondents, about *33(47.1%)* of them are above the age of 45 years. If we take into account, the 36-45 age group then *75.7%* are above the age of 36 years. It is therefore reasonable to assume that the respondents have

sufficient knowledge and experience to make informed responses to all questions posed.

		Frequency	Percent
	<25 years	5	7.1
	25-35 yrs	12	17.1
	36-45 yrs	20	28.6
Valid		33	47.1
	>45 yrs		
	Total	70	100.0
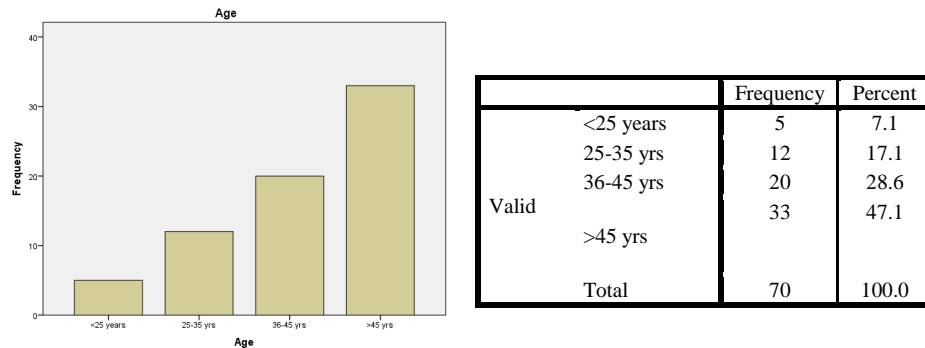
Figure 12: Distribution by Age of respondents

3.   Gender

		Frequency	Percent
	Female	27	38.6
Valid	Male	43	61.4
	Total	70	100.0
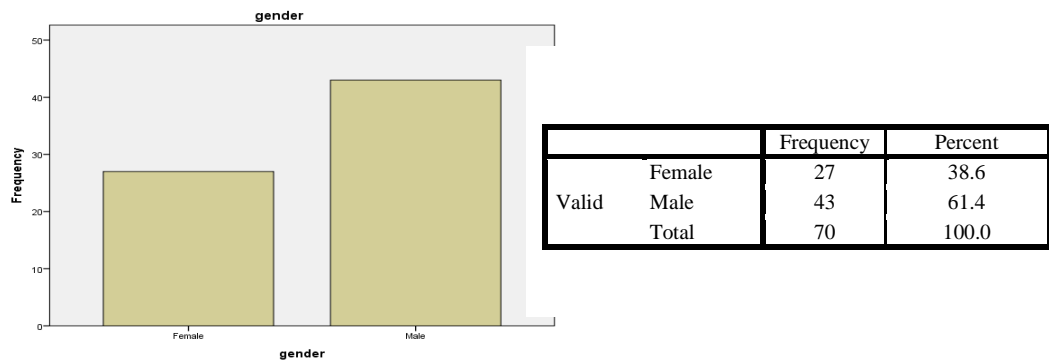
Figure 13: Gender Distribution of respondents

While a precise measurement of the breakdown in terms of business ownership by gender is difficult to obtain, the Global Entrepreneurship Monitor (GEM) has provided a proxy measurement[29]. In 2010 for example, the female and male working age participation in new business formation in the UK was *4.4% Vs 8.4%* respectively.   This would imply a ratio of *52:100* between female and male entrepreneurs. The gender breakdown in the research sample is *63:100* of female against male. This research has therefore been able to elicit even more responses

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[29] http://www.gemconsortium.org/about.aspx?page=gem_datasets

from female entrepreneurs than the national average though the majority of the respondents in this sample are male.

4.   Education

In the sample of 70 respondents, *27 (38.6%)* were recorded to have up to 12 years of formal education. This is comparatively less than the national average of *58.9%* of the working population with less than NQF Level 3 or below[30] [31].

However, *42 (60%)* respondents were recorded to have 15 years or over worth of education (i.e. graduation or above qualification). In contrast, the national average of the population having qualifications of NQF Level 4 and above is only *30.0%*[32].

		Frequency	Percent
	=10yrs	6	8.6
	=12yrs	21	30.0
Valid	=15yrs	24	34.3
	=17yrs	17	24.3
	>20 yrs	1	1.4
	Total	69	98.6
Missing	PNS	1	1.4
Total		70	100.0
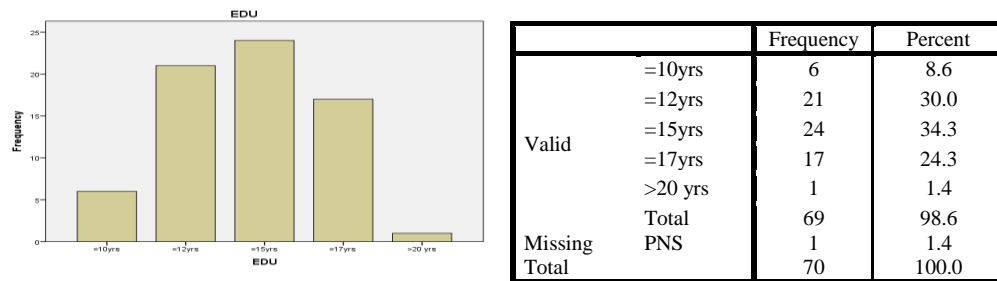
Figure 14: Number of years of education of respondents

Therefore, majority of the respondents who participated in this research are relatively well educated and should be able to provide knowledgeable responses.

5.   Work Experience

In this sample, *51 (72.9%)* respondents have more than 15 years of work experience. This reflects that the telephone interview technique was productive in contacting relatively senior personnel, which was a major pre-requisite for successfully conducting this research. It was expected that the firm level

[30] http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Higher+Education+Attainment+and+Behaviour

[31] National Qualification Framework (NQF) Level 3 is equivalent to A levels (12 Years). NQF Level 6= graduate; NQF 7 = Masters

[32] Source: Department for Business Innovation and Skills, from the Labour Force Survey, Office for National Statistics- Released on Regional Trends Online 4 March 2010

characteristics being measured in this research and their influence (if any) on performance of the firm would depend on the quality of the responses received. This in turn is largely reliant on the seniority, experience and knowledge of the respondents.

		Frequency	Percent
	<5yrs	4	5.7
	5-10yrs	4	5.7
Valid	11-15yrs	11	15.7
	>15yrs	51	72.9
	Total	70	100.0
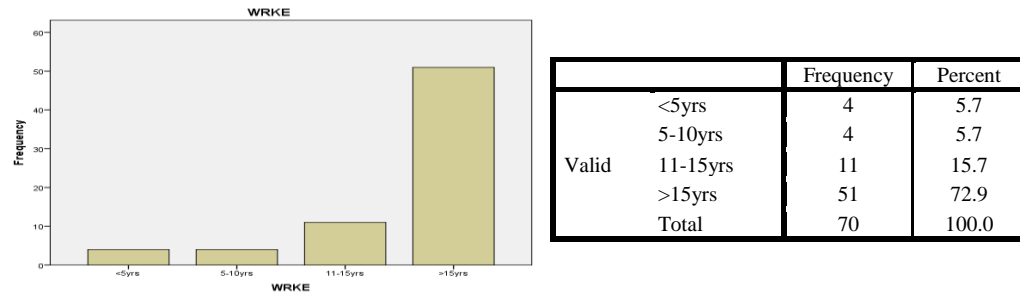
Figure 15: Number of years of work experience of respondents

5.2.3   *Testing for non response bias*

With a response rate of only *7.9%,* it is important to test for any non-response bias in the data. However, as Gallup Europe (2007) puts it, "the *biasing influence of non response is eliminated under two conditions; either when the non response rate is zero (there are no non respondents) or when there is no difference between the respondents and the non respondents on the statistics of interest*". One of the prime concerns in this research was to make certain that the sample used is sufficiently representative of the overall population of microenterprises in the UK. Therefore, it was essential that the spread of the 'years of operation' (i.e. age) of the responding firms (165 in total) should reflect the overall population (2090 enterprises). Although the mean age of the non-respondent firms (*M= 14.35, SE= .29146)* is larger than the respondent firms *(M = 14.14, SE = .94673*), this is non-significant *t (2079) = .208, p>0.05*. As a further test the 165 responses were split into the respective EO (70 firms) and SBO (95 firms) groups. Since the focus of this research is the EO group it is important to establish that there is no response bias in this sample of 70 microenterprises. In the case of the EO group the average age of the responding EO firms *(M= 15.14, SE = 1.578)* is greater than the non-responding firms *(M= 12.75, SE = 0.291).* This is however non-significant *t*

(1984) = -.509, p > 0.05 with a very low sized effect *(r = 0.011).* The SBO group was also analysed as an additional test. In the case of the SBO group the average age of the non-response group *(M= 14.35, SE = 0.291)* was greater than the SBO firms *(M= 13.41, SE = 1.16)* but once again this was non-significant *t (2009) = 0.706, p> 0.05*. This once again has a very low sized effect *(r = 0.015).* We can therefore conclude that non-response bias is not an issue in the data collected and that the result obtained is sufficiently representative of the population of microenterprises in the UK.

5.2.4   *Testing the demarcation between EO and SBO type enterprises.*

Carland et al (1984) first presented the argument that Entrepreneurial Orientation (EO) and Small Business Owners (SBO) are separate groups of SMEs. The EO type of enterprise has been measured looking at 'innovativeness, proactiveness and Risk taking attributes' while for the SBO type of enterprise the measurement employed has been to observe and examine their 'Emotional attachment' and 'Purpose' attributes. Prior research however, does not point to how this demarcation can be achieved before the separate sets of internal attributes (EO or SBO) can be measured. In short, how do we decide which is an EO type enterprise and which is an SBO type enterprise before we measure them separately? The answer as argued in the preceding chapters is that this separation is possible by looking at the underlying ethos of the firm. Accordingly, the respondents were asked to select one of the 'General Statements' discussed in section 4.4.3. Respondents who chose Statement 1 was categorised as EO disposed enterprises and included in this research. Respondents who chose Statement 2 were categorised as SBO type enterprises and were not included in this research other than to validate that the two groups were separate and independent.

An independent T-Test was used to establish whether the two groups derived from the above two questions (EO & SBO) were indeed distinct, separate and

independent. In section 5.2.1, we were able to show that in terms of 'years of operation' or age of the firm the EO and SBO groups derived were indeed independent. In the preceding section 5.2.3, we were able to show that there was no non-response bias when the total 165 responses were split into the two groups. Here we want to test if the two groups are indeed independent in terms of the SVA value computed as a measure of performance. It will be recalled from section 4.3.4 that in order to ensure a normal distribution and that the principle of homogeneity of variance (Levene's test) had not been violated the 'value' was given a reciprocal transformation and renamed as Value_RECIP. In order to establish that the two groups are indeed independent in terms of this performance measure then the difference in the means of the dependent variable (Value_RECIP) between the two groups was anticipated to be non-significant ($p>0.05$). It was also assumed that the variances in the two groups would be equal (i.e. non-significant Levene's Test).

While on average, the Performance (Value_RECIP) of the SBO group was higher (*M= .0000123, SE=.00001391*) than the EO group (*M= -.0000006, SE= .00000835*), the difference was not significant: *t (163) = -.729, p>0.05*. Additionally, it was observed that the principle of equal variances in the two groups has not been violated. Bootstrapping it with resample of 1000, 2000 or 5000 still showed non-significant (p>0.05) results implying that the two groups were independent despite these larger sample sizes.

With a very low sized effect *(r = 0.05)* we can be confident that the difference in the value creating potential for both the EO or SBO type microenterprises is at best marginal. As argued in the introduction (please refer to Chapter 1) the vitality or dynamism of an economy is dependent on nurturing and encouraging 'high performing' microenterprises who could act as possible 'anchor firms' or 'strategic centres' around which other firms can cluster or emulate. It has been argued that only certain types of microenterprises can fulfil this role and they have been defined as EO type (Type 1) microenterprises. This research focuses on these

microenterprises and aims to identify the 'high performers' amongst this group. This research is not trying to argue that EO creates more or less value when compared to the SBO group. The difference lies in the 'process' used to create this value. A microenterprise with an EO disposition (EO type) is more innovative, proactive and risk-taking. ACAP assists in this process. This provides the necessary dynamism and change (creative destruction) for an economy to achieve sustainable growth. The underlying premise of this research is that 'creative destruction' as espoused by Schumpeter (1934) and the Neo-Schumpeterian (Hanusch, et al 2006) is a prerequisite for a healthy economy.

An SBO can also create value and as the above results show on average the SBO type create higher levels of value when compared to the EO type but this is more through non-innovative, repetitive and non risk initiatives (Carland, et al., 1984). In short, as Baumol (2010) termed them they are '*replicative*'. They may provide the sustenance, livelihood and life style for the concerned entrepreneur (Runyan, et al., 2008) but they have limited contribution in terms of innovation, change or dynamism to the economy. In short, they lack the power of 'creative destruction'. That is why this research focuses on the EO type and is trying to demarcate between the EO and SBO type. In Chapter 3 the following alternative hypotheses had been presented

H_1(1):   *That the EO and SBO type subgroups **are independent** of each other when measured in terms of potential value creation .*

Here we have established that the two groups are indeed two distinct and separate groups even when looking at it in terms of performance. On that basis the Null hypothesis *H_1 (0)* can be rejected and the **alternative hypothesis H_1 (1) can be accepted**. Therefore, selecting only the EO type of microenterprises is valid and justified.

5.3 EO Construct Analysis

This construct has 9 (Nine) ordinal variables. Where the respondents selected General Statement 1, they were administered these EO set of questions. 70 (seventy) out of the sample size of 165 (i.e. 42.5%) were categorised as EO type of enterprises. The balance 95 (ninety-five) (57.6%) were categorised as Small Business Owners (SBO) type of enterprises.

5.3.1 Data Screening & Missing Value analysis

The effective sample size univariate (in Diagonal) and Pairwise Bivariate (off Diagonal) shows that there are no missing values.

	Innov1	Innov2	Innov3	Proac1	Proac2	Proac3	Risk1	Risk2	Risk3
Innov1	70								
Innov2	70	70							
Innov3	70	70	70						
Proac1	70	70	70	70					
Proac2	70	70	70	70	70				
Proac3	70	70	70	70	70	70			
Risk1	70	70	70	70	70	70	70		
Risk2	70	70	70	70	70	70	70	70	
Risk3	70	70	70	70	70	70	70	70	70

Table 13: Lisrel 8.8 Data screening output

5.3.2 EO Reliability Tests

Latent Factors	What is being measured	No. of items	Cronbach α	Cronbach α if deleted
Innovativeness	**Overall innovativeness**	3	**.946**	
Innov1	Strong emphasis on R&D and technological leadership			.942

Innov2	New product introduction			.907
Innov3	Substantial change in product and service technology			.914
Proactiveness	**Degree of proactiveness**	**3**	**.922**	
Proac1	First movers instead of followers against competitors			.854
Proac2	First to introduce new products/services, procedures and technology			.874
Proac3	Adopt 'undermine the competitor' posture			**.929**
Risk Taking	**Risk taking propensity**	**3**	**.917**	
Risk1	Favour high risk projects (with high return potential)			**.920**
Risk2	Favour bold, proactive and wide-ranging changes rather than incremental changes			.859
Risk3	Adopt bold, aggressive posture to maximise the probability of exploiting potential opportunities			.852
All 9 items	Overall Entrepreneurial Orientation of the organisation	**9**	**.971**	

Table 14: Reliability Tests (Cronbach Alpha)

As evident from the above table, seven (7) of the Nine (9) items consistently reflect the scale used to explain the Entrepreneurial Oriented (EO) construct. Removing the two items Proac3 and Risk1 from their respective sub-constructs would improve the respective reliability scores but this is at best marginal and not significant and so at this stage these two items have been retained.

5.3.3 EO Data Descriptives

The EO construct was measured using a sample of 70 microenterprises. Due to the limited sample size of 70 and the fact that each of the items have been measured on a 7 point Likert scale there are quite a few zero cells in the bivariate

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distribution of the ordinal variables. Joreskog (2005) suggests that there are essentially three options that could be followed under these circumstances:

a)   Reduce the number of categories

b)   Eliminate the most offending variables

c)   Replace the assumption of underlying bivariate normality with the assumption of underlying bivariate normality conditional on the covariates.

Since the total sample size used in this research is only 70 effective respondents for the EO construct, option (b) i.e. eliminating the offending variable at this stage may not be feasible. Additionally, given the extent of the zero cells across the nine ordinal variables, it was doubtful whether the inclusion of the covariates (Age of firm, Type, Technology Intensity, Sector) would actually be helpful. In terms of the subsequent use of PCA or Ordinal Regression (OR) analysis, this was not an issue. The PCA by default is a data reduction technique and therefore some of the offending variables would be removed (option b). In the case of Linear or Ordinal Regressions (OR) other covariates (Age of firm, Type, Technology Intensity, Sector) would need to be included as control variables and so the negative impact of zero cells would be mitigated (option c). However, before we can proceed further with this, it is first important to establish whether the EO construct is uni-dimensional or multi dimensional and more importantly, which of the manifest variables from this construct should be eliminated.

5.3.4   Is the EO construct uni-dimensional or multi dimensional?

As an initial step, all nine (9) measured variables derived from the questionnaire were loaded onto the *Build Pure Cluster* (BPC) algorithm within TETRAD 4.3. As illustrated in Table 15 which summarises the TETRAD output, five (5) out of the nine (9) EO measurements are grouped under one cluster *(alpha = 0.05)* for

our sample of 70 EO type microenterprises. Moreover, the reliability of the five items included in the cluster is *(Cronbach α= 0.732)* is still considerably high. This is evident when in the subsequent analysis a simulated sample of 5000 is used.

Not in clusters	Included in Cluster 1 (L_1)
Proac2	Innov1
Proac3	Innov2
Risk1	Innov3
Risk3	Proac1
	Risk2

Table 15: Summary of TETRAD Search BPC algorithm for EO construct using observed data. Note: Sample size = 70, Wishart test at Alpha (α) = 0.05

A SEM Monte Carlo simulation was undertaken for a sample size of 5000 in order to confirm that the EO construct is indeed uni-dimensional.   As illustrated in Table 16 below, if a simulated sample of 5000 is used, then majority of the EO measurements (i.e. eight out of nine) as suggested by Covin & Slevin (1991) and Runyan et al (2008) actually load onto a singular latent variable. The reliability of the construct derived using simulated data *(Cronbach α = 0.729)* is still sufficiently high.

Not in clusters	Included in Cluster 1 (L_1)
Proac2	Innov1
	Innov2
	Innov3
	Proac1
	Proac3
	Risk1
	Risk2
	Risk3

Table 16: Summary of the TETRAD Search BPC algorithm for EO construct using simulated data. Note: Sample size = 5000, TETRAD_Wishart test at Alpha (α) = 0.05

Therefore, using the simulated data (N=5000) the results confirm that EO is a uni-dimensional construct. However for a small sample size (N=70) not all the manifest variables loaded successfully onto one cluster. It is possible a data reduction technique such as Principle Component Analysis (PCA) used subsequently using a small sample is likely to give us different results. In section 3.2 the following alternative hypothesis was presented

$H_2(1)$ *The nine measures covering Innovativeness, Proactiveness and risk-taking attributes of a firm used to measure EO **cluster** around a uni-dimensional construct.*

Therefore based on the above results from the simulated data, it is possible to conclude that the Null Hypothesis $H_2 (0)$ can be rejected. The alternative hypothesis $H_2 (1)$ that EO is a uni-dimensional construct comprising of Innovativeness, Proactiveness and risk-taking is therefore accepted. We can therefore claim that the construct originally presented by Danny Miller ((1983) and further developed by Covin & Lumpkin (1991) and used by Runyan, et al (2008) is more or less valid when tested using large sample sizes albeit that one of the manifest variables (Proac2) was not included in the cluster.

5.4   Absorptive Capacity (ACAP) Construct Analysis

5.4.1   Data Screening & Missing Value analysis

This construct consisting of 18 manifest variables were coded on a 7-point Likert response format. As discussed previously, it was anticipated that these variables would load onto three separate sub constructs namely INFOC, COMint and PRK. All 70 respondents from the sample responded to these questions and there were no missing values. The following figure shows that for all of the variables barring one, the distribution was generally skewed to the right with the majority of the respondents generally scoring above 'neutral' towards "strongly agree". However,

figure 16 reveals that INFOC 5 was in reverse. Therefore, a scrutiny of this item is mandated.

	INFOC1	INFOC2	INFOC3	INFOC4	INFOC5	INFOC6	INFOC7	INFOC8	INFOC9	INFOC10	TACIT1	TACIT2	TACIT3	TACIT4	TACIT5	COMint1	COMint2	COMint3
SDA	1	4	4	3	20	3	5	5	8	7	1	2	3	1	0	3	4	2
DA	5	3	1	1	20	3	1	4	6	2	2	2	4	10	1	0	3	1
DAS	3	5	1	4	8	2	3	2	4	2	2	3	4	1	1	1	2	1
N	14	10	11	6	7	11	7	3	10	10	12	4	11	8	4	8	7	9
AS	20	16	9	17	6	17	15	16	16	8	17	6	16	15	12	16	10	11
A	17	19	20	20	7	23	15	22	13	20	22	20	20	17	23	22	21	20
SA	10	13	24	19	2	11	24	18	13	21	14	33	12	18	29	20	23	26

Figure 16: Frequency distribution of ACAP manifest variables.
Source: Excel 2007 Output

INFOC 5 was designed to capture the nature or character of expertise of the owner/manager (Cohen & Levinthal, 1990). It was projected to measure a major dimension and load onto the INFOC latent variable. This variable was designed to understand the occasions when the owner/manager felt overwhelmed that he/she did not have the necessary information, knowledge, or expertise to overcome the problem. The syntax of the question was actually worded *negatively*. For example, a response such as 'strongly disagree' actually meant that the respondent did not face any occasions when he/she felt overwhelmed and did not have the necessary information, knowledge, or expertise to overcome the problem. Conversely, a respondent answering 'strongly agree' actually meant that the respondent had faced many occasions when he/she felt overwhelmed and did not have the necessary information, expertise or knowledge to overcome the problem. Accordingly, it became necessary to reverse code the variable in order to reflect the true meaning of this question. Figure 17 graphically represents the reverse

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coding of the INFOC 5 variable. As is evident from the reverse coding the responses to all the variables show a similar pattern in the sense that they are all substantially inclined to the higher end of the scale toward "strongly agree".
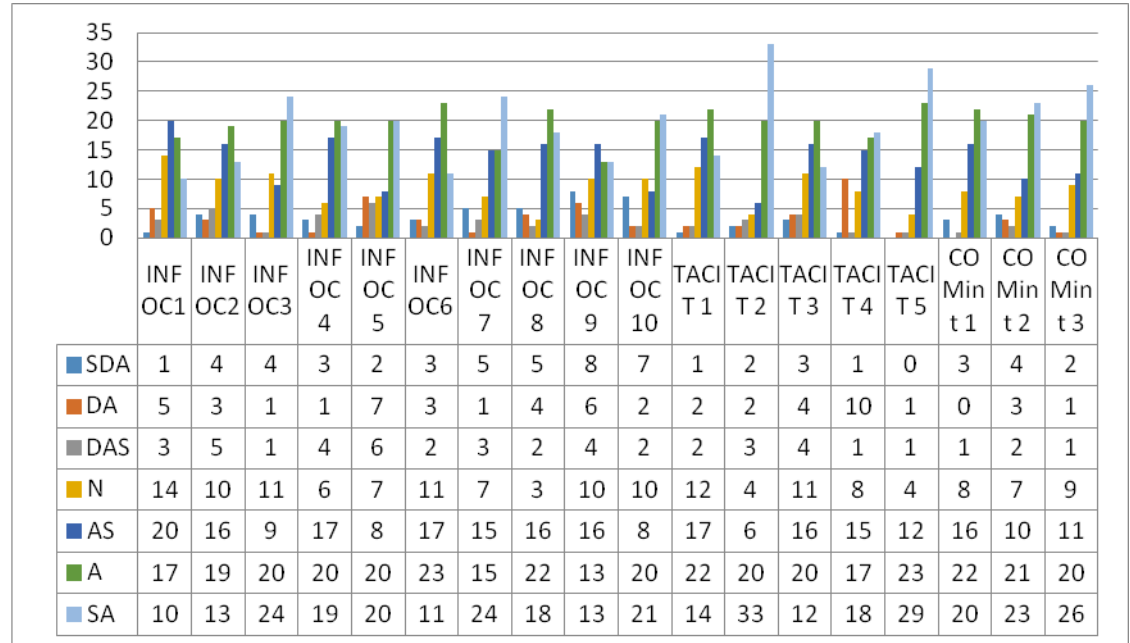
Figure 17: Frequency Distribution of ACAP manifest variables (INFOC 5 recoded) - Source: Excel 2007

5.4.2   ACAP Reliability Tests

RELIABILITY OF THE INFOC LATENT VARIABLE

Latent Factors	What is being measured	No. of items	Cronbach α	Cronbach α if deleted
I**NFOC**		**10**	**.758**	
INFOC 1	Strong emphasis on actively seeking new information beyond the scope of existing business operations.			.724
INFOC 2	Managers have been given specific roles in collecting the necessary information and there are well formulated processes and mechanisms are in place to support this			.722
INFOC 3	Information is actively shared and disseminated amongst the firm through meetings, common databases, or file sharing.			.731
INFOC 4	My experience, knowledge and expertise are sufficient to meet the present requirements of the firm.			.731

INFOC 5	There have been a number of occasions in the past year when I was completely overwhelmed by the problem and felt I did not have the necessary experience, knowledge or expertise.	**.808**
INFOC 6	Any new information regarding more up-to-date internal processes which might help to improve the productivity/efficiency of the firm is actively pursued	.751
INFOC 7	And the firm, using the new information collected is always actively looking for new product/service ideas and are trying to gauge the future direction of the industry	.706
INFOC 8	The firm actively communicates with its Customers through newsletters, focus group meetings and visits to the customer's premises to understand their needs and wants	.736
INFOC 9	The firm actively communicates with its Suppliers through regular meetings and visits to inform them of the changes (if any) in the firm's production schedule, processes and products and also to understand their needs and wants	.735
INFOC 10	The firm has an active policy to ensure that the shareholders and relevant government departments are kept informed of any changes that may be relevant to them.	.718

Table 17: Reliability tests for INFOC construct (N=70)

RELIABILITY OF THE COMint LATENT VARIABLE

Latent Factors	What is being measured	No. of items	Cronbach α	Cronbach α if deleted
COMint		**3**	**.833**	
COMint1	The firm has proactive policy to ensure that all knowledge and information generated are shared within the various units.			.748
COMint2	Interdepartmental meetings and discussions are held regularly. Minutes of the meetings are distributed amongst all relevant units.			**.847**
COMint3	Participating managers from the various units are			.717

Latent Factors	What is being measured	No. of items	Cronbach α	Cronbach α if deleted
	actively encouraged to share their knowledge and information with the other members.			

Table 18: Reliability Tests for COMint construct (N=70)

RELIABILITY OF THE PRK LATENT CONSTRUCT

Latent Factors	What is being measured	No. of items	Cronbach α	Cronbach α if deleted
PRK		**5**	**.650**	
PRK 1	The firm actively encourages the documentation of knowledge and experiences gathered during the course of doing business.			.495
PRK 2	This documentation is in the form of files, designs archive and other forms of easily retrievable systems.			.634
PRK 3	More often than not, I depend and rely on the knowledge and expertise of the other managers in the firm.			**.670**
PRK 4	There are seldom any occasion when we do not have the necessary knowledge and expertise amongst the managers within the firm to solve a problem			.592
PRK 5	Using the new information collected, the firm is always looking for new strategies and ways to enhance customer satisfaction.			.586
All 18 items	Overall Absorptive Capacity of the organisation	**18**	**.859**	

Table 19: Reliability Tests for PRK Construct (N=70)

The overall reliability (.859) of this construct is quite high based on the responses received from the 70 microenterprises. As Cronbach himself suggests (Cronbach,

1951), this could be because 18 different items have been measured together. It is evident that the three subscales INFOC, COMint and PRK have relatively acceptable reliability scale *(.758, .833 & .650 respectively)*. It is also evident that the variable INFOC5 does not belong to the sub construct INFOC. The overall reliability scale of the INFOC construct would be improved to *0.808* if this item was removed. Additionally, removing PRK3 from the PRK construct would also improve the reliability of this construct. By the same logic, removing COMint2 would improve the overall reliability of the COMint sub construct. However, given the limited number of items measuring this sub construct it was decided to retain COMint2 for this research.

As stated previously in section 4.3.2, each of these latent variables was developed to reflect a specific facet of Absorptive Capacity which prior research has highlighted as important. The character or nature of expertise (INFOC 5) of the owner/ manager was estimated to have a major effect on ACAP. Cohen and Levinthal (1990) specifically emphasised that Absorptive Capacity is more than just the sum total of the different individuals in the firm. They also argued that the right distribution of expertise (PRK 3) within the firm would enhance ACAP. Therefore, given the importance of these variables it might be appropriate to retain them for the time being. It may become possible to exclude them and obtain a better-fit model when conducting any subsequent analysis using Principal Component Analysis (PCA) and Ordinal Regression. This has been explored in subsequent sections.

5.4.3   Causal structure of the ACAP concept – uni-dimensional or multidimensional?

In order to validate if the ACAP concept was uni-dimensional or multidimensional and to establish the causality, the *Build Pure Clusters* (BPC) in TETRAD 4.3 was invoked for all the 18 measured variables in the dataset with a sample size of 70. Table 20 shows that nine (9) out of the possible eighteen (18) variables loaded

successfully onto four clusters at $\alpha = 0.05$. A Tetrad-Wishart test was used to select only those clusters that met the requirement of a 'Vanishing Tetrad'.

Not in clusters	Included in Cluster 1 (L_1)	Included in Cluster 2 (L_2)	Included in Cluster 3 (L_3)	Included in Cluster 4 (L_4)
INFOC1	PRK5	COMint1	INFOC4	PRK2
INFOC2		COMint2	INFOC7	
INFOC3		COMint3	INFOC9	
INFOC5			INFOC10	
INFOC6				
INFOC8				
PRK1				
PRK3				
PRK4				

Table 20: Summary of the TETRAD Search BPC algorithm for ACAP construct using observed data. Note: Sample size = 70, TETRAD_Wishart test at Alpha (α) = 0.05

As Drton, Massam and Olkin (2006) explain, the method of testing for a vanishing Tetrad is to evaluate the Tetrad over a sample covariance matrix, standardise this and then compare the standardised sample Tetrad to a section of the normal distribution. The issue of how to standardise the Tetrad was resolved by Wishart in 1928 and hence the name of the test 'Tetrad-Wishart'. The TETRAD 4.3 program by default tests for these 'vanishing tetrads' and standardises the tetrad before suggesting a causal structure. It will have been observed that when the ACAP construct was analysed on a stand-alone basis using TETRAD, four separate clusters were identified. The two manifest variables PRK2 and PRK5 however, successfully clustered around the third latent variable (L_3) when a simulated sample size of 5000 was used. This is illustrated in Table 21.

Not in clusters	Included in Cluster 1 (L_1)	Included in Cluster 2 (L_2)	Included in Cluster 3 (L_3)
INFOC1	INFOC4	COMint1	PRK2
INFOC2	INFOC7	COMint2	PRK5
INFOC3	INFOC9	COMint3	
INFOC5	INFOC10		
INFOC6			
INFOC8			
PRK1			
PRK3			
PRK4			

Table 21: Summary of the TETRAD Search BPC algorithm for ACAP construct using simulated data. Note: Sample size = 5000, TETRAD_Wishart test at Alpha (α) = 0.05

As part of the literature review in Chapter 2, we argued that ACAP, in accordance with the definition given by Cohen & Levinthal (1990) was expected to comprise of at least three latent variables (INFOC, COMint and PRK). In order to measure and operationalized these latent variables, 18 different manifest variables were developed and grouped under these three different sub constructs. In the previous section, the reliability of these eighteen (18) variables was tested against each of these sub constructs. Unfortunately, the TETRAD programme being a heuristic based programme besides the information provided above it does not provide any goodness-of-fit results in order to verify the reliability or validity of the solution provided. As a cross check a reliability analysis was undertaken in SPSS for the manifest variables included in cluster L_1. The overall reliability of this cluster was quite high (*Cronbach α = .730*). Cluster L_2 comprising of COMint1, COMint2 & COMint3 has already been analysed previously (please refer to section 5.4.2) and had an overall reliability score of *0.833*. It is cluster L_3 comprising of PRK2 & PRK5 which has the lowest reliability score (*Cronbach α = .353*). It could be argued that there is an inherent limitation in this research that the PRK construct is not being sufficiently reflected in the TETRAD results. The

sole objective of using the TETRAD programme was to establish that the ACAP concept comprises of three sub-constructs. In section 3.2 the following alternative hypothesis was presented

H₃(1): That the manifest variables used to measure INFOC, COMint and PRK sub constructs that are argued to make up ACAP **cluster** *around three distinct group and* **are not** *uni-dimensional.*

It can be rightfully claimed on the basis of the above TETRAD results (Table 21) and arguments that the Null Hypothesis H_3 (0) can be rejected. The alternative hypothesis **H₃ (1)** that ACAP is a multidimensional construct comprising of INFOC, COMint and PRK latent variables can be accepted. It is therefore possible to conclude that the original definition of ACAP presented by Cohen & Levinthal (1990) which encompassed the following was valid:

(1)   *Value of new, external information* - which in this research we have termed as INFOC

(2)   Its *assimilation and application to commercial ends- that* has been termed as COMint

And finally

(3)   *It depends on the firm's prior related knowledge* - which has been termed as PRK

In order to use the TETRAD results shown in Table 21 in our subsequent analysis it is important to be able to justify names assigned to each latent variable.

Cluster 1(L_1) labelled as INFOC

INFOC *defined as*	*Information collection and usage*
INFOC4	My experience, knowledge and expertise are sufficient to meet the present requirements of the firm
INFOC7	And the firm, using the new information collected is always actively looking for new product/service ideas and are trying to gauge the future direction of the industry
INFOC9	The firm actively communicates with its Suppliers through regular meetings and visits to inform them of the changes (if any) in the firm's production schedule, processes and products and to understand their needs and wants.
INFOC10	The firm has an active policy to ensure that the shareholders and relevant government departments are kept informed of any changes that may be relevant to them.

The underlying meaning behind all these manifest variables is the issue of information and its collection. INFOC4 measures the amount of information retained by managers through their knowledge and experience. INFOC7 in turn, measures the information gathered from the customers and markets. INFOC9 & INFOC10 looks at the information gathered from suppliers, shareholders and relevant government departments.

Cluster 2(L_2) labelled as COMint

COMint *defined as*	*Internal Communication between units, managers and departments*
COMint1	The firm has proactive policy to ensure that all knowledge and information generated are shared within the various units.
COMint2	Interdepartmental meetings and discussions are held regularly. Minutes of the meetings are distributed amongst all relevant units.
COMint3	Participating managers from the various units are actively encouraged to share their knowledge and information with the other members.

COMint1, COMint2 and COMint3 all evaluate the internal communication structure and the processes used to disseminate information among the various units and managers.

Cluster 3(L_3) labelled as PRK

PRK *defined as*	*Prior retrievable information, knowledge, strategies and mental models*
PRK2	This documentation is in the form of files, designs archive and other forms of easily retrievable systems.
PRK5	Using the new information collected, the firm is always looking for new strategies and ways to enhance customer satisfaction.

PRK2 measures all previous information and IT databases available within the firm allowing managers to develop their '*mental models'*. PRK5 in turn, looks at the new information that may be affecting the manager's mental models and their day-to-day operations.

5.5   Performance (PERF) Construct Analysis

In this section, the performance measures (SWC & SVA) are analysed in detail. As discussed in Chapter 2 for the performance measure to be valid it must satisfy a the following conditions

    a)   It must satisfy the predictive validity tests

    b)   If condition (a) is satisfied then it must be sufficiently generic.

As argued previously the performance measure (PERF) can be multidimensional but it cannot be multi constituency. In short it should not be biased across types of microenterprises (EO or SBO), between High and low Technology enterprises or between family and non-family type of microenterprises.

In order to test the above conditions the sample of all 165 microenterprises was used in this section. As discussed in section 4.3.4, the following equation has been used to calculate the shareholder wealth creation index (SWC3) for three years.

$$\mathbf{SWC3} = \mathbf{0.275 GR\ AST} + \mathbf{0.317}(\frac{\mathbf{CLIAB}}{\mathbf{AST}}) + \mathbf{0.846C\ ALT\ Z} + \mathbf{0.115\ ROA}$$

Based on these results, the firms were categorised as follows:

        All SWC3scores ≥ 1.00 will be categorised (coded as 3) as High Performers

        All SWC3 scores < 0.00 will be categorised (coded as 1) as Low Performers

        All SWC3 scores between 0.00 and 1.00 will be categorised (coded as 2) as Medium Performers

Twenty-nine (29) different data had to be inputted while another forty-two (42) different measurements had to be computed before the SWC3 could be calculated. In the first instance, the SWC3 score comprising of three years data was tested as

it had the highest likelihood of reliability. These raw scores were then transformed and categorised as indicated above. For a detailed breakdown of the definition and measures inputted and the computations, please refer to Appendix 3.

5.5.1 Data Screening & Missing Value analysis

A missing value analysis revealed that a total thirteen (13) firms did not have the complete three (3) years worth of data to compute their three (3) years Shareholder Wealth Creation index (SWC3). These cases could have been deleted, if ideally, there was a large sample size. Since the sample size is only 165, it was decided to *impute* the missing data since the responding firms had already completed the telephone survey. Seven (7) cases were retrieved for the SWC3 scores after imputation. This imputation of missing data required five (5) additional iterations and a new dataset of 990 entries was generated. This imputed dataset has been used in sections 5.5.2 to test the predictive validity of the SWC3 measure. In order to maintain consistency this imputed dataset was also used in section 5.5.3 when testing the predictive validity of the proposed SVA measure.

5.5.2 Reliability Tests for Shareholder Wealth Creation (SWC) scores.

In order to establish the predictive validity of the shareholder wealth creation (SWC) scores, Carton and Hofer (2006:114) used Return on Sales as an external measure to validate their construct. This has been previously discussed in section 4.1.4. A similar measure was used to verify the predictive validity of the SWC construct in this research. Intuitively, it makes sense to expect that the return on sales will be an important precursor to creating wealth for the shareholders. It was therefore expected that the average three (3) year return on sales (avgROS3) would be positively (one tailed) and significantly ($p<0.05$) correlated with the SWC3 score. Table 22 shows that the three (3) year average Return on Sales

(avgROS3) actually has a negative correlation with the computed three (3) year SWC score (SWC3) and is also not significant (*p>0.05*).

	SWC3
avgROS3	-0.018*

* p=0.286, N= 947

Table 22: Correlation of SWC3 with 3 years Average Return on Sales

On review, it could be argued that the equation used to compute the SWC3 scores needed some revision. This research adopted the following equation developed by Carton and Hofer (2006) without any changes:

$$\mathbf{SWC3 \ = \ 0.275 GR \ AST \ + \ 0.317 (\frac{CLIAB}{AST}) + \ 0.846C \ ALT \ Z + 0.115 \ ROA}$$

The co-efficients in the above equation reflect the sample of 120 US based public traded enterprises. Previous studies by Carton and Hofer (2006) used market adjusted return to shareholders, which they termed as '*Shareholder Wealth Creation (SWC)*' as their dependent variable. As the sample used in this research comprise of non-publicly traded UK based microenterprises, it is impossible to derive a 'market adjusted return to shareholders' computations. An alternative dependent variable had therefore been used in this research. Instead of *'market adjusted return to shareholders'* an average of the three (3) years *'Return on Owners Fund (avgROF3)'* was used. The Owners Fund (OF) which is similar to the Net Worth is calculated by subtracting the Current Liabilities (CL) and the Long Term Loans (LTL) from the Total Assets (TA). It would not be misplaced to treat the Owners fund as the Shareholders fund in the context of microenterprises since there is very little separation between Shareholders (i.e. owners) and the firm (Birley & Westhead, 1990). The return to the Owners Fund (OF) has been calculated as follows:

$$ROF_{yt} = \frac{PAT_{yt}}{OF_{yt}}$$

Where
ROF_{yt} = Return on Owners Fund for year t
PAT_{yt} = Profit after Tax for year t
OF_{yt} = Owners Fund for year t

The returns were calculated for the three (3) years of annual accounts and the mean was taken to derive the three (3) year average 'Return on Owners fund (avgROF3)'. In their original equation, Carton and Hofer (2006) identified that the change in Total assets (ΔTA), change in the ratio of liabilities to assets ($\Delta \left(\frac{LIAB}{AST} \right)$), change in the Altman Z score ($\Delta (Alt\ Z)$), and finally change in the return on Assets ratio ($\Delta (ROA)$) as the best predictors of the change in the market adjusted return to shareholders. Using this as the basis, the linear regression equation given below was tested

$$avgROF3 = a_1(\Delta TA) + b_1 \left(\Delta \left(\frac{LIAB}{AST} \right) \right) + c_1 \left(\Delta (Alt\ Z) \right) + d_1(\Delta (ROA))$$

One would expect that the above equation would achieve a similar or near about $R^2 = 0.62$ as achieved in the original research of Carton & Hoffer (2006). Instead, this equation is incapable of explaining any of the variations of the three (3) year average return to Owners Fund (avgROF3). This is illustrated in table 23 below.

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.009ᵃ	.000	-.004	115.491	.000	.021	4	985	.999	2.743

a. Predictors: (Constant), @3yrChgROA, @3yrChg_TA, @3yrChgALTZ, @3yrChg_LIABAST

b. Dependent Variable: avgROF3

Table 23: Regression results using AvgROF3- SPSS output

As the results from Table 23 shows that none of the variability of the average Return on Owners Fund (AvgROF3) can be explained by the independent

variables proposed by Carton & Hofer (2006). As a further attempt instead of taking the average of the Return on Owners Fund (avgROF3) over a 3 years period, the average *change* in the Return on Owners Fund (Avg_Chg_ROF3) was calculated. As Table 24 below shows replacing the dependent variable (avgROF3) with revised *average change in the return to Owners Fund over 3 years (Avg_Chg_ROF3)* does not show any improvement.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.021[a]	.000	-.004	452.81753	.000	.096	4	859	.984	2.006

a. Predictors: (Constant), @3yrChgROA, @3yrChg_TA, @3yrChg_LIABAST, @3yrChgALTZ

b. Dependent Variable: Avg_Chg_ROF3

Table 24: Regression results using Avg_Chg_ROF3 - SPSS output

In short, the Shareholder Wealth Creation (SWC) score developed by Carton and Hofer (2006) does not appear to be applicable to non-public traded UK based microenterprises. Any further analysis for this Performance measure was deemed futile since it fails to meet the requirements for predictive validity (condition a).

The reason for the failure of this measurement for the sample of UK based microenterprises used in this research is, for the most part the inherent nature of the accounts presented by these microenterprises themselves rather than the equation presented by Carton & Hofer (2006). As indicated previously, UK microenterprises under special dispensation under the Companies Act of 2006, Part 15 are allowed to present abbreviated accounts without any distinction made between Profit after Tax (PAT) and Retained Earnings (RE). In short, these enterprises are not obliged to show the exact dividends paid to their Shareholders. It was therefore assumed that all profit after tax (PAT) was retained by the business as part of the Owners Fund. The Owners fund was assumed to reflect the actual Shareholders fund given the closed structure of these microenterprises. The use of this denominator in our calculations to derive the return to the Owners fund

naturally resulted in very low scores and reflected a very limited change over a three (3) year period. This small change in return on the Owners fund when juxtaposed against the predictor variables naturally failed to detect any relationship.

However, the fundamental issue is that the performance measure presented by Carton and Hofer (2006) looks at Performance from the perspective of profitability rather than value creation. The Chartered Institute of Management Accountants (2004) argued that there was a difference in approaching performance from a profitability perspective compared to approaching it from a value perspective.

Carland et al (1984), Covin & Slevin, (1991), Runyan et al, (2008) were all of the opinion that the EO and SBO type of microenterprises have a different perspective or approach to the issue of profitability. Therefore, use of profitability measures to compute the Shareholder Wealth Creation (SWC) scores for the different types of microenterprises in one sample could be prone to faulty specification. To test this (assuming for the moment that the SWC3 scores are valid) a simple Independent T-test was conducted to see if there was a significant difference between the two groups in terms of the computed SWC3 scores. For the SWC to be equally applicable to both EO and the SBO groups these two groups have to be independent when measured in terms of SWC. As previously stated, the performance construct could be multi dimensional but could not be multi constituency. The results show that on average, the SBO enterprises had a higher SWC3 score *(M= 4.567, SE =1.39)* than EO enterprises *(M= -1.374, SE= .481)*. The difference was significant *t (669.44) = -4.021, p<0.05* and we can therefore, conclude that the SWC3 scores were measuring different constructs for the two groups. EO & SBO are not independent groups when measured in terms of SWC.

It therefore became necessary to use the alternative performance measure of Shareholder Value creation (SVA) in the research with the expectation that the predictive validity requirement will be met (Condition (a) as stated above). The

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SVA value was also expected to be uniformly applicable to all different types of microenterprises (EO or SBO) and therefore could be used for comparison (Condition (b) as stated above).

5.5.3 Using Shareholder Value Analysis

In order to maintain consistency and comparability with the previous analysis used for the SWC calculations the imputed data was used once again. As stated in the introduction to this section the use of this *imputed data* for 990 enterprises is provisional and restricted only to testing the predictive validity of this SVA measure.

5.5.4 Reliability Tests of the Shareholder Value added (SVA) index

The Return on sales (ROS) was once again used as the external measure to validate the SVA construct. It was anticipated that the Return on Sales (ROS_yt) for the most current year of annual accounts available and for the three (3) year average Return on sales (avgROS3) would be positively and significantly correlated with the Shareholder Value Add (SVA) calculations. Since a positive relationship was expected, a one tailed significance test was used.

	SVA_value
ROS_yt	.269**
avgROS3	.281**

** p<0.001, N= 990

Table 25: Correlation of SVA_value with Return on Sales (ROS_yt) & 3 years Average Return on Sales (AvgROS3)

As the results from table 25 show, both the return on sales for the most current annual accounts (ROS_yt) available *(r = .269, p <0.001)* and also the three (3) year average return on sales (avgROS3) *r = .281, p<0.001* both have a significant

relationship with the SVA valuations. This implies that the SVA calculations meet the necessary predictive validity tests. The above results therefore satisfy condition (a). The following section tests whether the SVA calculations satisfy condition (b).

5.5.5   Is the SVA performance measure generic?

In order to test whether the SVA calculations satisfy condition (b) the observed dataset (N=165) has been used. It has been argued previously that there is a need to identify a generic definition for performance so that it is comparable across different types of firms irrespective of nature (EO or SBO), type (family or non-family) or use of technology (high or low). As previously stated, while performance measure can be multi dimensional, it cannot however be multi constituency, i.e. have different connotations for different organisations. In order to test the above requirements, this research took a reciprocal of the 'final value' (Value_RECIP) calculated for each firm. This was necessary to ensure that the variable was normally distributed and satisfied the homogeneity of variance (Levene test) requirements in order to undertake the following parametric tests

1.   Testing whether there is any difference between EO and SBO type of enterprises

We have used an independent T-test to test if there is any difference between the two groups (Statement 1 = EO; Statement 2 = SBO). On average SBO type enterprises have higher Value-RECIP scores *(M=.0000123, SE=.0000138)* than the EO types *(M = -.0000006, SE= .000008)*. This difference however was not significant t *(163) = -.729, p>0.05 i*mplying that there is no divergence in the SVA calculations between the two groups. This result was maintained even when bootstrapped for a resampling size of 1000, 2000 or 5000. This implies that the SVA measure applies uniformly to both EO and SBO type microenterprises.

2. *Testing whether there is any difference between high and low technology intensity type of enterprises*

On average, high technology intensive type enterprises have a marginally higher Value_RECIP score *(M=.0000078, SE=.0000124)* than the low technology intensive types *(M = .0000064, SE= .0000124)*. This difference however was not significant *t (163) = -.077, p>0.05*. Again, this implies that there is no difference and bias in the calculations between high and low technology enterprises using this measure of Performance. This result was the same when bootstrapped for a resampling size of 1000, 2000 or 5000.

3. *Testing whether there is any difference between family and non-family type of enterprises.*

On average, and as expected, non-family business type enterprises were found to have higher Value_RECIP score *(M=.0000093, SE=.0000117)* than the family business types *(M = .0000020, SE= .0000094)*. This difference however was not significant *t (163) = -0.391, p>0.05* implying that the SVA calculations do not contain any inherent bias when looking at family and non-family type businesses. Again, a similar result was obtained when bootstrapped for a resample of 1000, 2000 or 5000.

A summary of the above three tests shows that there was no difference in the means of the Val_RECIP for any of the tests. It is therefore possible to conclude that the Performance construct being measured by the SVA methodology is sufficiently generic to be used to compare between different enterprises. In chapter 3, the following hypothesis was presented.

H₄(1):   *That the 'potential value creation' performance measure is **generic** when measures in terms of EO and SBO, high technology intensity and low technology intensity and family and non family type subgroups*

Therefore, the Null Hypothesis $H_4 (0)$ can be rejected and the alternative hypothesis $H_4 (1)$ can be accepted. We can also conclude that while the original construct of Shareholder Wealth Creation (SWC) used to measure Performance failed to satisfy the predictive validity requirements, the alternative performance measurement using Shareholder Value Add (SVA) methodology met the necessary validity requirements. The latter can therefore be used to validate the proposed framework. On hindsight, this alternative SVA performance measurement is imminently more suitable if we take into account the overall objective of this research. To reiterate, the overall aim of this research is to identify potential high performance microenterprises. This potential to achieve high performance is future oriented and predicated by many external economic factors besides the firm level characteristics of the enterprise. The benefit of the Shareholder Value Added (SVA) analysis is that it takes into account these external factors. By factoring in the changes in these external factors, it is possible to conduct sensitivity analysis and develop contingency plans to assist the enterprise to achieve its long-term potential.

Summary

This chapter has completed a number of crucial steps. It has outlined the data collection process and presented the descriptive statistics on a firm level for the sample (N=70) used in the subsequent chapters. As the descriptions on a respondent level show, the quality of the data collected is acceptable. The tests in section 5.2.3 also show that there was no 'non-response' bias in the data collected.

As discussed and argued in the preceding chapters a critical requirement was to be able to demarcate between the EO and SBO type microenterprises successfully. This was necessary in order to focus only on the EO type enterprises in the subsequent analysis. The results in section 5.2.4.of an independent T-test showed that these two groups (EO Vs SBO) were indeed independent and separate in terms of performance. These two groups were also found to be independent when measured in terms of age (years of operation) of the firm. Though not reported in

the main body of the test this demarcation was valid also when conventional measures of performance were used (please refer to appendix 5). Therefore, these tests were able to establish that the demarcation between EO and SBO type microenterprises (70 & 95 firms respectively) was indeed valid and satisfied the hypothesis H_1 *(1)* presented in section 3.2. This is an important result as it was fundamental in order to proceed with the research.

In the subsequent sections (5.3 & 5.4), the two concepts EO and ACAP were tested. As the results from section 5.3.4 showed, the EO construct is uni-dimensional for the simulated data (N=5000). This satisfied the alternative hypothesis H_2 (1) presented in Chapter 3. Section 5.4.3 on the other hand showed that the ACAP construct is made up of three sub constructs (INFOC, COMint & PRK) as postulated in the hypothesis H_3(1) in chapter 3.

Finally, section 5.6 looked at the validity of Shareholder wealth Creation (SWC) and Shareholder Value Add (SVA), which were suggested as possible performance measures. The results from section 5.5.2 showed that the SWC failed to satisfy the predictive validity tests and therefore had to be abandoned. The SVA measure on the other hand satisfied the predictive validity tests (section 5.5.4). The results from section 5.5.5 also showed that this SVA measure is sufficiently generic and equally applicable to all types of firms and does not have any inherent bias (EO Vs SBO, Family Vs Non-family, High Technology Vs Low technology). This is an important find as it was important to select a measure that equally applicable to all types of microenterprises and is thus comparable. As argued in the preceding chapters the performance measure could be multi-dimensional but it should not be multi-constituency or a problem driven construct. The SVA measure satisfies this requirement and thus the alternative hypothesis H_4 (1) presented in chapter 3 can be accepted.

6   RESULTS: THE PREDICTIVE MODEL & DISCUSSIONS

To start with, this chapter first tests the data for multicollinearity and singularity issues. This chapter then aims to develop a predictive model that will be able to answer the primary research question posed in section 1.2.

RQ1:   ***"Is it possible to identify potentially high value creating entrepreneurial oriented microenterprises by looking at their 'firm level characteristics' namely Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP)?"***

This predictive model is developed using Principal Component Analysis (PCA) and Ordinal Regression (OR). Prior to developing this predictive model this chapter also explores the relationship (if any) between the 'firm level characteristics' namely EO and ACAP and the dependent variable (i.e. Value) using multiple regression.

6.1   Testing for Multicollinearity and Singularity in the data

While singularity (where one predictor is perfectly correlated with another i.e. r = 1.000) is generally less common, it is the multicollinearity between the variables that poses the biggest problems. As illustrated in Appendix 6 none of the bivariate correlations are *> 0.8* and the highest is between COMint3 and INFOC3 (*tau-b = 0.772, p<0.001*).   However, multicollinearity can exist not only on a bivariate basis but also in more subtle forms like collinearity between three or more variables. This type of multicollinearity is not discernible from a simple bivariate correlation matrix as shown in Appendix 6. Multicollinearity implies that two or more variables are related in such a way that each on their own is unable to unambiguously explain the variance in the dependent variable in a multiple

regression (Grapentine, 1997). Field (2005:174) highlights the problems associated with multicollinearity in the data as follows:

1. **It limits the size of R**: The amount of variance explained by the two or more variables are severely restricted if they are multicollinear.

2. **Importance of predictors**: As the predictor variables have similar power, it is difficult to gauge the importance of each of these variables when trying to explain the variance in the dependent variable .

3. **Unstable predictor equations**: The regression coefficients estimated are highly unstable. Lin (2008) quoting Neter, Wasserman and Kutner (1989) identified some additional issues with data with multicollinearity:

    1. Variances of parameter estimates may be unreasonably large
    2. Parameter estimates may not be significant
    3. Parameter estimate may have a sign different from what is expected

Therefore, whether any multicollinearity exists between three or more variables taken together needs to be tested. Prior studies suggest that one should look at the Variance Inflation Factor (VIF) to test for multicollinearity between multiple independent variables (IVs). VIF measures the inflation of the variances due to collinearity amongst the independent variables (Lin, 2008). In short, the VIF indicates whether the predictor has a strong linear relationship with other predictors. This is represented by the following equation

$$VIF_i = \frac{1}{1 - R_i^2}$$

Where i = i[th] independent variable (IV) and R^2 is the coefficient of determination that is obtained when x_i is regressed on all other independent variables in the model. This implies that if $R^2 = 0$ then VIF = 1, on the other hand when R^2

approaches unity (1), then VIF approaches infinity. Accordingly, a high R^2 is capable of high VIF scores.

There is however, no consensus as to what constitutes a high VIF score. Field (2005: 196) suggests that a VIF > 10 should be cause for concerns. On the other hand a demonstration video[33] showing how to test for multicollinearity in SPSS suggests that VIF> 3 indicates a possibility of multicollinearity, VIF > 5   some multicollinearity and VIF >10 definite multicollinearity. This research takes a relatively conservative approach by using the following decision rule:

    Decision Rule 6.1.1*:   All VIF must be less than 3.00*

Closely linked with VIF is the Tolerance (TOL) measure, which, is a reciprocal of the VIF i.e.

$$TOL_i = \frac{1}{VIF_i} = 1 - R_i^2$$

Where i = i^{th} independent variable and R^2 is the coefficient of determination that is obtained when x_i is regressed on all other independent variables in the model. Again, if R^2 approaches unity (1) then TOL approaches 0. Field (2005 :196) suggests that TOL < 0.1 implies a serious problem while TOL < 0.2 implies a potential problem. The following decision rule has been used in this research:

    Decision Rule 6.1.2*:   All TOL must be greater than 0.200*

The TETRAD results obtained in section 5.3.4 and 5.4.3 when testing whether EO and ACAP were uni-dimensional or multidimensional served as the starting point for these tests for multicollinearity. Table 14 refers to the TETRAD 'Build Pure Clusters (BPC)' results obtained for the observed data (N=70) when testing whether EO is a one-dimensional construct. Table 15 on the other hand refers to

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[33] Video "Detecting Multicollinearity in SPSS" http://www.youtube.com/watch?v=oPXjQCtyoG0

the TETRAD 'Build Pure Clusters (BPC)' results for EO using simulated data (N=5000). As argued in section 5.4.3 when using the observed data (N=70) the ACAP construct was seen to be made up of four clusters with PRK2 and PRK5 loading onto separate clusters (see table 20). Since, this was incompatible with the theory presented in Chapter 2, it was retested using simulated data (N=5000). Table 21 shows that with a larger sample size (N=5000) then the theoretical argument that ACAP is made up of three sub components is satisfied. The items identified from these two tables (Table 14 & 21) were used in the subsequent study of the causal relationship and in shown in the combined table below

EO	INFOC	COMint	PRK	PERF
Innov1	INFOC4	COMint1	PRK2	Value_RECIP
Innov2	INFOC7	COMint2	PRK5	
Innov3	INFOC9	COMint3		
Proac1	INFOC10			
Risk2				

Table 26: Manifest Variables obtained for each TETRAD analysis

Source: Tables 14 & 21

Each predictor variable was taken as the dependent variable and was regressed against all the other predictor variables in the above list using the SPSS 18.0 '*collinearity diagnostics*' under the linear regression module. The variable 'VAL_RECIP' was not included in the analysis. The results from these 14 different regressions showed that all the VIF scores were <3.0 and the TOL scores were > 0.20. This establishes that none of the variables listed in table 26 suffered from any multicollinearity or singularity issues.

6.2   Principal Components analysis (PCA)

In the previous chapter the TETRAD programme using the principle of 'vanishing tetrads' undertook a form of Exploratory Factor Analysis (EFA) to identify the latent constructs underlying the observed data. These latent constructs which by definition cannot be directly measured also influence responses on the observed variables and more importantly include unreliability due to measurement error. In short, these latent constructs while suitable to understand the causal structures are somewhat more difficult to use when developing a predictive model which will answer the main research question. While Guadagnoli and Velicer (1988) argue that there is not much difference between factor analysis and PCA, others (Field 2005: 631; Suhr , 2005; Iacobucci, 2001) argue that there are fundamental methodological differences. A Principal Component analysis (PCA)   which creates component scores of the uncorrelated combination of weighted observed variables and thus explains the maximum amount of variance in the data that might be a solution. Table 27 below highlights the fundamental difference between PCA and Exploratory Factor analysis

Principal Component Analysis	Exploratory Factor Analysis
Principal Components retained account for a maximal amount of variance of observed variables	Factors account for common variance in the data
Analysis decomposes correlation matrix	Analysis decomposes adjusted correlation matrix
Ones on the diagonals of the correlation matrix	Diagonals of correlation matrix adjusted with unique factors
Minimizes sum of squared perpendicular distance to the component axis	Estimates factors which influence responses on observed variables

Component scores are a linear combination of the observed variables weighted by eigenvectors	Observed variables are linear combinations of the underlying and unique factors

Table 27: Differences between PCA & EFA
Source: Adopted from Suhr (2005)

Stevens (2009) investigating this difference suggests that with 30 or more variables and communalities more than 0.7 for all variables then the solutions derived from EFA or PCA are unlikely to be different. However, with lower than 20 variables and commulaties less than 0.4 there is likely to be difference between the EFA and PCA solutions. In the previous chapter the TETRAD results was able to identify 14 variables which clustered around 4 latent constructs. However, given this low number of variables it is advisable to revisit all the observed variables (27 in total) and use PCA to develop a predictive model.

This section therefore outlines the procedures followed to derive the principal components (PCs) used to develop this predictive model. As Jolliffe (2002) states, " *the central idea of principal component analysis (PCA) is to reduce the dimensionality of the data set consisting of a large number of interrelated variables, while retaining as much as possible of the variation present in the data set*". Unlike the previous chapter, where simulated data was used to identify factors , the original observed data (N = 70) has been used in this PCA and subsequent linear and ordinal regression analysis.

In order to conduct a valid principal component analysis in a SPSS environment, it became necessary to establish a few decision rules that the data must satisfy. Dzuiban and Shirkey (1974) provide three basic decision rules which should be always taken into account when estimating whether a correlation matrix is suitable for a PCA.

1. Computation of Bartlett's test for sphericity

The Null hypothesis for this test is that the sample correlation matrix came from a multivariate normal distribution in which the variables are completely independent. In other words, the original matrix of the population is an identity matrix. Therefore, a *significant* ($p < 0.05$) result is required before the Null Hypothesis can be rejected. A significant Bartlett's test for sphericity would imply that the variables chosen are suitable for PCA. Accordingly, the decision rule applied in this research was:

> ***Decision Rule 6.2.1***: *That Bartlett's test of Sphericity is significant*
> *(p<0.05)*

In order to compute the Bartlett's test of sphericity the sample size (N), number of variables (P) and the determinant $|R|$ of the correlation matrix is required (Dzuiban and Shirkey 1974, pp 358). This Determinant $|R|$ is an important predictor of multicollinearity and singularity in the data. There is a lack of consensus as to the cut-off point of $|R| > 0$ that should be used to show that the data has multicollinearity or singularity issues. Field (2005 :641) states that *|R| >0.00001* should be used and any $|R|$ below that implies that there is multicollinearity in the data. Others simply state that where $|R|$ is "*very small, close to zero*"[34] it is a sign that multicollinearity exists. Therefore, an element of confusion remains on whether *|R| = 0.00001* can be considered very small and close to zero. The following decision rule has been used in an attempt to deal with this uncertainty.

> ***Decision Rule 6.2.2***: *That the Determinant |R| > 0.001*

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[34] Please refer to website discussing multicollinearity - http://www.philender.com/courses/categorical/notes2/collin.html

2.   Inspection of the off-diagonal elements of the anti-image covariance and   correlation matrix

The second procedure recommended by Dzuiban and Shirkey (1974 :359) is the inspection of the off-diagonal elements of the anti-image covariance matrix $S^2R^{-1}S^2$ where R^{-1} is the inverse of the correlation matrix and the diagonal is defined as $(diagR^{-1})^{-1}$. They propose that R^{-1} should be 'near diagonal'. Field (2005 :648) suggests that simply looking at the diagonal of the anti-image correlation matrix should suffice as it contains the maximum information. Accordingly, the following two decision rules have been applied in this research:

> ***Decision Rule 6.2.3****: That the diagonal of the anti-image correlation matrix for each pair is >0.50*

> ***Decision Rule 6.2.4****: That majority (>60%)   off-diagonal of the anti-image covariance matrix is 'close to zero   (i.e <0.090)'.*

3.   Computation of the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy

Dzuiban and Shirkey, (1974 :359) state that the KMO index is a compilation of the squares of the off-diagonal elements of the anti-image correlation matrix and the squares of the off-diagonal elements of the original correlations. The KMO index yields an assessment of whether the variables belong together and whether the correlation matrix is suitable for factor analysis. Quoting Kaiser's (1974) original study, the index is as follows:

> In the .90s – marvelous
> In the .80s – meritorious
> In the .70s – middling
> In the .60s – mediocre
> In the .50s – miserable
> Below .50s – unacceptable

Based on the above index the Decision Rule used in this research is as follows

Decision Rule 6.2.5*:   That the KMO index should be > 0.60 or ideally >0.70 to conduct PCA*

Some additional decision rules have also been used in this research. It was assumed that the PCs identified were independent of each other and therefore, orthogonal (i.e. perpendicular to each other). For that reason, the Varimax procedure which essentially implies the rotation of the axis while maintaining the independence of the PCs, has been used.

Decision Rule 6.2.6*:   Limited to the VARIMAX extraction method*

Field's (2005 : 633) advice to retain only those PCs with an Eigenvalue > 1 was relied on in order to decide which PCs were to be retained and which to be discarded.

Decision Rule 6.2.7*:   Only PCs with Eigenvalues > 1 retained.*

Stevens (1992) in his book "*Applied multivariate statistics for the social sciences*" produced a table of critical values against which factor loading should be compared (quoted by Field , 2005 :637). Stevens suggested that for a sample of 50, the factor loadings above *0.722* can be considered to be significant ($p<0.05$) and for a sample of 100, it is *0.512*. As the sample size in this research is 70, any factor loading above *0.617* (taking a mid point value) could be considered to be significant. For convenience and for the purposes of generating suitable rotated factor loadings, all factor loadings below *0.550* were surpressed. In the final analysis however, the above requirement of *0.617* was reinstated.

Decision Rule 6.2.8*: Factor loadings below 0.550 will be suppressed in the initial steps. In the final analysis factor loadings below 0.617 will be suppressed.*

This research recognises that the significance of a factor loading does not show the importance of a variable to a factor. To understand this, it is important to look at the communality table which shows how much of the variance is common or shared. Another way of looking at this was to conclude whether the factors extracted were capable of explaining a relatively a large part of the variance of each predictor variable. Any variable that has a communality of less than *0.500* has been eliminated from subsequent analysis in this research.

Decision Rule 6.2.9*:   Variables with Communalities <0.500 will be removed.*

6.2.1   Initial analysis

As mentioned previously one of criticisms of the TETRAD programme is that it is heuristic in nature and therefore there is no way to test the Goodness- of- fit (GOF) of the results. Therefore, besides the manifest variables identified in Table 26 the balance manifest variables left out from the earlier results were also included in the subsequent steps. Table 28 below lists the balance *13 IVs* that still needed to be tested for multicollinearity.

EO	INFOC	PRK
Proac2	INFOC1	PRK1
Proac3	INFOC2	PRK3
Risk1	INFOC3	PRK4
Risk3	INFOC5	
	INFOC6	
	INFOC8	

Table 28: Balance IVs' left out from Table 26

The reliability tests for the EO construct in section 5.3.2, confirmed that the removal of Proac3 and Risk1 would each enhance the reliability of the construct. The reliability tests for the ACAP construct from section 5.4.1 showed that removing INFOC5 increased the Cronbach (α) from *0.758* to *0.808* for the INFOC sub-construct. Likewise, removing PRK3 from the PRK sub construct improved the reliability (Cronbach α) from *0.650* to *0.670*. Accordingly, the variables Proac3, Risk1, INFOC5 and PRK3 were removed from any further analysis. On a similar argument, the removal of COMint2 from the COMint sub construct increases the Cronbach (α) from *0.833* to *0.847*. However, as the COMint sub construct is made up of only three (3) items retaining the COMInt2 sub construct might be justified. With the removals of Proac3, Risk1, INFOC5 and PRK3, the balance nine (9) independent variables that needed to be further tested are listed in Table 29.

EO	INFOC	PRK
Proac2	INFOC1	PRK1
Risk3	INFOC2	PRK4
	INFOC3	
	INFOC6	
	INFOC8	

Table 29: Balance IVs' after removal of non-reliable variables

Each variable listed in Table 29 were individually added to the list from Table 26 and tested for multicollinearity using the two decision rules mentioned earlier in section 6.1. Proac2, Risk3, INFOC2, INFOC6, INFOC8 met the requirements of the decision rules and were therefore retained. As PRK1, PRK4, INFOC1 and INFOC3 failed to meet requirements of the decision rules, they were removed from the final list. On completion of this step, nineteen (19) independent variables were identified to be free from any multicollinearity or singularity issues. These independent variables (Table 30) were therefore suitable for subsequent principal component analysis.

EO	INFOC	COMint	PRK
Innov1	INFOC2	COMint1	PRK2
Innov2	INFOC4	COMint2	PRK5
Innov3	INFOC6	COMint3	
Proac1	INFOC7		
Proac2	INFOC8		
Risk2	INFOC9		
Risk3	INFOC10		

Table 30: Final list of IVs' without multicollinearity

The variables identified as not having any multicollinearity issues (Table 30) were run through a series of PCAs using the above decision rules. Seven (7) iterative tests were conducted and variables that did not meet any of the above decision rules were removed systematically. The following table provides a summary of the steps taken when any of the decision rules were not satisfied.

Step	Determinant |R|	Rule Violation	Action taken
1	0.000	6.1.2 6.1.3	Remove PRK2
2	0.001	6.1.8	Remove Innov1 Remove INFOC6
3	0.001	6.1.9	Remove INFOC7
4	0.003	6.1.9	Remove INFOC8
5	0.004	6.1.9	Remove INFOC4
6	0.007	6.1.8	Remove INFOC2
7	0.013	FL<0.596*	Remove PRK5

Table 31: PCA iterations before final model

* FL = Factor Loading

6.2.2 Final Analysis

The final PCA model was arrived at after the above seven iterations (Table 31). The results shown below reflect this final model.

Correlation Matrix

	Innov 2	Innov 3	Proac 1	Proac 2	Risk 2	Risk 3	INFOC 9	INFOC 10	COMint 1	COMint 2	COMint 3
Innov2	1.000										
Innov3	.627	1.000									
Proac1	.339	.348	1.000								
Proac2	.511	.474	.541	1.000							
Risk2	.275	.341	.270	.084	1.000						
Risk3	.240	.321	.160	.218	.390	1.000					
INFOC9	.180	.282	-.059	.077	.155	.107	1.000				
INFOC10	.260	.372	.072	.204	.098	.140	.454	1.000			
COMint1	-.117	.179	.059	-.058	.083	.140	.103	.269	1.000		
COMint2	.091	.092	.076	-.018	-.032	-.004	.224	.375	.570	1.000	
COMint3	-.047	.136	.024	-.071	.038	.032	.196	.319	**.735**	.608	1.000

a. Determinant = .021

Table 32: Correlation Matrix of Final Analysis

None of the correlations in the matrix (Table 32) is above 0.735 and therefore, we can be assured that there is no multicollinearity at least on a bivariate basis. The possibility of multicollinearity existing among three or more items has already been extensively analysed in section 6.1. The Determinant in this case is *0.21*, which, is well above the minimum of *0.001* required to satisfy decision rule 6.2.2. It will be useful to note that none of the items measuring PRK was retained for this final analysis. The two PRK items (PRK 2 & PRK 5) which were initially included from section 6.1 (Table 26) were subsequently eliminated in the initial analysis in section 6.4 (see steps 1 & 7) as they did not satisfy one or more of the decision rules. Therefore, PRK an important sub-construct of ACAP will not be represented when deriving the principal components to be used in the subsequent linear or ordinal regressions and this will have to be taken into account.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.689
Bartlett's Test of Sphericity	Approx. Chi-Square	249.922
	df	55
	Sig.	.000

Table 33: KMO Statistics of Final Analysis

The KMO statistics is > 0.6.and therefore satisfies Decision Rule 6.2.5. It is arguable that at *0.689*, the KMO statistics is more towards the 'middling level' than the 'mediocre' level specified by Kaiser's (1974) index. The Bartlett's test of sphericity, which examines if the population correlation matrix resembles an identify matrix, is significant. The results X^2 *(55) = 249.922, p <0.001* imply that as the off-diagonal correlations of the population matrix is not close to zero, suitable components can be derived. The results therefore, satisfy the requirements of Decision Rule 6.2.1.

All diagonal entries in the anti-image matrix have been found to be greater than 0.500, implying that the measures for sample adequacy (MSA) on a bivariate basis are satisfactory. The results therefore, satisfy the requirements of Decision Rule 6.2.3. Also, as shown in the anti-image covariance matrix below (Table 34), the majority (>60%) of the off-diagonal elements were found to be <0.09. Accordingly, the requirements of Decision Rule 6.2.4 are satisfied.

	Innov 2	Innov 3	Proac 1	Proac 2	Risk 2	Risk 3	INFOC 9	INFOC1 0	COMint 1	COMint 2	COMint 3
Innov2	.670[a]										
Innov3	-.496	.729[a]									
Proac1	.003	-.076	.642[a]								
Proac2	-.251	-.162	-.476	.680[a]							
Risk2	-.136	-.122	-.270	.255	.604[a]						
Risk3	-.045	-.069	.062	-.124	-.313	.731[a]					
INFOC9	.042	-.152	.172	-.023	-.129	-.004	.676[a]				
INFOC1 0	-.027	-.164	.067	-.103	.028	-.030	-.331	.801[a]			

COMint1	.320	-.260	-.015	.012	-.051	-.162	.139	-.013	.620[a]		
COMint2	-.265	.207	-.125	.098	.130	.061	-.116	-.199	-.312	.704[a]	
COMint3	-.004	-.004	.005	.044	-.010	.083	-.085	-.073	-.560	-.270	.726[a]

a. Measures of Sampling Adequacy(MSA)

Table 34: Final Analysis Anti-image correlation matrix

	Innov 2	Innov 3	Proac 1	Proac 2	Risk 2	Risk 3	INFOC 9	INFOC 10	COMint 1	COMint 2	COMint 3
Innov2	.458										
Innov3	-.222	.437									
Proac1	.002	-.039	.614								
Proac2	-.122	-.077	-.267	.514							
Risk2	-.077	-.068	-.177	.154	.703						
Risk3	-.027	-.040	.043	-.078	-.230	.772					
INFOC9	.024	-.086	.115	-.014	-.092	-.003	.726				
INFOC10	-.014	-.087	.042	-.059	.019	-.021	-.226	.639			
COMint1	.131	-.104	-.007	.005	-.026	-.086	.071	-.006	.365		
COMint2	-.127	.097	-.070	.050	.077	.038	-.070	-.112	-.133	.501	
COMint3	-.002	-.002	.002	.020	-.005	.046	-.045	-.037	-.212	-.120	.395

a. Measures of Sampling Adequacy(MSA)

Table 35: Final Analysis Anti-image Covariance matrix

An Orthogonal (Varimax) Rotation method under rule 6.2.6 was used in this research extracting four (4) factors with an Eigen value > 1 (decision rule 6.2.7).

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.166	28.784	28.784	3.166	28.784	28.784	2.368	21.530	21.530
2	2.373	21.571	50.355	2.373	21.571	50.355	2.327	21.156	42.686
3	1.195	10.865	61.219	1.195	10.865	61.219	1.646	14.963	57.648
4	1.147	10.425	71.644	1.147	10.425	71.644	1.540	13.996	71.644
5	.682	6.201	77.845						
6	.621	5.648	83.493						
7	.512	4.652	88.146						
8	.486	4.422	92.568						
9	.331	3.012	95.580						
10	.281	2.553	98.132						
11	.205	1.868	100.000						

Extraction Method: Principal Component Analysis.
Table 36: Final Analysis Principal Component extraction

As illustrated in Table 36, the four components extracted accounted for nearly *71.64%* of the total variance. Interestingly, the first two factors were almost of equal strength. Likewise, the third and fourth factors were found to have almost similar explanatory power.

All the items were found to have a relatively high common or shared variance >0.500. Therefore, the requirements of Decision Rule 6.2.9 are satisfied. Another way of looking at this was to conclude that the components extracted were capable of explaining a relatively large part of the variance of each variable. For example, nearly *82.9%* of the variance of COMint1 for example could be explained by the components extracted.

Rotated Component Matrix

	Component			
	1	2	3	4
Innov2		.708		
Innov3		.630		
Proac1		.771		
Proac2		.860		
Risk2				.832
Risk3				.777
INFOC9			.843	
INFOC10			.717	
COMint1	.895			
COMint2	.790			
COMint3	.885			

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Table 37: Final Analysis Rotated Components Matrix

Loading below *0.55* in the above Table 37 was initially suppressed (Decision Rule 6.2.8) to assist in the interpretation and identification of the distinct principal components. As discussed previously, factor loadings ≤ 0.617 in a sample size of 70 are considered non-significant. As the lowest factor loading was found to be *0.630* for Innov 3, all the factor loadings could be assumed significant. This result therefore establishes that the items finally chosen for the Principal Component Analysis (PCA) are sufficiently valid and significant. It also demonstrates that the 11 retained variables are free from any multicollinearity and that the four extracted components are statistically significant in successfully explaining nearly *71.64%* of the variance in the data.

6.2.3   Naming the Components

Component 1: named as IntCOM

When looking at the sub constructs that make up the ACAP construct in section 5.4.4, similar grouping of the three variables using the TETRAD 'Build Pure Clusters (BPC) algorithm was observed.

IntCOM *defined as*	*Internal Communication between units, managers and departments*
COMint1	The firm has proactive policy to ensure that all knowledge and information generated are shared within the various units.
COMint2	Inter-departmental meetings and discussions are held regularly. Minutes of the meetings are distributed amongst all relevant units.
COMint3	Participating managers from the various units are actively encouraged to share their knowledge and information with the other members

In order to differentiate Component 1 derived from the PCA from the previous latent construct (COMint) discussed in section 5.4.4 using TETRAD, the name was changed to 'IntCOM'. This was done purely to ensure that when we refer to COMint it is from a theoretical point of view, while IntCOM refers to the component derived from the PCA.

Component 2: named as ACT

The four variables (Proac1, Proac2, Innov2 & Innov3) were derived from the original EO latent construct (discussed in section 4.3.1) adapted from the questionnaire devised by Runyan et al (2008). It should be noted however, that while there were 9 different variables in the original construct, there were only four variables remaining in Component 2 (ACT).

Innov2	New product introduction
Innov3	Substantial change in product and service technology
Proac1	First movers instead of followers against competitors
Proac2	First to introduce new products/services, procedures and technology

In section 2.2.1, EO was defined as a '*deliberate act'* (Dess, et al., 1997). The four variables included in this component all relate to specific 'management action'. Considering that the four variables are but a subset of the original EO construct, the name 'ACT' would seem appropriate. The label, 'ACT' not only differentiates this component from the latent construct but also maintains a connection with the original concept. For these reasons it was reasonable to expect that ACT would have a definite and positive influence on Performance.

Component 3: named as INFOex

INFOex *defined as*	*Information collection and usage*
INFOC9	The firm actively communicates with its Suppliers through regular meetings and visits to inform them of the changes (if any) in the firm's production schedule, processes and products and to understand their needs and wants.
INFOC10	The firm has an active policy to ensure that the shareholders and relevant government departments are kept informed of any changes that may be relevant to them.

In section 2.2.3 we argued that information collation/collection (INFOC) is an important sub construct of ACAP. In section 4.3.2 we identified 10 possible manifest variables to measure the various facets of INFOC. Component 3, which comprised only 2(two) variables relating to collecting information from external stakeholders like suppliers and shareholders was named 'INFOex'. The name

INFOex not only makes a distinction with the original latent construct but also retains a continuity with it.

Component 4: named as RISK

Risk2	Favour bold, proactive and wide-ranging changes rather than incremental changes
Risk3	Adopt bold, aggressive posture to maximise the probability of exploiting potential opportunities

The two variables that make up Component 4 are actually part of the original EO construct. In section 2.2.1, EO was defined as comprising of Innovativeness, Proactiveness and Risk taking. The two variables Risk2 and Risk3 are part of the 'Risk- taking' sub construct. Both these variables focus on the capability of the firm to take risk. Risk2 examines how an organisation looks at managing change either through a revolutionary process (by definition more risky) or through a less risky evolutionary process (Greiner 1994; Christensen and Overdorf, 2000). Risk3 on the other hand looks at the overall posture of the firm to proactively search for new opportunities (therefore, by definition more risk taking) rather than wait for future development. As evident, Risk2 & Risk3 take a more indirect approach to measuring risk. The ability to withstand higher levels of RISK should assist the firm to create long-term value and RISK can therefore be expected to have a significant impact on Performance.

Accounting for Prior Related Knowledge (PRK)

Prior related knowledge (PRK) has been argued as the third sub-construct in ACAP but it was not reflected in any of the components derived using PCA. Five different manifest variables were used to measure this component. This, could be argued is a limitation of the research and requires further investigation. In order to

account for this important attribute, an alternative proxy measure was introduced. The role of *prior related knowledge* in the firm's performance needs to be looked at in two ways. Firstly, there is the question of *quantity of knowledge*, which is being argued is reflected in the 'Age' of the firm. It could be argued that the creation and existence of PRK is a function of the number of years that the firm has been in operation. Secondly and more importantly, there is also the question of the *quality* of this knowledge. Younger firms (<20 years) while having less knowledge are expected to have more current and up to date knowledge. Older firms (21-40 years and above) by definition might have more knowledge but a large part may be obsolete. Accordingly, these variables were entered into the model. There is a substantial body of literature that supports this viewpoint (Ansoff: 1987, Birley and Westhead: 1990, Tan, et al.:2009). In fact, Acs and Plummer (2005) were of the view that new firms are more adept at accessing and absorbing new knowledge and converting them to economic knowledge than incumbent firms.

6.3   Relationship between EO, ACAP and PERF

As previously stated, the ultimate aim of this research was to develop a predictive model for identification of high value creating microenterprises. However, before these high value-creating microenterprises can be identified an initial analysis (see section 6.6.1) was undertaken using multiple linear regressions to study the relationship (if any) between the principal components identified in section 6.5 and 'Value' as the dependent variable. As discussed in section 4.4.4 in order to ensure homogeneity of variance (Levene's test) and at the same time have normal distribution a reciprocal transformation of the 'Value' (Value_RECIP) score was done. The Value_RECIP score was multiplied by 10000000 to reduce the 7 digit decimal points.

Control Variables

The following control variables were entered into both the model with the purpose of isolating the effects of the predictor variables from any other external factors that may also explain the variance in the dependent variables:

1.   Sector: There is no doubt that the sector in which business operates has a key role in its overall value creating potential. The respondents included in this research were classified into eight (8) different categories (please refer to section 4.4.4). As SPSS uses the last category as its baseline when conducting an ordinal regression, the sectors were recoded with the manufacturing (mfg) sector as the baseline sector and each of the other sectors as follows.

1. Arts
2. Social
3. B2B
4. Finance
5. IT
6. Transport
7. Retail
8. Manufacturing

Despite having a limited sample size this detailed sectoral classification was maintained in this research in order to obtain an in depth understanding of the role of each sector in the value creating potential of the microenterprises. However, for the purposes of the linear regression analysis in section 6.6.1 seven dummy variables were created with the manufacturing (mfg) sector as the baseline

2.   Years of operation (**Age**): The age of the firm in absolute terms has been argued is an important measure of the *quantity* of PRK owned by the firm and as such is expected to have a significant relationship with performance. The age of the firms in the sample ranged from 2 years to 75 years. The overall age of the firm was entered as a control variable. However, in order to account for the *quality* of this PRK knowledge, the firms were grouped under four variables (<20 years, 21-40 years, 41-60 years and >60 years) and this was entered into the model

as part of the independent variable. Micro enterprises less than 20 years old are expected have higher levels of performance than the other groups.

3. *Technology Intensity (Tech_int):* The 70 sample firms were classified as Low Technology (Category =1) and High technology (category = 2) and a dummy variable (High Tech Vs Low Tech) was created. We would expect a negative and significant coefficient implying that high technology intensity firms create more value.

4. *Size:* Even though this research is restricted to microenterprises which by definition implies less than 10 employees as discussed in Chapter 2 it is expected that the size would have an impact on the role of internal communication. The overall size the firms were also grouped under two variables (firms ≤ 5 employees and firms > 5 employees). It is expected that overall for all the 70 sample firms internal communication would have a significant ($p<0.05$) negative coefficient implying that less internal communication is actually beneficial for value creation. This significant result is however expected to be restricted to firms having greater than five employees. For firms ≤ 5 employees the issues of internal communication is expected to be non-significant ($p>0.05$).

5. *Other Variables tested in this research:* The following control variables Location by region, Gross Value Add by region, Output per worker by region, Productivity by region, Seasonality of Demand, Competition intensity (>100 competitors), Multiple Vs Single business interest, Level of customisation, Type of respondent (Owner Vs Manager) and date of financial accounts were also tested as additional control variables. All these additional control variables were however found to be non-significant ($p>0.05$) and therefore discarded subsequently and not reported in this research.

6.3.1 Linear Regression Analysis

The main objective of this multiple linear regression analysis is to explore the strength of the relationship between the principle components identified through the PCA analysis (section 6.5) with the reciprocal of the 'Value' as the dependent variable (Value_RECIP after treatment for decimal points). A hierarchical linear regression analysis was conducted using a '*forced entry*' method. Testing that the underlying assumptions of linear regression and also the case wise diagnostics using Cook's Distance, Mahalanobis Distance, Leverage, Covariance Ratio and Standardised residuals had been met ensured the validity of the regression model.

This regression analysis by simply looking at IntCOM, ACT, INFOex, RISK can themselves explain an additional 34% of the variance on their own and nearly 40.7% (adj $R^2 = 32.7\%$) when included with the control variables . Eight different iterations were used in identifying the final model. In the process it was found that the sectoral breakdown of the sample firms and their size (in terms of employees) was non-significant ($p>0.05$) and was removed from the model.

	Final model	Stratified Bootstrapping
		Sector (using Mfg as baseline) & No. of employees
	N=45	N= 1000
	B	B
Model 1		
Constant	- 1.852	-1.852
Years of Operation (YOP)	- 0.671	-0.671***
Model 2		
Constant	1.078	1.078
Years of Operation (YOP)	-0.737**	-0.737***
Zscore-INTCOM	- 22.056***	- 22.056***
Zscore - ACT	4.811	4.811
Zscore-INFOex	- 3.843	- 3.843
Zscore- RISK	7.772	7.772*

Note : $R^2 = .067$ for model 1, $\Delta R^2 = .340$ for model 2 (ps<0.01), Total $R^2 = .407$, Adj. $R^2 = .327$, * p<0.05, ** p<0.01, *** p<0.001

Table 38: Regression Coefficients and Bootstrapped results

Bootstrapping the final model

Since the sectoral breakdown and the size of the firms (in terms of employees) were not significant as control variables in the model described above the two variables were used as the basis of a stratified re-sampling for a sample size of 1000. When the final model is bootstrapped 40.7% (adj R^2 = 32.7%) of the value of the enterprise can be explained and 3 out of 5 predictor variables (excluding the constant) is significant (p<0.05). Therefore the null hypothesis (H_5 (0)) that the

principal components identified from the EO and ACAP constructs has a non-significant relationship with value can be rejected and the alternative hypothesis ($H_5 (1)$) can be accepted.

The fact that it was the stratified bootstrapping that was most effective and not simple bootstrapping methods implies that a stratified sampling method should have been used in the first instance when executing the survey instrument. In that sense that is one limitation that needs to be rectified in any subsequent research of this nature. All the additional control variables mentioned previously had non-significant loadings on the model.

6.3.2   Significant Results from the Linear Regression

Younger firms create more value

While this statement was significant ($p<0.05$) with the observed data (N=45) it was extremely significant ($p< 0.001$) when using the bootstrapped results. However, it is at best a medium to small effect. With a negative coefficient (B = -0.737) this implies that younger enterprises generally created more value than older firms. This result is support the argument presented by Acs & Plummer (2005) who were of the view that younger firms are more adept at accessing and absorbing new knowledge and converting them to economic knowledge than old incumbent firms. As argued, the results show that Prior Related Knowledge (PRK) that is old is less capable of creating value than knowledge that is more current and up to date. This could be explained by the fact older firms tend to become too bounded or myopic in their outlook (Menon & Pfeffer, 2003; Petts, et al., 1998).

Less 'open' communication structures create more value

DeSouza and Awazu (2006) in their study of how small firms disseminate knowledge found that there is a separation in what they termed as 'common' and 'core' knowledge. While 'common' knowledge was easily shared and its loss did not have any major impact on enterprises, the 'core' knowledge needed to be closely controlled. It has been stated earlier that knowledge has to be immobile and 'locked in' (Barney 1991, 1995) to create competitive advantage for the firm. Therefore, sharing this core knowledge for a microenterprise might actually be detrimental to the long-term value of the firm.

Unfortunately, the conventional communication structures discussed in prior literature [Lane and Lubatkin, 1998; Moon and Kym, 2006; King and Grace, 2008; Peterson, et al. 2008; Liao and Welsch, 2005; Carson, et al. 2004] reflect a degree of underlying 'normative bias'. These prior studies tend to imply that more open communication structures are naturally beneficial for enhanced performance. While this is certainly true for medium and large organisations (please refer to de Waal (2012: 111) for the importance of openness), the reverse might actually be more applicable in the context of microenterprises. In short, less communication might be more beneficial for microenterprises. Having less open communication structures within micro enterprises might actually be a necessity unlike its bigger counterparts. As the results show, a highly significant ($p<0.01$) IntCOM coefficient ($B = - 22.056$) when using the bootstrapped results implies that firms that have a high level of control over the dissemination of their core knowledge create more value. This is however a medium to low effect has in the context of microenterprises since these types of enterprises by definition have a limited number of employees. For microenterprises comprising of less than 5 employees it is expected that internal communication would be irrelevant while in its more larger counterparts (i.e. 5-10 employees) it would have at best a very marginal impact.

Taking risk has a positive medium to small effect on value

The component 'RISK' which is part of the EO concept has a positive (B= 7.772) but is significant (p<0.01) only when bootstrapped for resample sizes of 1000 and above. This implies that it has at best a medium to small effect size. The ability to take risk is an important prerequisite of future oriented microenterprises (Tellis, et al., 2007)

The proposed model is 'value'specific

Testing the proposed model using an alternative measure of 'sales growth' yielded non-significant (p>0.05) loadings for all the control variables and independent variables. This is logical and can be explained since the change in revenue or sales growth is not necessarily related to the long-term value of the firm. The factors that drive the long-term value of the firm are quite different from the factors that affect sales growth. The rise or fall of sales revenue is a short tem phenomenon and is dependent on short-term actions (i.e. ACT) and tactics (i.e. short term RISK). Value on the other hand is a long-term phenomenon and therefore dependent on characteristics of the sector, technology intensity, knowledge (PRK), long term decisions (long term RISK) besides the overall macro economic situation (Risk premium (Beta), average risk free interest rates). Seen from this perspective the fact that ACT is non-significant (p>0.05) in the final model using value as the performance measure is understandable.

6.4 Predictive Model using Ordinal Regression

An Ordinal regression analysis has been conducted in this section to identify the high value creating microenterprises using analyse the four components identified in section 6.5 namely ACT, intCOM, INFOex and RISK. The dependent variable in this case categorised the 70 microenterprises on an ordinal scale as high (coded

as 3), medium (coded as 2) or low (coded as 1) performers based on the template discussed in section 4.4.4 (Table 12).

Section 6.6.1 looked at the overall relationship between the four principal components (IntCOM, ACT, INFOex and RISK) and the reciprocal measurement of the dependent variable 'value'. The results of this relationship were reported in the preceding section. However, this still does not address our primary research question

RQ1: *"Is it possible to identify potentially high value creating entrepreneurial oriented microenterprises by looking at their 'firm level characteristics' namely Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP)*?"

In order to do this the independent and dependent variables were also tested using the Ordinal Regression (PLUM) procedure within SPSS. This additional analysis was done to effectively identify the high value creating microenterprises that has been mentioned a number of times as the core objective of this research. Sixty-four (64) enterprises out of a sample size of 70 was used in this analysis (six had missing data). As discussed in Table 12 (chapter 4), they were categorised as low (*N= 36 (56.25%)*), medium (*N= 17 (26.56%)*) and high performers (*N=11 (17.18%)*). The following two objectives had to be satisfied in order for the predictive model to be acceptable:

Condition a) Identify correctly as many high performers as possible
Condition b) Minimum number of the enterprises categorised as low or medium performers should be incorrectly classed as high performers.

A negative Log-Log link function was used in this ordinal regressions model since the highest probability lay in enterprises being classified as low performers or at best medium performers. The sector (with manufacturing as the baseline); Years of operation (YOP) with >60 years as the base category; Technology Intensity

(Tech_int) with Low tech as the base category and finally size (number of employees) with firms ≤ 5 as base categories were introduced as control variables. Additionally, as the main effects, the standardised scores of the principal components identified earlier for ACT, INFOex and RISK were used.

As discussed in Chapter 2, 'prior related knowledge' (PRK) was argued to be an important sub construct of ACAP. In Chapter 5 the two items PRK2 and PRK5 were found to successfully load onto a single factor when using TETRAD and simulated data (N=5000, Table 21). However, the final PCA solution (section 6.4) using the observed sample size (N=70) failed to identify these as part of any component. In order to maintain continuity with the theoretical arguments presented earlier it was decided to reintroduce these two observed variables PRK 2 & PRK 5 both independently and as an interaction term. The PRK interaction term was identified after testing for all significant 7, 6, 5, 4, 3 & 2 way interactions. Since the predictive model presented in this chapter rests on statistical results it is important to justify the inclusion of PRK2 & PRK5 from a statistical standpoint. Both these items were tested on their own using a PCA analysis to see if they represented a singular component. As the results in Table 39 show the two items PRK2 & PRK5 successfully load onto one component.

Component Matrix

	Component
	1
PRK2	.783
PRK5	.783

Extraction Method: Principal Component Analysis.
a. 1 component extracted.

Table 39: PCA test for PRK2 & PRK5, SPSS output

Therefore, including these two items (PRK2 & PRK5) both individually and as an interaction term in the ordinal regression model is justified. A significant ($X2$ *(29) = 72.51, p < 0.001*) model fitting information shows that the model is a significant improvement over the use of just the intercept. The 'Goodness-of-fit result was

expected to be unreliable as there were *126 (66.7%)* empty cells resulting from the inclusion of a number of covariates. This meant that more importance was required to be given to the Pseudo-R^2 results (*Nagelkerke R^2 = 0.795*). It showed that the predictive model was capable of explaining 79.5% of the variance in the dependent variable. Moreover, the principle of Proportional Odds (PO) was found to have been satisfied *(X^2 (29) =19.978, p > 0.05)* by the model.

The zREV_INFOex and zREV_ACT variables were retained in Table 40 despite it being non-significant (p>0.05) as it had a major theoretical rationale as part of the ACAP and EO constructs and also were important components identified previously through the PCA methodology.

	Variables	Parameter	B	SE	OR	Sig (Model) N=64
Predicted Categories	Threshold	Low Performers (Cat1)	19.16	1.41	-	***
		Med Performers (Cat 2)	21.88	1.71	-	***
Control Variables	Sectors (Base = Manufacturing)	Social	5.18	2.11	177.68	*
		IT	6.37	2.35	584.06	**
		Transport	8.35	2.37	4230.18	***
	Years of operation (base = >60 years)	<20 years (Cat 1)	15.28	0.94	4325334	***
Independent variables	Internal Communication (**IntCOM**) derived from PCA (Z score)	zREV_IntCOM	-1.46	.473	0.23	**
	Action (**ACT**) derived from PCA (Z score)	zREV_ACT	-0.53	0.43	0.59	
	External Information (**INFOex**) derived from PCA (Z score)	zREV_ INFOex	0.19	0.32	1.21	
	Ability to take Risk (**RISK**) derived from PCA (Z score used)	zREV_RISK	0.90	0.36	2.46	*
	Prior Related Knowledge (**PRK 2**) : Organisation has retrievable systems	Measured using 7 point Likert scale (Base = 7 Strongly agree)	Non-significant(p>0.05) across all categories			

	Prior Related Knowledge (**PRK 5**) : Organisation proactively searching for new strategies	Measured using 7 point Likert scale (Base = 7 Strongly agree) Agree (6)	-5.40	2.06	.00452	**
Interactions	Interaction between **PRK2 & PRK5** (both ordinal data)	PRK2=5 * PRK5=6	6.65	2.67	772.78	*

ONLY SIGNIFICANT RESULTS REPORTED EXCEPT FOR THE INDEPENDENT VARIABLES
Note R^2= 0.684 (Cox & Snell); 0.795 (Nagelkerke), Model X^2 (29) = 72.51*** ; *p<0.05;**p<0.01; ***p<0.001; Model successfully met Proportional Odds(PO) test (p>0.05)

Table 40: Parameter Estimates from Ordinal Regression[35]

Notes for Table 40

Control Variables

Sector-Mfgbase 2 = The Social sector compared to the manufacturing sector
Sector-Mfgbase 5 = The IT sector compared to the manufacturing sector
Sector-Mfgbase 6 = The Transport sector compared to the manufacturing sector
(Sectors removed from the results: Arts (1); B2B (3); Finance (4); Retail (7))

YOP = The sample firms were categorised into three groups in terms of their total years of operations (YOP).
(Firms < 20 years old (coded as 1; Firms > 20 years but less than 40 years (coded as 2); Firms>41 years (coded as 3)
(Removed from the results.)

Tech_int_R = The sample firms were categorised as high technology intensity (coded as 0) and low technology intensity (coded as 1) with Low technology as the base category.
(Removed from the results as it was non-significant)

Employeesgrt5 = The sample firms were categorised in terms of their size (employees). Employees ≤ 5 coded as 0; Employees > 5 coded as 1
(Removed from the results as it was non-significant)

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[35] Table format adapted from Strand, S., 2012. The White British- Black Caribbean achievement gap: tests, tiers and teacher expectations. *British Educational Research Journal,* 38(1), pp. 75-101.

Independent variables

zREV_ACT   = A standardised score of the ACT component
zREV_INFOex   = A standardised score of the INFOex component
zREV_IntCOM   = A standardised score of the reverse coded COMint
                   component
zREV_RISK   = A standardised score of the RISK component

PRK2   = This documentation is in the form of files, designs archive
                   and other forms of easily retrievable systems.
PRK5   = Using the new information collected, the firm is always
                   looking for new strategies and ways to enhance customer
                   satisfaction.

*(These two items were combined to create a new categorical variable
(PRK2_5grt56) - If PRK2>5 & PRK5>6 then coded as 1, otherwise 0. Since
PRK2_5grt56 was non-significant this was then tested as an interaction term
PRK2* PRK5. Only significant results reported)*

6.4.1   Significant Results

**Result 1:   Less 'open' communication structures is significant for
                 microenterprise in general but of marginal importance**

The level of internal communication within microenterprises is significant
(p<0.05). However a negative co-efficient (B= - 1.46) implies that
microenterprises that have lower level of internal communication seems to have a
significant probability of being categorised as high performers. This is however of
marginal (OR = 0.23) importance and is understandable given their relative small
size in terms of employees. This result therefore supports the argument presented
by DeSouza & Awazu (2006). They found that there is a separation in what they
termed as 'common' and 'core' knowledge. While 'common' knowledge was
easily shared and its loss did not have any major impact on enterprises, the 'core'
knowledge needed to be closely controlled. It has been stated earlier that
knowledge has to be immobile and 'locked in' (Barney 1991, 1995) to create
competitive advantage for the firm. Therefore, sharing this core knowledge for a

microenterprise might actually be detrimental to the long-term value of the firm.

Therefore the null hypothesis (H_6 (0)) that IntCOM has a positive relationship with value can be rejected and the alternative hypothesis (H_6 (1)) can be accepted.

Result 2:   *Ability to withstand risk leads to higher value*

The component 'RISK' which is part of the EO concept has a positive (B= 0.90) and is significant (*p<0.05*). With a one SD increase in zREV_RISK there is *exp (0.90) = 2.46* times probability of being categorised in the higher levels.

As described in section 6.4 the RISK component is made up of two items Risk 2 (Favour bold, proactive and wide-ranging changes rather than incremental changes) and Risk3 (Adopt bold, aggressive posture to maximise the probability of exploiting potential opportunities). It is therefore understandable the firms who favour and are able to weather 'revolutionary ' change rather than 'evolutionary' change (Greiner, 1994) and aggressively seek out such possibilities tend to be categorised in the higher levels.

Therefore the null hypothesis (H_7 (0)) that RISK has a negative relationship with value can be rejected and the alternative hypothesis (H_7 (1)) can be accepted.

Result 3:   *Actions by managers is non-significant for potential value creation*

The internal attribute 'zACT' which is but a sub-set of the larger EO construct is non-significant (*p>0.05*) in the model for the observed data (*N=64*). When studying its relationship (if any) with value (see section 6.6.1 & 6.6.2) we found it was also non-significant even when bootstrapped. The argument that 'action by managers' has essentially a short-term phenomenon and has no impact on value

creating potential seems to be valid.

Therefore the null hypothesis (H_8 (0)) that ACT has a positive relationship with value can be rejected and the alternative hypothesis (H_8 (1)) can be accepted.

Result 4: Ability to collect external information is non-significant

External information (INFOex) has a non-significant (p>0.05), albeit a positive (B= 0.19, exp (0.19) = 1.21 times) probability of being categorised at higher levels. This non-significant result is somewhat unexpected. As discussed previously, the ability to collect and adapt to new information is an important facet of ACAP. This warrants investigation in more detail as it is possible that the limited sample size (N=64) in this research was not sufficient to test this component fully. Gherardi & Nicolini, (2000: 330) however criticised this over reliance on external information. On the other hand the knowledge asset of a microenterprise resides predominantly in the owner/manager (Thorpe, et al., 2005: 262) and they predominantly act as 'gate-keepers' (Hillebrand & Biemans, 2004, Tushman, 1996). Therefore generating internal knowledge is far more valuable than external knowledge (Menon & Pfeffer, 2003) for microenterprises. Seen from this perspective the fact that external information is non-significant can be justified.

Therefore the null hypothesis (H_9 (0)) that INFOex has a positive relationship with value can be rejected and the alternative hypothesis (H_9 (1)) can be accepted.

Result 5: A balanced PRK knowledge creates more value

Prior Related Knowledge (PRK) an important construct presented by Cohen & Levinthal (1990) and discussed in section 2.2.3 in detail was not identified in the PCA results even though they were highlighted in the TETRAD results in chapter

5 (section 5.4.3). The TETRAD results showed the successful clustering of two items (PRK2 & PRK5). After testing them individually and as an interaction term it was established that interactions at the higher scores (PRK2>5 & PRK>6) were significant in the initial models. Prior related knowledge (PRK) which was measured by the interaction between PRK2 (using IT facilities) and PRK5 (creating mental models and strategies) was found to have the highest probabilities of being categorised at the higher levels when it is in balance. PRK 2 (using IT facilities) on its own was found to be non-significant. PRK5 (creating mental models and strategies) had a negative association (B= -5.40) though somewhat significant (p<0.01) had at best a marginal probability (OR = .00452) of being categorised at the lower end on its own.

Enterprises which tended to 'slightly agree' (score 5 on the 7 pt Likert scale) to the use of IT facilities and at the same time 'agree' (score 6 on the 7 pt Likert scale) that there is need to use new information to create models and strategies were found to have a staggering *exp (6.65) = 772.78* times probability of being classified in the higher levels. In short, the results appeared to show that higher levels of investment in IT facilities needs to be backed by appropriate ' strategic plans and models' in order to maximise the probabilities of being categorised at higher levels. The need to achieve this balance between routines/systems and strategies/mental models has been argued extensively in prior research for SMEs (Foss, et al., 2015; Lewin, et al., 2011; Ward, 2004;Wong & Radcliffe, 2000). This is discussed in more detail in the concluding chapter.

Therefore the null hypothesis (H_{10} (0)) that a balanced IT infrastructure and strategy has a negative relationship with value can be rejected and the alternative hypothesis (H_{10} (1)) can be accepted.

Result 6:   *Identifying 'High Performing' microenterprises*

The predicted category derived from the above model was cross-tabulated against the actual categorisation derived from the shareholder value add (SVA) computations and is illustrated in Table 41.

As the results show, the model correctly identified *nine (9) (that is 81.81%)* of the actual high performers out of the *eleven (11)* possible high performers computed from the SVA categorisation. The predictive model used in this research therefore fulfils the first objective namely, that it must be able to identify as many of the high performers as possible.

			Predicted Response Category		
	Actual Total		**Low Performer**	**Medium Performer**	**High Performer**
Actual SVA_3CAT	36	**Low Performer**	**33**	3	0
			91.7%	8.3%	
	17	**Medium Performer**	2	**14**	1
			11.8%	**82.4%**	5.9%
	11	**High Performer**	1	1	**9**
			9.09%	9.09%	**81.81%**
Total	**64**		**36**	**18**	**10**

Table 41: Actual Vs Predicted Category cross tabulation. Excel output

More importantly, all *33 (91.7%)* out of the possible 36 low performers and *14 (82.4%)* out of the possible medium performers were correctly identified. The results from the predictive model used in this research are made even more significant by the fact that none of the low performers and only 1(5.9%) of the medium performers was wrongly classified as high performers. However, considering that we have used 'umbrella constructs' (Hirsch & Levin, 1999) for both EO and ACAP, and applied it to microenterprises (which has not been done

previously) and at the same time introduced a new method to measure performance (potential value) the results could be considered significant. Consequently, this predictive model fulfils the second objective that minimum number of the low or medium performers should be wrongly classified as high performers. This predictive model therefore successfully answer the primary research question that high performing entrepreneurial oriented microenterprises can be identified by looking at their firm level characteristics namely Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP).

Result 7:   ***Social, IT and Transport sectors have a higher probability of being categorised as high performers when compared to manufacturing***

Finally, with regard to the observed sample (*N=64*) some interesting insights have emerged from the final model. For the observed data (*N=64*), the difference in the value created is non-significant (*p>0.05*), when the manufacturing sector is compared against the Arts, B2B, Finance and Retail sectors. For the observed data (*N= 64*), this implied that the probability of the microenterprises in the Arts, B2B, Finance and Retail sectors being categorised in the higher levels was inconclusive to those in the manufacturing sector. However, when the manufacturing sector microenterprises were compared against the Social, IT and Transport sectors, the difference in the value created was found to be significant (*p<0.05*). The fact that the co-efficient (B) was positive for all these sectors (i.e. Social, IT and Transport) implied that microenterprises belonging to these categories have a higher probability of being classified in the higher levels than compared to the manufacturing sector.

Result 8*:*   *Younger firms have a highly significant (p<.001) probability of*
      being categorised as high performers

Baring the control variables 'Technology Intensity' (Tech_int) and 'Size' (No of employees >5) the other control variable ' Years of operation' (YOP) was significant. Younger firms (<20 years old) had an extremely high odds (OR = 4325334) of being categorised as high performers. As discussed previously when inferring the result from the multiple linear regression this result once again supports the findings of Acs & Plummer, (2005) who argued that younger firms are more adept at accessing and absorbing new knowledge and converting them to economic knowledge than old incumbent firms. Older firms as argued previously tend to become too bounded or myopic in their outlook (Menon & Pfeffer, 2003; Petts, et al., 1998) which impairs their capability to create value.

Therefore the null hypothesis (H_{11} (0)) that younger firms create less value can be rejected and the alternative hypothesis (H_{11} (1)) can be accepted.

6.5   A longitudinal comparison.

As a final test the robustness of the proposed framework the projected categorisation (High, Medium and Low performers) using 2010 financial data was compared against the categorisation derived from the most current 2014 financial data. It is expected that the categorisation obtained using the two sets of data should be non-significant (p>0.05) implying that from a type 2 error perspective there is no difference between the two groups. This in turn would validate the argument that identifying potential high performers using 'firm level characteristics' like EO and ACAP is justified. In order to compare these two related non-parametric groupings a Wilcoxon Signed Ranks Test was used.

The 2014 financial data was derived from the FAME[36] database. Only 25 companies (35.71%) out of the total sample size of 70 actually reported their full P&L or Balance Sheet details. 14 out of the 70 companies (20%) had dissolved in the interim period between 2010 and 2014. Another 18 (25.7%) had resorted to using abbreviated accounts which made it impossible to calculate their actual revenue growth and therefore by default the current Value of the firm. Some 13 (18.6%) had not yet reported their 2014 financial details and so had to be left out from the analysis. Unlike the 'generic' value calculations using an assumed revenue growth applied to the 2010 data in the current 2014 data the actual revenue growth (decline) between 2013 and 2014 was used to calculate the actual value for each of the 25 microenterprises.

The overall categorisation for the 25 microenterprises using 2014 data *(Mdn = 2.00)* was higher than using 2010 data but non-significant *(Mdn=1.00, z = -0.431, p>0.05, r = -0.06)*. This implies that there was no difference or *change* in the categorisation using either the 2010 or 2014 financial data. Therefore, the high, medium and low performers identified using the 'generic' potential value measures (projected till 2014) derived from the 2010 financial data was not significantly different from the categorisation derived from the actual 2014 financial data, albeit only a small number (35.71%) of the sample actually reported their full data in 2014. This is an important find as it validates once again the argument that the generic value measurement used as the dependent variable in this research is sufficiently robust. More importantly, it validates the main objective of this research that by using the principal components derived from the EO and ACAP constructs it is possible to identify largely the high, medium and low performers.

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[36] Accessed in July 2015

7 DISCUSSION, CONTRIBUTION AND CONCLUSIONS

As stated in chapter 4 the genesis of the idea behind this research stemmed from the simple practical question confronting the author "*Is it possible to identify the potential performance of a prospective enterprise before intervening as a consultant*?" At one level, being able to answer this question would help to avoid getting involved in projects assisting enterprises that lack the potential. At another level it provides a way forward to look at issues of how to target 'high performing' microenterprises that can assist in economic development.

7.1 Revisiting the key conceptual themes.

Exploring a new paradigm

The fundamental premise of this research is that the present almost dogmatic focus on free trade and free market is driving a larger wedge between economies and countries (Dicken, 2011). This obsessive focus on ' creating perfect competition' markets might actually be 'dumbing down' (Wince-Smith, 2005) the innovation and knowledge creating prospects for many developing economies. It is like the 'Morgenthau plans' of 1945, which aimed to de-industrialise port-war Germany, being revisited except on a global scale. A dose of 'imperfect competition' to create the necessary flux in an economy for future growth and prosperity is what is needed (Ha-Joon, 2008;Reinert, 2007). It is only through this flux or 'creative destruction' (Hanusch, et al., 2006) that the necessary knowledge so essential to innovate is created in an economy.

The financial crisis of 2008 has highlighted the need to make this paradigm shift. In this post financial crisis era there is increased recognition that the traditional economic focus on 'capital allocation' is no longer viable. Increasingly there is the need to focus on technology and entrepreneurship (Reinert, 2011). In this research it has been argued that more than technology *per se* it is the ability to recognise

the importance of this technology that is important. This is encapsulated in the concept of Absorptive Capacity (ACAP). Entrepreneurship on the other hand is explained by the Entrepreneurial Orientation (EO) concept.

Focussing on High Performers

However, in these times of economic uncertainty and slow down it is becoming increasingly imperative for governments across the globe to be fiscally conservative and selective in their expenditure. It is therefore crucial that the support and incentives provided to nurture and develop enterprises; industries or sectors in the economy are well targeted. That is, these initiatives must be directed to appropriate recipients to ensure maximum returns and benefits to the economy. This is even more critical in the context of small and medium enterprises (SMEs) and especially microenterprises because of their vital role in any economy and the fact that they are extremely diverse and fragmented. Due to the inherent specialisation of the economy (Ibs & Wacziarg, 2003), modularisation of the production process (Memedovic, 2004), consolidation of industry (Dicken, 2011; Sturgeon & Lester, 2002) and more importantly the need to identify possible 'anchor' firms (Dutz, 2007; Feldman, 2003) means that focusing on high performing microenterprises is becoming critical. Identifying these high performers and nurturing them might be the only way to identify some scope for creating sustainable growth in economic value. This research provides a methodology to select these high performers**.**

Demarcating between EO and SBO type microenterprises

Unfortunately, the concept of 'equality' or 'representative firm' and its attendant 'dumbing down' finds its way even into studies on microenterprises. Under this logic a ' *Mom & Pop shop selling trinkets*' type microenterprise is seen as same as a *'software design'* microenterprise and therefore the logic dictates that both should be studied together. The fact that the 'nature' of the two firms and their contribution to economic development may be vastly different is not taken into

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account in conventional economic thinking. This is increasingly evident in the so-called '*inclusive*' SME and private sector development programmes of many multinational aid agencies. Little wonder that such interventions more often than not lead to below par results in the long run (Rodrik 2004:18; Reinert 2011). Norman and Bager-Sjogren (2010) found that the majority of entrepreneurship policy initiatives do not tend to generate any measurable benefits. They found that these policies are only able to select firms on a 'general' level rather than identify potentially successful firms.

Carland, et al. (1984), emphasising the importance of entrepreneurs as originally mentioned by Schumpeter (1934), were perhaps the first to present the idea that entrepreneurs could be classified into two categories - Entrepreneurial Oriented (EO) and Small Business Owners (SBO). Covin and Slevin (1991) and later Runyan, et al (2008) using the distinction presented by Carland (1984), were able to demonstrate that EO and SBO were indeed distinct and separate constructs. To be an EO type microenterprise, Covin and Slevin (1991) and Runyan et al (2008) postulated that they should exhibit three fundamental characteristics, namely, innovativeness, proactiveness and risk-taking. Naturally, not every microenterprise will have EO as its firm level characteristic and therefore distinction needs to be made between those that have an EO disposition (Davis, et al., 2010; Voss, et al., 2005) and the rest. Chapter 2 (Table 2) presented a selection of prior research which explores this idea of disposition in detail.

Stevenson and Jarillo (1990) argues that when discussing entrepreneurship researchers generally do not refer to 'mom & pop' operations but this is seldom explicitly stated. In a sense what these researchers subconsciously factor into their studies is the difference in philosophy or underlying ethos of the firm. Covin & Miles (1999) were even more explicit when they stated that corporate entrepreneurship could be defined in three separate ways with one of them being the entrepreneurial philosophy that permeates the organisation. It is this philosophy or disposition that Voss, Voss & Moorman (2005: 1134) argues that

drives decision making and behaviour and therefore is the basis that separates EO disposed firms from the rest. Davis, et al (2010) in their research on how power of the managers moderates the EO behaviour also argues that organisations with managers having an EO disposition are expected to be more successful. Therefore, the important conclusion from this selection of a few prior studies (Table 2) is that firms with an EO disposition need to be first identified before their actual behaviour and its impact on performance can be studied. In other words, it is pointless to study the impact of EO type behaviour on performance for firms that do not possess this EO disposition. This research clearly demarcates between EO and non EO (i.e SBO) type microenterprises and that only firms stated to have a EO type disposition have been included in this research.

These EO type microenterprises as part of their organisational culture or ethos are expected to be 'future oriented' (Tellis et al, 2007) or as Baumol (2010) puts it 'innovative' entrepreneurial firms. This 'future orientation' becomes extremely important taking into account the argument that performance should be measured from a 'forward looking perspective'. Evidently, it is these type of firms that are assumed to be prime candidates to become 'anchor' firms (Feldman 2003) or the 'strategic centres' (Lorenzoni and Baden-Fuller 1995) discussed earlier. With their 'future orientation', being innovative, proactive, and risk taking, they would be constantly questioning the 'status quo' (or undertaking 'creative destruction' in Schumpeterian terms) and thus creating additional opportunities for other microenterprises to participate.

Carland et al (1984) defined the SBO as a small business venture in any business, independently owned and operated but not dominant in the field and not engaging in any new marketing or innovative practices. Runyan et al (2008) extended that definition to postulate that for SBOs, the central purpose of setting up business is that it is an extension of their personality intended to further their personal goals and generate income for their families. SBOs also exhibit a high emotional attachment to the business. These SBO type microenterprises are at times more

interested in achieving 'acceptable' business performance rather than maximising performance. These microenterprises could be defined as 'replicative' entrepreneurial firms based on Baumol's classification. This is not to say that these 'replicative' or SBO firms do not create 'wealth or 'value' or that they do not matter in an economy. However, wealth or value creation is not their organisational culture or ethos. Any wealth or value created is almost an accident or a residual, the focus of their business being survival or personal satisfaction. It is assumed that these types of microenterprises are not interested in being *'knowledge and technology trailblazers'* (Feldman 2003) and are quite content with their present status. In short, these SBO (Carland, et al. 1984) or 'replicative' microenterprises (Baumol, 2010) do not serve as 'anchor firms' (Feldman, 2003) or 'strategic centres' (Lorenzoni and Baden-Fuller, 1995). They lack the necessary attributes to be innovative or risk-taking, which as explained previously is an important prerequisite to create economic flux (Hanusch, et al., 2006). This research demarcates between these EO and SBO type microenterprises using their organisational culture or ethos measured in terms of their 'future orientation'

Entrepreneurial Orientation (EO) to lock-in knowledge

The EO concept therefore has both a *dispositional* construct and a *behaviourial* construct (Covin & Lumpkin, 2011). In the preceding conceptual theme the two types of microenterprises (i.e EO and SBO) were demarcated on the basis of this dispositional construct. Arguably, therefore, only firms that have an EO disposition would exhibit EO behaviours. It is this EO behaviour that defines an entrepreneurial firm (Covin and Slevin 1991:8) and it is this concept of EO as a behaviourial construct that has been used in the subsequent research. Once the firms have been identified as having the necessary EO disposition then we can study their EO behaviour on a firm level.

As mentioned in Chapter 2 *"EO on the other hand refers to the processes, practices and decision making that lead to new entry"* (Lumpkin & Dess, 1996:136). In short, this research looks at all day-to-day activities (George &

Marino, 2011). What this research attempts to measure is how the " *processes, practices and decision making* " in short, the EO of the firm, actually impacts on performance. The need to investigate this and the sustainability of the relationship between the EO-Performance constructs has been proposed as a major area of research (Covin & Lumpkin, 2011; Wiklund, 1999).   The EO concept that emerged from the strategic choice perspective (Child, 1972 republished 1997) implies that successful new entry can only be achieved by *deliberate action* on the part of managers. It is this 'deliberate act' that EO measures (Lumpkin & Dess, 1996). Covin & Lumpkin (2011) along with George and Marino (2011) argue that Miller (1983) in his original conceptualisation of EO firms only referred to those firms that are simultaneously proactive, risk-taking and innovative and that these attributes should be regarded as sufficient. This was the basis on which Covin and Slevin (1991) developed their initial nine-item operationalisation of the EO construct. The general consensus is that EO is a firm level phenomenon and should be seen in that way (Covin and Lumpkin 2011:857). This research has therefore approached the EO construct from a firm level perspective and have used the questionnaire used by Runyan et al (2008) to measure the EO construct. While the original concept developed by Miller was meant to cover a wide range of organisational processes and not necessarily restricted to small firms (Miller, 2011; George & Marino, 2011), it was Lumpkin and Dess (1996) who proposed that it should be restricted to small firms. It has subsequently been expanded to also look at microenterprises.

As mentioned in section 1.1 the study of the relationship between EO and firm performance is extremely popular. In chapter 2, Table 3 a selection of some of the different studies was presented. Majority of studies found that EO has a positive relationship with performance. Lumpkin & Dess (1996) study which informs the definition of EO used in this research presented 11 separate propositions but argued that EO had a positive relationship with performance but that the magnitude of this relationship was contingent on other factors. From this viewpoint, it is possible to study other non-observable constructs (e.g Absorptive

Capacity) pertaining to the firm that might impact on this EO behaviour (Covin & Lumpkin, 2011). Although additional concepts like Absorptive Capacity (ACAP) do not directly define EO, they are capable of providing a deeper and richer understanding of the firm's EO capabilities and its relationship with the firm's performance.

Typically, however the previous research has measured performance using conventional measures. As argued in section 1.1 when stating the problem statement and discussed in further detail in section 2.3 this research is interested in looking at the potential wealth or value creation. Whether this EO-performance relationship especially when integrated with ACAP is still positive, when this performance measure is used would be an important test besides being able to fulfil the primary objective of this research. That is, being able to identify high performing entrepreneurial oriented microenterprises.

Knowledge creation in microenterprises

Using knowledge is one thing but the firm also needs the capacity to create this knowledge. As EO has been defined as a 'deliberate act' looking at it from the perspective of strategic choice (Child, 1972 republished 1997; Lumpkin & Dess, 1996), then, the '*capacity to act*' or the capacity to make a strategic choice by senior managers should be an important extension to any study of the EO construct. In this research we have viewed this '*capacity*' as Absorptive Capacity (ACAP) first presented by Cohen and Levinthal (1990). This is similar to the arguments presented by Liao, et al. (2003) who argue higher levels of responsiveness (*acting* upon knowledge acquired) are associated with *capacities* of knowledge acquisition and internal dissemination.

As Thorpe, et al., (2005) state any discussion of knowledge within firms must take into account the resource based view of the firm presented by Barney (1991). A firm must possess specific resources, competencies and capabilities (Grant, 1991) in order to develop strategic action plans that will ensure superior performance.These must be scarce, valuable and sustainable (Spender 1996;

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Barney 1991,1995). Wiklund & Shepherd (2003) were of opinion that the importance of this knowledge when compared to other assets is high in the context of SMEs. For microenterprises it could be argued that this 'knowledge' is even more important as an asset given their inherent limitation in terms of access to other assets or resources. This research argues that managing the 'procedural' type rather than the 'declarative' type of knowledge (Gupta & Govindarajan 2000; 474) is more important as this is what creates value for a microenterprises.

The experiential/action learning theory argue that, for SMEs and therefore by default microenterprises, a large part of the knowledge is gained though prior experience, personal judgement and communication skills of the individual managers (Carson & Gilmore 2000). In this research we have termed this prior experience and personal judgement as *'Prior Related knowledge'* (PRK) and as discussed previously is an important component of Absorptive Capacity for microenterprises. Knowledge in SMEs and microenterprises in particular has a large degree of informality and resides in judgement, estimating capacity, physical co-ordination, familiarity with techniques, image recognition and personability (Thorpe, et al., 2005; Wong & Radcliffe, 2000). This PRK of individuals however needs to be shared across management functions in order to create knowledge within the firm and to convert it into a firm level characteristic. Wong & Radcliffe, 2000 suggest that in order encourage knowledge sharing it is necessary to minimise the PRK component and this could be done by adoption of routines which encourage the use of structured decisional structures so that some amount of codification can take place. Ward, 2004 arguing on a similar vein suggests that a balance needs to be reached between the knowledge residing within individuals and the amount of codification. This codification will allow the skills of the microenterprise to be retained and made explicit which in turn provide them recognition by others. This knowledge has therefore been viewed in this research from the both the personal PRK level and from the level of codified knowledge within the firm. In the context of microenterprises, the challenge is to have sufficient organisational systems and routine to measure and control activities

(Thorpe, et al., 2005). At the same time, the microenterprises must provide sufficient opportunities to encourage entrepreneurial behaviour and creativity. If the microenterprise is to create sustainable competitive advantage (Barney, 1991) and therefore long-term value and become high performers then it becomes particularly important to rely on internal knowledge resources both at an individual and at a firm level. Since managers typically value external knowledge more than internal knowledge (Menon & Pfeffer, 2003: 511) developing any sustainable competitive advantage and by default long-term value is particularly difficult.

The concept of Absorptive Capacity (ACAP) encapsulates all these different strands of arguments. However, since the introduction of the concept by Cohen & Levinthal (1990) ACAP has been given multiple connotations (Volberda, et al., 2010). As stated in section 1.4, the ACAP construct is extremely popular as a research topic and therefore naturally prone to confusion in its definition and usage. Table 4 listed a few prior studies which explores the role of ACAP using different sets of dependent variables. As a result this has made the concept extremely ambiguous with diverse definitions (Zahra and George 2002: 185). Additionally, the ACAP concept has predominantly been used to understand the knowledge transfer processes within large firms or at best SMEs. There are hardly any studies where this concept has been applied to microenterprises and in that sense this research can be seen as a novel attempt.

Omidvar (2013) in a review of the literature on ACAP since the introduction of the concept by Cohen & Levinthal in 1990 identifies two possible streams which he terms as the Cognitive and the evolutionary/dynamic capability.   Cohen & Levinthal's concept which takes a Cognitive approach links the dynamics of individuals into organisational learning. Taking the cue from studies of how individuals develop their memory and cognition powers Cohen & Levinthal (1990) argued that it was the prior related knowledge or problem solving experience that makes individuals recognise new knowledge. They believed that

this same approach could be applied to firms. It is this *prior knowledge* that the firm accumulates and which determines the effectiveness of their later efforts to acquire external knowledge. Therefore the broader the scope of the prior knowledge then higher the probability of detecting new external knowledge and in turn being able to absorb it. In a related article Cohen & Levinthal suggested that firms with higher levels of ACAP will tend to be more proactive (a concept measured as part of EO) and that these *'prepared firms'* are better at anticipating the emergence of valuable developments (Cohen, et al., 1994). Therefore, ACAP is expected to have a moderating role in the EO-performance relationship. The evolutionary/dynamic capability approach on the other hand takes the view that ACAP directs the evolutionary path that the firm takes (Lewin, et al., 2011). ACAP is therefore seen as the moderating factor that affects the strategy (or actions as defined by EO) that the firm takes to achieve its objectives (Van Den Bosch, et al., 1999). The ACAP of a firm evolves at two levels - macro level (i.e with its knowledge environment) and at a micro level (i.e within the firm). Lewin, et al., (2011) proposing a routine-based model suggested that ACAP could only be operationalised by looking at two sets of metaroutines (internal and external). Therefore, besides the stock of 'prior related knowledge' as argued by Cohen & Levinthal (1990) the organisational form and also the combinitive capabilties have a role (Van Den Bosch, et al. 1999: 553). *Combinitive capabilities* are defined by the firms systems capabilities, coordination capabilities and socialisation capabilities (Van Den Bosch, et al., 1999: 556). This research has therefore viewed ACAP from a process driven perspective and looks at knowledge as a dymanic concept (Blackler 1995). This process view is also endorsed by Neilson (2005). ACAP therefore provides scope for both internal and external synergies (Lewin, et al., 2011). However, as argued in chapter 1 issues of deriving external synergies or in other words 'Relational capital' is essentially about managing the 'power relationship' (Peterson, et al., 2008 ; Liao & Welsch, 2005 ; Maloni & Benton, 2000 ; Kale, et al., 2000). While this is critical for large firms, this might be of limited value in the context of microenterprises, since by

definition they have limited power. However, the internal synergies or 'social interactions' (Dyer and Singh 1998) still remain relevant. Zahra and George (2002) taking similar 'process' and 'dynamic capability' view propose that internal knowledge sharing (we assume this to mean internal communications) and integration are critical. They propose a more nuanced definition where they separate the overall concept of Absorptive Capacity into '*potential (PACAP)*' and '*realised (RACAP)*' subsets (Zahra and George 2002 : 86). However, the ACAP components that have been developed for the purposes of this research, are based on the original definitions of Cohen and Levinthal (1990). These have then been tested to verify how well the overall ACAP construct is being validated in the context of microenterprises. While we have taken recognition of the modification proposed by Zahra and George (2002) in terms of PACAP and RACAP, these have not been tested in this research. In short it could be argued that in this research we have deliberately treated ACAP as an *'umbrella concept'* (Hirsch & Levin, 1999).

As argued earlier knowledge creation in microenterprises is a function of personal PRK level and from the level of codified knowledge within the firm. A closer review of the definition of ACAP presented by Cohen & Levinthal (1990) would show that by its very definition ACAP is multidimensional and made up of at least three constructs, if not more. These have been termed as INFOC, COMint and PRK respectively for the purposes of this research. Microenterprises however by their very definition are firms with less than 10 employees. Therefore , the separation between individual knowledge and firm level knowledge which is the cornerstone of the cognition stream of thinking as espoused by Cohen & Levinthal (1990, 1994) is at best tenous for these microenterprises. This would be even more pronounced for microenterprises comprising of less than 5 employees. In short the knowledge asset of a microenterprise is to a large part the owner/manager themselves (Thorpe, et al., 2005: 262). To term these owner/managers as 'boundary spanners' (Kostova & Roth, 2003) would be over ambitious since microenterprises by definition seldom have too many boundaries internally due to

their limited size. These owner/managers are more often than not 'gate-keepers' who translate the information (Hillebrand & Biemans, 2004) or at best 'change agents' (Jones, 2006) who have the requisite problem solving, ownership and legitimacy to transform and exploit new knowledge. It is expected that majority of of owner/managers act as 'gate-keepers' which has its inherent limitations as there is the danger that the managers are locked onto their tight bounded rationality (Petts, et al., 1998) and are myopic in outlook (Menon & Pfeffer, 2003) and in the process path dependent (Cohen & Levinthal, 1990) on existing knowledge. Being able to move beyond the constraints of old knowledge requires cognitive creativity (Ward, 2004) which is relatively a rare capability amongst majority of owner/managers of microenterprises. It is this trait which distinguishes high performance potential microenterprises from the rest.

Again, to claim that the ACAP of microenterprises is entirely dependent on the cognitive approach and therefore by default on the knowledge residing in the individual level of owner/managers would be somewhat one sided. Since microenterprises have limited assets or access to their own assets to develop knowledge (R&D, business units etc) they are also dependent (perhaps even more so than conventional SMEs) on their relations with customers, suppliers , regulators and professions to collect new information (Meeus, et al., 2001). Therefore, a microenterprises knowledge is not bound only by their boundaries or the individuals but also in the inter-organisational relationships they develop over time (Dyer & Singh, 1998). This evolutionary/ dynamic capability approach however assumes that the organisation has in place necessary routines and processes to absorb the knowledge (Lewin, et al., 2011; Ward, 2004; Wong & Radcliffe, 2000).

Therefore, to summarise the knowledge asset of a microenterprise resides predominantly in the owner/manager (Thorpe, et al., 2005: 262) and they predominantly act as 'gate-keepers' (Hillebrand & Biemans, 2004, Tushman, 1996). Sharing this knowledge openly across the organisation would be

detrimental to the firm. At the same time being able to convert some of this individual PRK knowledge into organisational knowledge through routines (Lewin, et al., 2011; Ward, 2004; Wong & Radcliffe, 2000), internal ties (Darby & Zucker, 2003) or even external ties (de Jong & Freel, 2012; Liao, et al. 2003; Meeus, et al. 2001) is equally important for long term value. As Foss, et al.(2015) argue in their research of 474 Danish SMEs decentralisation and formalisation have direct, positive and significant associations with opportunity realization. It is therefore expected that high performing microenterprises are those that have a mix of control of what is communicated and yet the same time a certain degree of formalisation, decentralisation and dissemination of information that nurtures creativity (Foss, et al., 2015; Ward, 2004). In short a balance between the individuals mental models (Lane, et al., 2006) and strategies and the firms level of formalisation (Foss, et al., 2015) through systems. data storage etc. Therefore the existing knowledge, personal judgement and most importantly the comunication skills of the owner/manager in a microenterprise becomes most important (Carson & Gilmore, 2000).

Neilson (2005) final criticism was that ACAP measuring collective knowledge has a short-term focus. This criticism was questioned in this research. Sabri (2005) argues that knowledge is a continuous and ongoing organic renewal of organisational processes. It is this knowledge that assists the firm to predict and anticipate future opportunities and threats and adapt its processes accordingly. Therefore, knowledge by this definition is long term and continuous and not short-term as Neilson claims. When looking at how this knowledge affects performance Rappaport (1998: 695) claims, "*Accounting numbers and traditional financial ratios will be affected by the movement from industrial companies to knowledge companies. Shareholder value calculations will not*". Therefore, conventional measures of performance are not able to account for this long-term perspective which shareholder value calculations with its focus on "present *value of anticipated cash flows*" (Schuster & Jameson, 2003) is more adept in doing. This justifies why potential 'wealth' or 'value' have been used to measure performance

in this research. As previously discussed, ACAP assists in creating this knowledge while EO helps to 'lock in' this knowledge. Together, it is argued they assist the microenterprise to achieve superior performance.

Wealth or Value creation as a measure of performance

The question that this research then sets about to explore is the concept of economic value. From an economic theory perspective, the need to focus on wealth or value creation as a measure of performance is justified by Reinert's (2007) argument that what is more important is the growth in *'real income'* of the different stakeholders in an economy rather than size. This growth in real income can only come from more wealth or value creation. The economic 'value' that is created through 'creative destruction' is also the focus of the proponents of Neo-Schumpeterian theory (Hanusch, et al. 2006). In fact, as stated earlier, this concept of 'economic value' is well recognised even in conventional economic literature (Coad 2009).

Economic theory with its emphasis on simplified mathematical solutions and abstractions (Rocha 2012) was reduced to the study of what Reinert (2011) termed as the *'terrible simplifiers'* has unfortunately added more confusion to the debate on measuring performance. This is reflected in mainstream Industrial Organization (IO) branch of economics (Coad 2009) where this 'equality assumption' perspective (when measuring performance of an organization) was simplified to measure the growth of the size in terms of sales turnover, employees or assets. The fact that growth in sales turnover, employees or assets are dependent on the internal strategic decisions of the firm and therefore actually measure *'organizational effectiveness'* rather than *'organizational performance'* is generally overlooked. This distinction has been made by Cameron (1986a, 1986b) and is discussed in detail in the earlier chapters. Unfortunately, this 'equality assumption' is so pervasive that management literature in different fields is replete with the use of 'sales turnover' or a combination of the other 'organisational effectiveness' metrics as a measure of performance. This performance measure is then used as

the dependent variable in most empirical studies of SMEs or even microenterprises (please refer to Rodriguez-Gutierrez, et al., 2015; Levy, 2012;Rauch, et al 2009; Covin, et al 2005; McMahon, 2000; Wiklund, 1999 to cite a few examples). However, despite the lack of precise definitions, there is no dearth in the usage of the term. Neither is there a lack of research on the importance of performance measurement systems (PMSs) in organisations both large and small (Taticchi, et al., 2010; Garengo, et al., 2005). However, as Taticchi, et al., (2010; 14) states these PMSs finally measure 'effectiveness' of the organisation which as mentioned is not comparable between enterprises and therefore not suitable for the purposes of research. Performance needs to be defined and measured in such a way so as to be actually comparable across the enterprises used in this research.

This research argues that it is the 'wealth' (Carton and Hofer 2006) or 'value' (Rappaport 1981) created by these enterprises that is more important and should be what defines 'performance'. More importantly, this value as a measure of performance is more appropriate when gauging the impact of knowledge. Any investments towards this knowledge creation are inherently long term. Conventional financial ratios are incapable of accounting for these types of investments (Rappaport, 1998: 695). As argued in the earlier chapters, this research has explored the applicability of 'Shareholder Wealth Creation (SWC)' as presented by Carton & Hofer, (2006) and the more conventional 'Shareholder Value Add' (SVA) as first proposed by Rappaport (1981) to measure performance. Rappaport (1998: 2798) argues that the key determinants of Shareholder Value can be divided into micro and macro value drivers. The micro value drivers are essentially intrinsic to the individual firm as argued by Cameron (1986a, 1986b), reflecting issues of 'organisational effectiveness' rather than 'organisational performance'. Organisational effectiveness is a product of individual values and preferences (Cameron 1986a). In that sense it is dependent on the perceptions and preferences set by the managers within an organisation and therefore by definition unique and cannot be compared between two organisations.

However, using the macro value drivers (Rappaport,1998) it is possible to develop a measurement for value that is comparable across firms, sectors and even industry. In short it is sufficiently generic and devoid of any 'organisational effectiveness' issues.

7.2 Key findings and how they extend our understanding of high performers.

This research set out to test 11 separate hypotheses. Each of these were tested using different methodologies and the results are summarised in the table below

H1: Demarcating EO and SBO	$H_1(1)$: *That the EO and SBO type subgroups are independent of each other when measured in terms of potential value creation*	Taking a Type 2 perspective the difference in the means on the basis of means is non significant (p>0.05)	Accept
H2: Dimensionality of EO	$H_2(1)$ *The nine measures covering Innovativeness, Proactiveness and risk-taking attributes of a firm used to measure EO cluster around a uni-dimensional construct.*	8 out of 9 items loaded onto One cluster using the TETRAD EFA algorithm using simulated data (N= 5000)	Accept
H3: Dimensionality of ACAP	$H_3(1)$: *That the manifest variables used to measure INFOC, COMint and PRK sub constructs that are argued to make up ACAP cluster around three distinct group and are not uni-dimensional.*	9 out of the 18 manifest variables (Table 21) loaded onto three cluster using the TETRAD EFA algorithm using simulated data (N= 5000)	Accept
H4: Performance measure is generic	$H_4(1)$: *That the 'potential value creation' performance measure is generic when measures in terms of EO and SBO, high technology intensity and low technology intensity and family and non family type subgroups*	Taking a Type 2 error perspective then the difference in means between the two groups for the three different tests was non-significant (p>0.05)	Accept

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H5: **EO & ACAP** **relationship with** **Value**	*$H_5(1)$: The principal components that make up the EO and ACAP constructs have a significant relationship with the 'value of the firm'*	The final bootstrapped model shows that nearly 40.7% (adj R^2 = 32.7%) of the value of the enterprise can be explained and 3 out of 5 predictor variables (excluding the constant) is significant ($p<0.05$).	Accept
H6: **Internal** **Communication**	*$H_6(1)$: Internal Communication has a significant but **negative** relationship with value creation for microenterprises.*	The Ordinal Regression results (Table 40) shows that IntCOM has a significant but negative coefficient (B= -1.46) with an OR= 0.23 probability of being categorised as high performers.	Accept
H7: **risk- taking ability**	*$H_7(1)$: Ability to take RISK has a significant and positive relationship in creating value*	The component 'RISK' which is part of the EO concept has a positive (B= 0.90) and is significant (*$p<0.05$*) with an OR= *2.46* times probability of being categorised in the higher levels. Please refer to Table 40.	Accept
H8: **Short term 'Actions'**	*$H_8(1)$: Short term ACTIONS of managers has a non-significant relationship in creating value for microenterprises*	The Ordinal Regression results (Table 40) shows that zREV_ACT has a non-significant relationship	Accept
H9: **External Information**	*$H_9(1)$: External information is* **non-significant in creating value** **for microenterprises**	The Ordinal Regression results (Table 40) shows that zREV_INFOex has a non - significant relationship	Accept
H10: **Balanced PRK**	*$H_{10}(1)$: A balance between organizational infrastructure and strategies is necessary for creating higher value.*	The Ordinal Regression results (Table 40) shows that Interaction term (B= 6.65) is significant with a OR= *772.78* times probability of being categorised in the higher levels	Accept

H11:	H_{11} (1): Younger firms have a	The Ordinal Regression	Accept
Younger firms	higher propensity to create value or	results (Table 40) shows that	
	alternatively they have a higher	YOP has a highly significant	
	probability of being classified as	positive coefficient	
	high performers.	(B=15.23) with an OR=	
		4.325,334 times probability	
		of being categorised as high	
		performers.	

This section summarises some of the key findings and discussed in relation to the theory presented in the earlier chapters.

a)   *Demarcating between EO & SBO type microenterprises*

As mentioned in the literature review (chapter 2) this demarcation between EO and SBO was first proposed by Carland, et al.(1984). While their research successfully defined the two types of enterprises and it has since served as the basis for discussion in subsequent studies no attempt was actually made to measure these two different types of enterprises. Typically they were treated as polar opposites. Enterprises with high EO scores were classified as EO type enterprises and not SBO. Enterprises with low EO score were treated as SBO. Therefore, underlying both these positions was that all firms possessed the EO attributes and that it only differed in terms of degree of intensity. Runyan, et al. (2008) however argued that the two (namely EO and SBO) categories were distinct and seperate concepts and have different sets of attributes and should be thus treated and measured separately. The issue that was not addressed by Runyan, et al.(2008) was how do we decide which is an EO or an SBO type before we measure their attributes. Runyan, et al.(2008) typically measures all the enterprises in their sample for both the attributes (EO & SBO) before categorising them into the two groups.

This research on the other hand while recognising the difference between EO and SBO type microenterprises has argued that the demarcation should be from a

dispositional perspective before they are measured in terms of their respective attributes.The cue to use 'disposition' as a means of demarcation was derived from previous studies (please refer to section 2.2.1 : table 2) on this subject. EO in this research has been looked upon as a behaviourial construct based on the argument by Covin and Slevin (1991: 8). However, to behave entreprenuerially the firm has to have a certain disposition (Stevenson & Jarillo, 1990; Covin & Miles, 1999; Voss, Voss and Moorman, 2005; Davis, et al 2010). Arguably, therefore, only firms that have an EO disposition would exhibit EO behaviours.

As the results from section 5.2.4 show, the demarcation between EO and SBO type microenterprises based on their underlying ethos gave us two distinct independent groups. This demarcation was valid whether we used 'years of operation' (age of firm) or the potential value of the enterprises. Though not presented in the main body of the research this demarcation is valid even when a conventional performance measure like average sales growth or Gross Value Add (GVA) is used as the dependent variable (please refer to Appendix 5). This finding is a valuable contribution as it effectively and efficiently allows us to demarcate between EO and SBO type microenterprises without having to measure all the microenterprises for both the constructs before demarcating them into respective categories.

b)   *Dimensionality of EO*

One of the criticisms against the EO construct is that it has acquired multiple definitions (Covin and Lumpkin 2011; George and Marino 2011). This research has operationalized the EO construct using the template proposed by Runyan, et al (2008) which in turn was based on the original conceptualisation by Covin & Slevin (1991). The EO construct was revalidated using the TETRAD 4.3 'Build Pure Clusters' (BPC) algorithm (Please refer to section 5.3.4). The research found that the original Nine-item operationalisation was valid through EFA especially when we used a simulated sample of 5000 enterprises. However, when the observed sample (N=70) was used to conduct a Principal Component Analysis

(PCA) the EO construct was found to comprise of two components which were labelled as 'ACT' and 'RISK' (please refer to section 6.5). At first glance the results from the EFA and PCA would seem to be contradictory to each other but as explained in detail in section 6.2 the TETRAD programme using the principle of 'vanishing tetrads' and undertakes a form of Exploratory Factor Analysis (EFA) to identify the latent constructs underlying the observed data. While Guadagnoli and Velicer (1988) argue that there is not much difference between factor analysis and PCA, others (Field 2005: 631; Suhr , 2005; Iacobucci, 2001) argue that there are fundamental methodological differences. A Principal Component analysis (PCA) which creates component scores of the uncorrelated combination of weighted observed variables and thus explains the maximum amount of variance in the data that might be a solution (please refer to Table 27 for study of the detailed difference between EFA and PCA). Stevens (2009) investigating this difference suggests that with 30 or more variables and communalities more than 0.7 for all variables then the solutions derived from EFA or PCA are unlikely to be different. However, with lower than 20 variables and commulaties less than 0.4 there is likely to be difference between the EFA and PCA solutions. In chapter 5 the TETRAD results was able to identify 14 variables which clustered around 4 latent constructs. However, given this low number of variables for the PCA it was deemed advisable to revisit all the observed variables (27 in total) to develop a predictive model.

The component 'zRev_RISK' which is part of the EO concept has a positive (B= 0.90) and is significant ($p<0.05$). As described in section 6.4 the RISK component is made up of two items Risk 2 (Favour bold, proactive and wide-ranging changes rather than incremental changes) and Risk3 (Adopt bold, aggressive posture to maximise the probability of exploiting potential opportunities). It is therefore understandable the firms who favour and are able to weather 'revolutionary' change rather than 'evolutionary' change (Greiner, 1994) and aggressively seek out such possibilities tend to be categorised in the higher levels. The internal attribute 'zRev_ACT' which is but a sub-set of the larger EO construct is on the other hand

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non-significant ($p>0.05$) in the model for the observed data (*N=64*). When studying its relationship (if any) with value (see section 6.6.1 & 6.6.2) we found it was also non-significant even when bootstrapped. The argument that 'action by managers' has essentially a short-term phenomenon and has no impact on long-term value creating potential seems to be valid. No doubt this requires further research and validation but could be considered a valuable find since it questions the rather well entrenched understanding from previous studies that EO as a construct always has a positive relationship with performance (Lumpkin & Dess, 1996; Wiklund, 1999; Covin, et al., 2005; Wiklund & Shepherd, 2003; Rauch, et al., 2009 to cite a few).

c)   *Dimensionality of ACAP*

Our theoretical argument was that the ACAP construct comprised of three latent variables (named INFOC, COMint and PRK) was empirically validated using TETRAD (please refer to section 5.4.3). The TETRAD programme as its name suggest uses the principle of '*vanishing tetrad'* to establish the causality between the various latent variables. Yu, et al. (2007), Bollen and Ting (2000) and Spirtes et al (1988) recommended that the causal model generated by TETRAD should also be tested using Structural Equation Modelling (SEM). This was however not done in this research, as the overall aim of this research was to develop a predictive model and not to understand the causal relationships per se. The PCA methodology was able to identify two of the three sub constructs (renamed as IntCOM and INFOex). The PRK sub construct (comprising of PRK2 & PRK5) was however not identified through the PCA but because of its theoretical importance was introduced as an additional interaction term in the subsequent ordinal regression. Please refer to the following discussion on 'identifying the high performers' where the role of the three sub-constructs that makes up ACAP is discussed in more detail.

d) *Value as a measure of performance is sufficiently generic*

As discussed at length in Chapter 1 and also explored in the subsequent literature review (section 2.3) the fundamental problem with a concept like 'performance' is that there is no consensus as to what it actually means and how it should be measured (Henricsson et al, 2004; Combs et al, 2005; Franco-Santos, et al., 2007). The main contribution of this research is its proposal to use ' value' as a measure of performance (see section 2.3.4). However, for this measure to be acceptable it was argued that while it could be multi-dimensional it could not be multi-constituency. This implies it must not have any bias when two groups of enterprises are measured. To use an analogy, the concept is similar to the measurement of temperature. The unit of measurement of temperature (whether centigrade or Farenheit) is independent of the object being measured. In that sense the measurement is equally valid to gauge the temperature of different objects and then compare these different objects on the basis of this temperature. To use a positivist research term it has ' value freedom' . Similarly, a performance measure must be equally applicable to different organisations so as to be able to compare them on the basis of this performance measure. In that sense it should be 'generic'. As the results in section 5.5.5 show the performance measure derived using the SVA methodology is sufficiently generic across different types of microenterprises (EO Vs SBO, High technology intensity Vs Low technology intensity and finally Family Vs Non Family).

e) *EO & ACAP together are major contributors to value creation*

Taking the 'potential value' as the measure of performance this research had set out to test if this could be explained by integrating the two constructs namely Entrepreneurial Orientation (EO) and the multidimensional Absorptive Capacity (ACAP). The linear regression analysis (section 6.6.1) by simply looking at IntCOM, ACT, INFOex, RISK can themselves explain an additional 34% of the variance on their own and nearly 40.7% (adj R^2 = 32.7%) when included with the control variables . Since the sectoral breakdown and the size of the firms (in terms

of employees) were not significant as control variables in the regression the two variables were used as the basis of a stratified re-sampling for a sample size of 1000. When the final model is bootstrapped 40.7% (adj $R^2 = 32.7\%$) of the value of the enterprise can be explained and 3 out of 5 predictor variables (excluding the constant) is significant ($p<0.05$).

As stated in section 1.2, it was not expected that EO and ACAP together would be able to explain all of the variances in the firms' value creation. The fact that the five predictors were able to explain quite a substantial part (i.e. 34%) of the variations in value is quite significant. As explained in section 6.4 one of the key sub-constructs namely, Prior Related knowledge (PRK) is not reflected in the PCA and has therefore not been included in this regression model. This is a limitation and needs to be investigated in more detail in future research. The chances are that with a proper accounting of PRK as an additional component an even larger amount of the variances in the value would be explained. Therefore, briefly EO and ACAP together have a major role in value creation.

f) *Identifying the high performers*

As explained, the focus of this research was to identify only the high performers within the EO type of microenterprises. The various research finding as discussed in the introduction to this research[37] all point towards the importance of identifying these high performers. As stated in the primary research question in chapter 1

RQ1*: "Is it possible to identify potentially high value creating entrepreneurial oriented microenterprises by looking at their 'firm*

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[37] (Lorenzoni & Baden-Fuller, 1995; Sturgeon & Lester, 2002; Ibs & Wacziarg, 2003; Feldman, 2003; Memedovic, Olga, 2004; Dutz, 2007; Lorenzoni, 2010: Dicken, 2011)

level characteristics' namely Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP)?"

The results and discussions in Chapter 6 show that the proposed predictive model is able to identify nearly ***81.81%*** of these high performers who could act as potential anchor firms. More importantly nearly 91.70% and 82.40% of the low and medium performers respectively were correctly identified and only one (5.9%) medium performer was wrongly classified as a high performer.

As the results in Table 40 highlight the level of internal communication within microenterprises is significant (p<0.05). However a negative co-efficient (B= -1.46) implies that microenterprises that have lower level of internal communication seems to have a significant probability of being categorised as high performers. This is however of marginal (OR = 0.23) importance and is understandable given their relative small size in terms of employees. This result therefore supports the argument presented by DeSouza & Awazu (2006). They found that there is a separation in what they termed as 'common' and 'core' knowledge. While 'common' knowledge was easily shared and its loss did not have any major impact on enterprises, the 'core' knowledge needed to be closely controlled. It has been stated earlier that knowledge has to be immobile and 'locked in' (Barney 1991, 1995) to create competitive advantage for the firm. Therefore, sharing this core knowledge for a microenterprise might actually be detrimental to the long-term value of the firm. External information (INFOex) on the other hand has a non-significant (p>0.05), albeit a positive (B= 0.19, exp (0.19) = 1.21 times) probability of being categorised at higher levels. This non-significant result is somewhat unexpected. As discussed previously, the ability to collect and adapt to new information is an important facet of ACAP. This warrants investigation in more detail as it is possible that the limited sample size (N=64) in this research was not sufficient to test this component fully. Gherardi & Nicolini, (2000: 330) however criticised this over reliance on external information. On the other hand, one possible explanation is that the knowledge asset of a

microenterprise resides predominantly in the owner/manager (Thorpe, et al., 2005: 262) and they predominantly act as 'gate-keepers' (Hillebrand & Biemans, 2004, Tushman, 1996). Therefore generating internal knowledge is far more valuable than external knowledge (Menon & Pfeffer, 2003) for microenterprises.

Prior Related Knowledge (PRK) an important construct presented by Cohen & Levinthal (1990) and discussed in section 2.2.3 in detail was not identified in the PCA results even though they were highlighted in the TETRAD results in chapter 5 (section 5.4.3). The TETRAD results showed the successful clustering of two items (PRK2 & PRK5).. Prior related knowledge (PRK) which was measured by the interaction between PRK2 (using IT facilities/ routines) and PRK5 (creating mental models and strategies) was found to have the highest probabilities of being categorised at the higher levels when it is in balance. The need to achieve this balance between routines/systems and strategies/mental models has been argued extensively in prior research for SMEs (Foss, et al., 2015; Lewin, et al., 2011; Ward, 2004;Wong & Radcliffe, 2000) though not looked at for microenterprises. In that sense this could be considered as a very valuable find

g)   *Younger firms create more value.*

Baring the control variables 'Technology Intensity' (Tech_int) and 'Size' (No of employees >5) the other control variable ' Years of operation' (YOP) was significant. Younger firms (<20 years old) had an extremely high odds (OR = 4325334) of being categorised as high performers. As discussed previously when inferring the result from the multiple linear regression this result once again supports the findings of Acs & Plummer, (2005) who argued that younger firms are more adept at accessing and absorbing new knowledge and converting them to economic knowledge than old incumbent firms. Older firms as argued previously tend to become too bounded or myopic in their outlook (Menon & Pfeffer, 2003; Petts, et al., 1998) which impairs their capability to create value.

7.3 Reflections on the main contribution of this research

This research makes its contribution on multiple fronts. On one hand, it looks at how two firm level characteristics namely Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP) can be successfully integrated to explain this performance. Besides testing the existing theories, it also builds a theory and a predictive model that can successfully identify these high performers. On the other hand, it argues for an 'inclusive ' policy framework to be able to target 'high performing' entrepreneurial oriented microenterprises across sectors and industries in an unbiased manner by looking at 'value creation ' as the measure of performance. It proposes a methodology as to how this value can be measured and how the EO and SBO type microenterprises can be demarcated. The main contributions of this research are discussed in more detail in the following paragraphs.

a) *Focussing on Entrepreneurial Oriented microenterprises*

While prior research has argued that EO and SBO type of microenterprises are separate typologies (Carland, et al.1984; Covin and Slevin,1991) and even distinct and separate constructs (Runyan et al, 2008) no attempt had actually been made to devise a methodology to demarcate the two groups before measuring them separately. Prior research either viewed them as polar opposites (Carland, et al.1984; Covin and Slevin, 1991) or categorised them as distinct groups (Runyan et al, 2008) after measuring them for both their EO and SBO attributes. This research has tried to investigate a simplified methodology to demarcate between these two groups based on their underlying 'ethos' or 'disposition'. In Chapter 1 this was stated as part of RQ2 "*Is the demarcation between Entrepreneurial Orientation (EO) and SBO type microenterprises valid using their organisational culture or ethos"?* The result from section 5.2.4 has successfully answered this question and is able to demarcate between EO and SBO type microenterprises.

The underlying aim of prior studies was simply to compare and contrast the EO & SBO groups in terms of conventional performance measures. This research has taken the view that studying and comparing these two different groups is in many ways a 'false debate' as both are equally important and necessary for an economy. In fact, both create 'value' but the difference lies in the process. EO type enterprises attempt to create value through innovativeness, proactiveness and risk-taking activities as originally presented by Miller (2011). In this research, it has been argued that SBO or 'replicative' type microenterprises also create 'value' but that this is not their organisational culture or ethos (Baumol, 2010). Any value created is almost an accident or a residual since the focus of these SBO businesses is more about survival or personal satisfaction (Runyan, et al., 2008).

This focus on the ethos or disposition is justified on the grounds that EO type enterprises with their 'future orientation' and being innovative, proactive and risk taking, they would be constantly questioning the 'status quo' (or undertaking 'creative destruction' in Schumpeterian terms), thus creating additional opportunities for other microenterprises to participate. These EO type enterprises thus look towards exploiting the 'imperfections' in the market. As Reinert (2007) rather emphatically states, "*perfect markets are for the poor*" and goes on to assert "*Compared to textbook economics, economic development is a giant failure of perfect markets*". These EO type firms would thus be prime candidates to become 'anchor' firms (Feldman 2003) or the 'strategic centres' (Lorenzoni and Baden-Fuller 1995). This is discussed in more detail as part of 'future research' in section 7.5.

b)   *Potential Value as a measure of performance*

The other question that this research has tried to address is how to define performance in the first place. Reinert (2007) had argued that what is more important is the growth in *'real income'* of the different stakeholders in an economy rather than size. The economic 'value' that is created through 'creative destruction' is also the focus of the proponents of Neo-Schumpeterian theory

(Hanusch, et al. 2006). In fact, this concept of 'economic value' is well recognised even in conventional economic literature (Coad 2009).

Despite the importance of this concept of 'value' it is seldom actually measured. Most prior research tend to use the conventional economics (IO) definitions of performance based on the absolute size either in terms of total revenue, number of employees or total assets or the growth in these measures (Storey, 2006) or a plethora of multidimensional measures combining these and other subjective measures (Rauch, et al., 2009). Reinert (2011) termed this as the first 'terrible simplifier' in economic theory . Besides the confusion and the difficulty in comparing the different studies (Franco-Santos, et al., 2007) this research has argued that there is a fundamental conceptual flaw in using these measures. As argued in section 2.3.2 the issue of sales revenue, number of employees or total assets or the growth of these measures is dependent on the organisation's individual values and based on the perceptions and preferences set by managers within an organisation. As Cameron (1986a) argues it therefore measures organisational effectiveness and not organisational performance. Organisational effectiveness is by definition unique to a particular firm and thus cannot be compared between two organisations.

In order to overcome this conceptual problem this research has argued that it is the 'wealth' (Carton and Hofer 2006) or 'value' (Rappaport 1981) created by these enterprises that is more important and should be what defines 'performance'. These two concepts were tested in this research. As section 5.6.2 shows the SWC measure lacked predictive validity and had to be abandoned. The main reason attributed to the failure of this measure was that SWC uses a *'market adjusted return to shareholder'* as its dependent variable. As the sample used in this research comprise of non-publicly traded UK based microenterprises, it is difficult, if not impossible to derive a 'market adjusted return to shareholders' computations. Instead of *'market adjusted return to shareholders'* an alternative average of the three (3) years *'Return on Owners Fund (avgROF3)'* was used. UK

microenterprises however under special dispensation in the Companies Act of 2006, Part 15 are not obliged to show the exact dividends paid to their shareholders. Therefore, in order to compute the *average return on owners fund (avgROF3)* it was assumed that all profit after tax (PAT) was retained by the business as part of the Owners Fund and this fund was assumed to reflect the actual shareholders fund given the closed structure of these microenterprises. The use of shareholders fund as the denominator in our calculations to derive the 'return to the Owners fund' naturally resulted in very low scores and reflected very limited change over a three (3) year period.

The Shareholder Value Add (SVA) measure on the other hand satisfied the predictive validity test. The SVA measure using some of the methodologies proposed by Laitinen (2005) presents a generic measure of *'potential value'* after controlling for the organisational effectiveness measures like growth in terms of sales, total assets and working capital. The rationale and arguments are discussed in section 2.3.4(b-2).

c)   *Integrating two firm level characteristics namely EO and ACAP to understand performance*

This research explicitly attempts to link the constructs of Entrepreneurial Orientation (EO), Absorptive Capacity (ACAP) and shareholder wealth creation (SWC) or long-term shareholder value (SVA) to develop a framework capable of identifying high performers. There have been previous attempts to extend the Entrepreneurial Orientation (EO) concept to include knowledge resources (Wiklund 1999; Wiklund and Shepherd 2003; Wiklund et al 2009). While Wiklund and Shepherd (2003) confined the definition of the knowledge-based resource to the discovery and exploitation of opportunities, this research takes a step further to explore the concept of prior knowledge, which together make up the concept of ACAP. Covin and Lumpkin (2011) had made a 'call to research' on other non-observable 'firm level characteristics' on the EO -Performance relationship. This research is an attempt to address this call. On a similar vein and

from the Absorptive Capacity (ACAP) perspective, Lane et al (2006) in an attempt to resurrect the ACAP construct presented a modified model where some EO attributes were represented. However, in both these cases, the authors did not make any explicit link between Entrepreneurial Orientation (EO), Absorptive Capacity (ACAP) and performance. This research attempts to explicitly link the two constructs of Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP) and study their impact on potential performance. It also argues that looking at long-term 'wealth' or 'value' creation potential may be more appropriate. As stated previously, this future oriented measure of performance is more in consonance with the underlying thrust of the different schools of economic theory be it Schumpeterian, Knightian, Austrian or even Baumol's recent attempt at developing a micro level economic theory of entrepreneurship.

7.4 Limitations

Naturally, any research of this nature is not without its limitations. This research has restricted the study to seventy (70) out of the 165 microenterprises, which could be classified as EO type microenterprises. Ideally, the sample size should have been in the region of 250 or more. In order to generate a sample of 250 EO type microenterprises a total sample of 590 enterprises was needed (assuming a similar EO to SBO ratio as in the observed dataset of 165). As this research is investigating concepts that are relatively untested in the context of microenterprises (e.g. integrating EO & ACAP to understand it impact on a forward-looking measure of performance) in a form of theory building exercise the risk involved in aiming for such large sample sizes was disproportionately high. It was deemed more prudent to first test the existing theories and the proposed concepts or builds a theory with a smaller sample size and in one economy (i.e. UK) before expanding it to a larger sample and multiple economies. Due to the limited sample size, many of the hypotheses could only be tested using simulated data generated from a Monte Carlo generator within the

TETRAD programme. Even though the use of simulated data is a powerful methodology (Harrison, et al., 2007) there is scope for further research to validate the findings and arguments presented in this research using a larger sample of observed data.   This should be done not necessarily only in the UK but also in other economies and especially in peripheral or developing economies.

7.5   Future Research

With proper identification, the next challenge is to devise appropriate policy initiatives for these high performers so that they have an equal opportunity to receive necessary assistance. The other aim to identify these 'high performers' is to see if some of them could act as possible 'anchor firms' which other enterprises in the region could 'emulate' and also cluster around to create competitive sectors in order to rejuvenate the local economy. This would be particularly helpful for peripheral or underdeveloped regions or economies.

The need to be able to do this is even more acute for peripheral and underdeveloped regions or economies because of the almost dogmatic 'straight jacket' of free trade and free-market policies these economies have to confront. Either by acts of commission or omission (Ha-Joon, 2008) these economies are having to accept the principles of the "Morgenthau Plan"[38] which increasingly are leading to the '*primitivisation*' (Reinert, 2007) of these economies. Given the well entrenched position of this free-trade, free market school of thought there is very limited option for these developing economies, especially if they are small to 'breakout' of this straight jacket. The only option is to identify 'imperfections' in the market not covered by the multinationals and assist local high performing enterprises to develop local production networks (LPN) and local value chains

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[38] The Morgenthau Plan (1944) proposed the deindustrialisation of post-war Germany. This was subsequently replaced with the Marshall Plan in 1948. Reinert (2007, Kindle Loc 2262) argues that the present free-trade, free-market model being proposed for the third world is in many ways like the Morgenthau Plan being revisited. A view reiterated by Ha-Joon (2008).

(LVC) with increasing returns. This might be the limited option available to increase the real wages in the local economy and thus assist to alleviate poverty and restrict the growing income inequality. The results from this research will help to identify these potential 'high performers'.

7.6   Conclusions

This research has therefore fulfilled its objectives and has been able to integrate three separate streams (economics, entrepreneurship and financial management) into a single framework. More importantly, it provides a framework to differentiate between high, medium and low performing enterprises by looking at their Entrepreneurial Orientation (EO) and Absorptive Capacity (ACAP). This research will help to identify potentially high value creating enterprises with an EO disposition who could act as possible anchor firms.

This research has made some important contributions. Firstly, it has successfully demarcated between the EO and SBO type of microenterprises. As discussed, this is particularly important when designing economic development policies. Secondly, it is able to argue and validate that 'potential value' as a measure of performance might be more suitable than simply relying on conventional growth metrics of sales, employees or assets. Thirdly, it is able to exhibit and argue that the concepts of Absorptive Capacity (ACAP) and Entrepreneurial Orientation (EO) when integrated can be a powerful way to explain the variability of the 'potential value' measure. This is particularly novel since this is something that has not been researched previously and especially in the context of microenterprises.

In practical terms, this research shows that if a microenterprise is interested in creating long-term value then it should focus on understanding its level of absorptive capacity (ACAP) and Entrepreneurial Orientation (EO).   Simply focusing on EO in terms of Innovativeness, Proactiveness and Risk- taking does not necessarily lead to increased long-term value of the firm.

From a policy perspective, the underlying context of this research is that industrial and entrepreneurship development policies must be able to identify high performing microenterprises preferably with an EO disposition across industries and sectors without any bias. Government agencies tend to focus on perceived '*externalities*'[39] like technology, infrastructure and financial support for selective sectors which they consider should be encouraged for future economic development (Rodrik, 2004). Due to limited information about the specific needs of individual companies and for reasons of political expediency, most government agencies tend to support one group of vested interests against another through subsidies, investment and other initiatives thus inadvertently creating negative externalities. In short, they try to pick *perceived winning sectors* based on future expectations (Fujita and Krugman 2004) or satisfy the influential *rent seekers* first (Rodrik 2004; Acemoglu and Robinson 2012). These policies based on *future expectations of selective sectors* or *satisfying the influential rent seekers* create more problems than solutions. For example, in the context of microenterprises these biased policies create further negative 'externalities' for the enterprises that are left out from government assistance programmes. Some of these enterprises could be potentially high performers but fail to reach their full potential as they belong to industries or sectors that are not *in favour* and therefore excluded from assistance programmes.

Such industrial policies more often than not lead to below par results (Rodrik 2004:18; Norman and Bager-Sjogren 2010; Reinert 2011). This is not to imply that the government has a limited role in designing industrial or entrepreneurship development policies aimed at assisting microenterprises. In fact, it has a very proactive role to play in supporting and assisting microenterprises to encourage the development of the economy as a whole. To do this however it needs to first

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[39] Defining 'externalities' Callahan (2001) states "*The theory examines cases where some of the costs or benefits of activities "spill over" onto third parties. When it is a cost that is imposed on third parties, it is called a negative externality. When third parties benefit from an activity in which they are not directly involved, the benefit is called a positive externality*".

identify microenterprises that are 'potentially successful firms' or existing 'high performers'. The rationale behind selecting these 'high performers' was discussed in detail in Chapter 1 of this thesis.

Acemoglu and Robinson (2012) in their analysis of why some countries are successful and others fail categorised economies as 'extractive' or 'inclusive'. They defined 'inclusive ' as those economies where the policies devised by the incumbent governments allow equal participation of all sections of the society. Extractive economies on the other hand were those where the social elite designed policies and rules which allowed them to extract 'rents' from the rest of the society for their own benefit. Their discussion was on a societal level but this issue of inequality is a recurring theme in most recent discussions on economic development (Dreze and Sen, 2013; Acemoglu and Robinson, 2012; Reinert 2011; UN 2011).

In the context of this research and in terms of microenterprise development policies, the challenge is therefore to be able to devise an '*inclusive'* framework that will identify high performing microenterprises across industries, sectors or enterprises who can create the necessary 'flux' or 'market imperfections' through their operations that will *accelerate* economic development . As the results of this research show, it is possible to select 'high performers' across sectors and industries by looking at specifically two firm-level characteristics namely Entrepreneurial Orientation (EO) and Absorptive Capacity. Both these characteristics together are extremely suitable in explaining the long-term value creating potential of the enterprise.

The selection of these high performers therefore can be based on objective measures rather than any subjective aspirations. A major conclusion that can be drawn from the results that simply focusing on encouraging entrepreneurship per se will not necessarily lead to economic regeneration. This was highlighted in the case study of the Teesside region in the UK (Greene, et al., 2008). The absorptive capacity of the enterprises also needs to be measured and factored into the policy

initiative. It is the overall absorptive capacity of the region/economy (Stokke, 2004) coupled with EO type enterprises that will create value in an economy.

From a developing or peripheral economy perspective, identifying these 'high performers' across diverse sectors and designing policies to nurture them, might provide an avenue to escape the 'free-trade, free-market' ideology. It would allow them focus on 'imperfections' in the local economy and proactively design 'local production networks (LPN)' and 'Local value chain (LVC)' by using some of these potential 'high performers' as anchor firms or strategic centres to foster local strategic networks. No doubt, the ultimate aim of any policy initiative of an economy is to have the maximum number of high performers. However, in the short term focusing on a select few high performers might be the most cost effective route given the current tight fiscal situation in most countries and the need to maximise returns. These anchor firms are expected to have the maximum multiplier effect and thus can be an effective conduit in creating an enterprising and innovative cluster in the regional or national economy.

The finding from this research can therefore assist policy makers, agencies or individuals involved with assisting microenterprises in any way to identify potential high value microenterprises successfully and thus design initiatives that are more targeted and perhaps more importantly nurture the next generation of enterprises, innovations and ideas. As argued, there is an urgent need to reconnect performance with economic welfare, which in turn might give a way forward as to how economic policies are perceived and framed. This idea of looking at performance from the perspective of value rather than just growth could serve as the central idea for developing and peripheral economies to compete on a sustainable basis in the 21st century.

8.   BIBLIOGRAPHY

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9   SURVEY INSTRUMENT

Good morning/afternoon, I am from Ph research services an independent market research company. I am conducting a survey on behalf of a lecturer at Maastricht Business School on small businesses in the UK. Could I speak to the business owner or the managing director please?

Your responses will be passed on to the lecturer, after which they will be treated as confidential and anonymous.

Please Write Reference Number from Database: [   ]

GENERAL INFORMATION

G1	Which best describes your role in the organisation? SELECT ONE ONLY	
1	Owner and founder of firm.	
2	Owner, but not founder of the firm.	
3	Partner	
4	Managing Director appointed by Board.	
5	Manager/Director	
95	Other	THANK AND CLOSE

GENERAL STATEMENT

G2	Is this a family business? PROMPT A family business is defined where one or more members within the management team are drawn from the owning family).	
1	Yes	
2	No	
95	Don't know or refused	

Which of these statements best describes your attitudes towards your business,

S1	A business should always strive for growth, profitability and innovation.	GOTO 2.1.1
S2	A business is about independence, achieving personal satisfaction and enjoying your work and lifestyle.	GOTO 2.2.1
95	Don't know or refused	THANK AND CLOSE

SECTION 2: ENTERPRISE ORIENTATION
In this section we have want to understand the orientation of the firm.

Part 1: please rate your agreement with the following statements on a scale of 1 to 7, with 1 being strongly disagree and 7 being strongly agree.

Strongly Disagree	Disagree	Disagree Slightly	Neither Agree nor Disagree	Agree Slightly	Agree	Strongly Agree
2.1.1 We favour a strong emphasis on R&D, technological leadership and innovation instead of						

marketing tried and tested products and services .						
1	2	3	4	5	6	7
2.1.2 We have introduced many new products, or services, in the last two years.						
1	2	3	4	5	6	7
2.1.3 Changes in our product or service technology have been significant.						
1	2	3	4	5	6	7
2.1.4 We typically initiate actions which competitors then respond, instead of following the competitors.						
1	2	3	4	5	6	7
2.1.5 My firm is very often the first to introduce new products/services, administrative techniques, and /or technologies.						
1	2	3	4	5	6	7
2.1.6 We typically adopt a very competitive 'undermine the competitors' posture, rather than the 'live and let live' attitude.						
1	2	3	4	5	6	7
2.1.7 We strongly favour high risk projects (with chances of very high return), than normal projects (with more certain rates of return).						
1	2	3	4	5	6	7
2.1.8 We believe that owing to the nature of the environment, bold, proactive and wide-ranging changes are necessary to achieve my firm's objectives, rather than small incremental changes.						
1	2	3	4	5	6	7
2.1.9 We typically adopt a bold, aggressive posture in order to maximise the probability of exploiting potential opportunities, rather than the 'wait and see' posture.						
1	2	3	4	5	6	7

PART 2: Please rate your agreement with the following statements on a scale of 1 to 7, with 1 being strongly disagree and 7 being strongly agree.

Strongly Disagree	Disagree	Disagree Slightly	Neither Agree nor Disagree	Agree Slightly	Agree	Strongly Agree
2.2.1 I established this business because it better fits my personal life, than working for someone else.						
1	2	3	4	5	6	7
2.2.2 I have no plans to significantly expand this business in size, or turnover.						
1	2	3	4	5	6	7
2.2.3 My goals for this business are more personal, than financial.						
1	2	3	4	5	6	7
2.2.4 This business is my primary source of income.						
1	2	3	4	5	6	7
2.2.5 My goal for this business is to expand it to multiple (two or more) locations.						
1	2	3	4	5	6	7
2.2.6 I consider this business to be an extension of my personality.						
1	2	3	4	5	6	7
2.2.7 My goals for this business are interwoven (interconnected) with my family's needs.						
1	2	3	4	5	6	7
2.2.8 I love my business.						
1	2	3	4	5	6	7
2.2.9 I am emotionally attached to my business.						
1	2	3	4	5	6	7

SECTION 3: ENTERPRISE CAPABILITIES

In this section, we are attempting to gauge the capabilities, management and policy frameworks of your firm and how they may be impacting on the performance of the firm.

Please rate your agreement with the following statements on a scale of 1 to 7, with 1 being strongly disagree and 7 being strongly agree.

Strongly Disagree	Disagree	Disagree Slightly	Neither Agree nor Disagree	Agree Slightly	Agree	Strongly Agree
3.1 The firm diligently maintains documentation in the form of files, design archives and other easily retrievable systems.						
1	2	3	4	5	6	7
3.2 Any new information regarding more up-to-date processes which might help to improve the efficiency of the firm is actively pursued.						
1	2	3	4	5	6	7
3.3 My experience, knowledge and expertise are sufficient to meet the present needs of the firm.						
1	2	3	4	5	6	7
3.4 The firm actively communicates with its suppliers through regular meetings and visits to inform them of the changes (if any) in the firm's production schedule, processes and products and also to understand their needs.						
1	2	3	4	5	6	7
3.5 I depend and rely a lot on the knowledge and expertise of the other managers in the firm.						
1	2	3	4	5	6	7
3.6 The firm has proactive policy to ensure that all knowledge and information is shared across the company.						
1	2	3	4	5	6	7
3.7 The firm actively encourages the documentation of knowledge and experiences gathered during the course of doing business.						
1	2	3	4	5	6	7
3.8 There have been a number of occasions in the past year when I was completely overwhelmed by problems and felt I did not have the necessary experience, knowledge or expertise to overcome them.						
1	2	3	4	5	6	7
3.9 Managers are actively encouraged to share their knowledge and information with the other employees.						
1	2	3	4	5	6	7
3.10 Information is actively shared and disseminated amongst the firm through meetings, common databases, or file sharing.						
1	2	3	4	5	6	7
3.11 Company meetings and discussions are held regularly.						
1	2	3	4	5	6	7
3.12 There are seldom any occasions when we do not have the necessary knowledge and expertise amongst the managers within the firm to solve a problem.						
1	2	3	4	5	6	7
3.13 There is a strong emphasis on actively seeking new information beyond the scope of existing business operations.						
1	2	3	4	5	6	7
3.14 The firm is always looking for ways to enhance customer satisfaction.						
1	2	3	4	5	6	7
3.15 The firm is always actively looking for new product/service ideas and trying to gauge the						

future direction of the industry.						
1	2	3	4	5	6	7
3.16 The firm has an active policy to ensure that the shareholders and relevant government departments are kept informed.						
1	2	3	4	5	6	7
3.17 Managers have been given specific roles in collecting the necessary information and there are well formulated processes and mechanisms are in place to support this.						
1	2	3	4	5	6	7
3.18 The firm actively communicates with its customers through newsletters, meetings and visits to the customer's premises to understand their needs.						
1	2	3	4	5	6	7

PERSONAL INFORMATION

G3 Which best describes your age?	
1	Under 25 years
2	25-35 years
3	36-45 years
4	Over 45 years
95	Prefer not to say

G4 Which best describes your gender?	
1	Female
2	Male
3	Transgender
95	Prefer not to say

G5 To what level where you educated?	
1	Up to basic schooling (10 years) – GCSE/O Levels, or equivalent
2	Up to intermediate (12 years) – A levels, or equivalent (including trade apprenticeships)
3	Up to graduate studies (15 years) or equivalent (including professional qualifications)
4	Up to postgraduate studies (17 years)
5	Up to Doctoral studies (>20 years)
95	Prefer not to say

G6 How many years of work experience do you have?	
1	Less than 5 years
2	5-10 years
3	11-15 years
4	Over 15 years
95	Prefer not to say

G7 And how many years of work experience do you have in your current business?	
1	Less than 5 years
2	5-10 years
3	11-15 years
4	Over 15 years
95	Prefer not to say

		In this Role	Current Business	Same Department
	G8 And how many years of work experience do you have in each role WRITE IN VERBATIM G9 And in each role in your current business? WRITE IN VERBATIM G10 And in the same Department? WRITE IN VERBATIM			
1	Junior			
2	Line Manager			
3	Head of Department			
4	Managing Director			
95	Prefer not to say			

THANK YOU VERY MUCH FOR DEVOTING YOUR VALUABLE TIME TO COMPLETE THIS QUESTIONNAIRE.

If you would like a summary of the results from this survey, please could you let me have your email address?

THANK YOU ONCE AGAIN.
Interviewer Name:_____
Interviewer Sig:_____
Date:_____   Time: _____

10   APPENDICES

Appendix 1: EO Construct Measurement

		Response format: entrepreneurial orientation (EO) and small business orientation (SBO)	
Latent factor		**Measurement items and response format**	
Entrepreneurial orientation(EO)	Question Num	Innovativeness (INNOV), 1-7 LIKERT type scheme 1= strongly disagree, 7 = strongly agree	
INNOV 1	2.1.1	Favour a strong emphasis on R&D, technological leadership and innovation instead of marketing tried and tested products and services	1 2 3 4 5 6 7
INNOV 2	2.1.2	Has introduced very many new lines of products or services in the last two years	1 2 3 4 5 6 7
INNOV 3	2.1.3	Changes in product or service technology have been quite major in nature.	1 2 3 4 5 6 7
		Proactiveness (PROAC): 1-7 LIKERT type scheme 1= strongly disagree, 7 = strongly agree	
PROAC 1	2.1.4	Typically initiate actions to which competitors then respond instead of following the competitors	1 2 3 4 5 6 7
PROAC 2	2.1.5	My firm is very often the first to introduce new products/services or administrative techniques, and /or technologies.	1 2 3 4 5 6 7
PROAC 3	2.1.6	Typically adopts a very competitive 'undermine the competitors' posture rather than the 'live and let live' attitude.	1 2 3 4 5 6 7
		Risk taking (RISK): 1-7 LIKERT type scheme 1= strongly disagree, 7 = strongly agree	
RISK 1	2.1.7	Strongly favour high-risk projects (with chances of very high returns) than normal or certain rates of returns.	1 2 3 4 5 6 7
RISK 2	2.1.8	Believe that owing to the nature of the environment, bold, proactive and wide-ranging changes are necessary to achieve my firm's objectives rather than small incremental changes	1 2 3 4 5 6 7
RISK 3	2.1.9	Typically adopt a bold, aggressive posture in order to maximise the probability of exploiting potential opportunities rather than the 'wait and see' posture.	1 2 3 4 5 6 7

Small business orientation (SBO)			
Purpose and goals (PURP): 1-7 LIKERT type scheme 1= strongly disagree, 7 = strongly agree			
PURP 1	2.2.1	I established this business because it is better fits my personal life than working for someone else	1 2 3 4 5 6 7
PURP 2	2.2.2	I have no plans to significantly expand this business by size or sales revenue	1 2 3 4 5 6 7
PURP 3	2.2.3	My goals for this business are more personally oriented than financially oriented	1 2 3 4 5 6 7
PURP 4	2.2.4	This business is my primary source of income	1 2 3 4 5 6 7
PURP 5	2.2.5	My goal for this business and is expanding it to multiple (two or more) locations	1 2 3 4 5 6 7
Emotional attachment (EMOT)): 1-7 LIKERT type scheme 1= strongly disagree, 7 = strongly agree			
EMOT 1	2.2.6	I consider this business to be an extension of my personality	1 2 3 4 5 6 7
EMOT 2	2.2.7	My goals for this business interwoven (interconnected) with my family's needs	1 2 3 4 5 6 7
EMOT 3	2.2.8	I love my business	1 2 3 4 5 6 7
EMOT 4	2.2.9	I am emotionally attached to my business	1 2 3 4 5 6 7

Measurement scales for EO and SBO

Source : Adopted from Runyan, Droge and Swinney (2008), pp 574-575

Appendix 2: ACAP Construct Measurement

		Measurement scales: value of new external information	
Latent factor		Measurement items and response format	
Information Collection & Collation	Question Num		
INFOC 1	3.13	There is a strong emphasis on actively seeking new information beyond the scope of existing business operations.	1 2 3 4 5 6 7
INFOC 2	3.17	Managers have been given specific roles in collecting the necessary information and there are well-formulated processes and mechanisms are in place to support this.	1 2 3 4 5 6 7
INFOC 3	3.10	Information is actively shared and disseminated amongst the firm through meetings, common databases, or file sharing.	1 2 3 4 5 6 7
INFOC 4	3.3	My experience, knowledge and expertise is sufficient to meet the present requirements of the firm.	1 2 3 4 5 6 7
INFOC 5	3.8	There have been a number of occasions in the past year when I was completely overwhelmed by the problem and felt I did not have the necessary experience, knowledge or expertise.	1 2 3 4 5 6 7
INFOC 6	3.2	Any new information regarding more up-to-date internal processes which might help to improve the productivity/efficiency of the firm is actively pursued	1 2 3 4 5 6 7
INFOC 7	3.15	And the firm, using the new information collected is always actively looking for new product/service ideas and are trying to gauge the future direction of the industry	1 2 3 4 5 6 7
		The firm actively communicates with its Customers through newsletters, focus	

		group meetings and visits to the customer's premises to understand their needs and wants.	
INFOC 8	3.18		1 2 3 4 5 6 7
INFOC 9	3.4	The firm actively communicates with its Suppliers through regular meetings and visits to inform them of the changes (if any) in the firm's production schedule, processes and products and also to understand their needs and wants.	1 2 3 4 5 6 7
INFOC 10	3.16	The firm has an active policy to ensure that the shareholders and relevant government departments are kept informed of any changes that may be relevant to them.	1 2 3 4 5 6 7

B   COMint Construct

		Measurement scales: communication structure with internal stakeholders	
Latent factor		Measurement items and response format	
Communication structure-internal (COMint)	Question Num	1-7 LIKERT type scheme 1= strongly disagree, 7 = strongly agree	
COMint 1	3.6	The firm has proactive policy to ensure that all knowledge and information generated are shared within the various units.	1 2 3 4 5 6 7
COMint 2	3.11	Interdepartmental meetings and discussions are held regularly. Minutes of the meetings are distributed amongst all relevant units.	1 2 3 4 5 6 7
COMint 3	3.9	Participating managers from the various units are actively encouraged to share their knowledge and information with the other members.	1 2 3 4 5 6 7

C   TACIT Construct

		Measurement scale: TACIT	
Latent factor		Measurement items and response format	
TACIT	Question Num	1-7 LIKERT type scheme 1= strongly disagree, 7 = strongly agree	
TACIT 1	3.7	The firm actively encourages the documentation of knowledge and experiences gathered during the course of doing business.	1 2 3 4 5 6 7
TACIT 2	3.1	This documentation is in the form of files, designs archive and other forms of easily retrievable systems.	1 2 3 4 5 6 7
TACIT 3	3.5	More often than not I depend and rely on the knowledge and expertise of the other managers in the firm.	1 2 3 4 5 6 7
TACIT 4	3.12	There are seldom any occasion when we do not have the necessary knowledge and expertise amongst the managers within the firm to solve a problem	1 2 3 4 5 6 7
TACIT 5	3.14	Using the new information collected, the firm is always looking for new strategies and ways to enhance customer satisfaction.	1 2 3 4 5 6 7

Appendix 3: SWC analysis

Input Data	Rationale and measure
Year of Incorporation	The age of the company was subsequently used to validate if it has any effect on the performance level.
Year of last available Annual Accounts	A control measure to ensure that the three most current annual returns are used in this research.
Total Assets (TA) (for Year$_t$, Year $_{t-1}$, Year $_{t-2}$)	3 years data entered individually TA = Fixed Assets (FA) + Current Assets (CA) FA = Tangible assets + Intangible assets CA = Debtors + Cash + Sundry debtors *Assumption: If FA not stated then only CA used to compute TA*
Total Liabilities (TL) (for Year$_t$, Year $_{t-1}$, Year $_{t-2}$)	3 years data entered individually TL = Current Liabilities (CL) + Liabilities due over 1 year (LTL) *Assumption: If LTL not stated then only CL used to compute TL*
Current Assets (CA) (for Year$_t$, Year $_{t-1}$, Year $_{t-2}$)	3 years data entered individually CA = Debtors + Cash + Sundry debtors
Current Liabilities (CL) (for Year$_t$, Year $_{t-1}$, Year $_{t-2}$)	3 years data entered individually CL = Creditors dues within one year
Long Term Loan (LTL) (for Year$_t$, Year $_{t-1}$, Year $_{t-2}$)	3 years data entered individually LTL = Liabilities due after one year *Assumption: All liabilities due after one year have been treated as long-term loans. Under standard accounting practice, LTl includes mortgages, debentures, term bonds, bonds etc (Walsh 1996,pp 20) but majority of the annual returns for the sample do not have any breakdown*
Retained Earnings (RE) (for Year$_t$, Year $_{t-1}$, Year $_{t-2}$)	3 years data entered individually RE = Profit After Tax (PAT) – Dividends Paid *Assumption: Majority of the Annual returns of the sample do not state the dividends paid for the year. In that case the full PAT has been taken as Retained*

	Earnings (RE)
Earnings before Interest & Tax (EBIT) (for Year$_t$, Year $_{t-1}$, Year $_{t-2}$)	3 years data entered individually
	EBIT = Revenue – Cost of Sales – Admin expenses
	Assumption: All other income (including interest income) has been ignored

B   Computed data based on inputted data

Computed Data	Measures and justifications
ΔTA = change in TA over 3 years	$\dfrac{TA_{Year\,t} - TA_{Year\,t-2}}{TA_{Year\,t-2}}$
Total Liabilities to Total assets Ratio Calculated separately for each of the 3 years	$\dfrac{TL_{Year\,t}}{TA_{Year\,t}}, \quad \dfrac{TL_{Year\,t-1}}{TA_{Year\,t-1}}, \quad \dfrac{TL_{Year\,t-2}}{TA_{Year\,t-2}}$
Δ (LIAB/AST) = Change in Total Liabilities to Total Assets ratio over 3 years	Average $\left(\dfrac{TL_{Year\,t}}{TA_{Year\,t}}, \quad \dfrac{TL_{Year\,t-1}}{TA_{Year\,t-1}}, \quad \dfrac{TL_{Year\,t-2}}{TA_{Year\,t-2}} \right)$ Calculated as average of the three annual values, as they are point of time measures and so do not accumulate or compound.
Net Worth (NW) = value attributable to the owners Calculated separately for each of the 3 years	$NW_{year\,t} = TA_{year\,t} - CL_{year\,t} - LTL_{year\,t}$ $NW_{year\,t-1} = TA_{year\,t-1} - CL_{year\,t-1} - LTL_{year\,t-1}$ $NW_{year\,t-2} = TA_{year\,t-2} - CL_{year\,t-2} - LTL_{year\,t-2}$
Working Capital (WC) = measure of liquidity Calculated separately for each of the 3 years	$WC_{year\,t} = CA_{year\,t} - CL_{year\,t}$ $WC_{year\,t-1} = CA_{year\,t-1} - CL_{year\,t-1}$ $WC_{year\,t-2} = CA_{year\,t-2} - CL_{year\,t-2}$
x_1 = Working Capital to Total assets ratio Calculated separately for each of the 3 years	$x1_{yeart} = \dfrac{WC_{yeart}}{TA_{yeart}},$ $x1_{yeart-1} = \dfrac{WC_{yeart-1}}{TA_{yeart-1}}$ $x1_{yeart-2} = \dfrac{WC_{yeart-2}}{TA_{yeart-2}}$

x_2 = Retained Earnings to Total Assets ratio Calculated separately for each of the 3 years	$x2_{yeart} = \frac{RE_{yeart}}{TA_{yeart}}$, $x2_{yeart-1} = \frac{RE_{yeart-1}}{TA_{yeart-1}}$ $x2_{yeart-2} = \frac{RE_{yeart-2}}{TA_{yeart-2}}$
x_3 = EBIT to Total Assets ratio	$x3_{yeart} = \frac{EBIT_{yeart}}{TA_{yeart}}$, $x3_{yeart-1} = \frac{EBIT_{yeart-1}}{TA_{yeart-1}}$ $x3_{yeart-2} = \frac{EBIT_{yeart-2}}{TA_{yeart-2}}$ Calculated separately for each of the 3 years
X_4 = Net Worth to Total Liabilities ratio Calculated separately for each of the 3 years	$x4_{yeart} = \frac{NW_{yeart}}{TL_{yeart}}$, $x4_{yeart-1} = \frac{NW_{yeart-1}}{TL_{yeart-1}}$ $x4_{yeart-2} = \frac{NW_{yeart-2}}{TL_{yeart-2}}$
Altman Z score (Alt Z) = measure of financial likelihood of organisational failure Publicly traded shares and non publicly traded shares versions are available. In this research the latter, i.e. the non publicly traded version has been used.	Alt Z $_{\text{year t}}$ = 6.56X1$_{\text{yeart}}$+ 3.26X2$_{\text{yeart}}$+ 6.72X3$_{\text{yeart}}$+ 1.05X4$_{\text{yeart}}$ Alt Z $_{\text{year t-1}}$ = 6.56X1$_{\text{year t-1}}$+ 3.26X2$_{\text{year t-1}}$+ 6.72X3$_{\text{year t-1}}$+ 1.05X4$_{\text{year t-1}}$ Alt Z $_{\text{year t-2}}$ = 6.56X1$_{\text{year t-2}}$+ 3.26X2$_{\text{year t-2}}$+ 6.72X3$_{\text{year t-2}}$+ 1.05X4$_{\text{year t-2}}$ Calculated separately for each of the 3 years
Δ (Alt Z) = Change in Altman Z score over 3 years	Average (Alt Z $_{\text{year t}}$, Alt Z $_{\text{year t-1}}$, Alt Z $_{\text{year t-2}}$) Calculated as average of the three annual values as they are point of time measures and do not accumulate or compound.
ROA = Return on Assets Calculated separately for each of the 3 years	$ROA_{year\,t} = \frac{EBIT_{Year\,t}}{TA_{Year\,t}}$ $ROA_{year\,t-1} = \frac{EBIT_{Year\,t-1}}{TA_{Year\,t-1}}$ $ROA_{year\,t-2} = \frac{EBIT_{Year\,t-2}}{TA_{Year\,t-2}}$

Δ (ROA) = Change in Return on Assets over 3 years	$\Delta\,(ROA)$ $= Average\,\{(ROA_{year\,t}), (ROA_{year\,t-1}), (ROA_{year\,t-2})\}$ Calculated as an average of the three years.

Appendix 4: Shareholder Value Add (SVA) analysis

A: Financial data inputted to calculate the SVA score

Input Data	Rationale and measure
Year of Incorporation	*The age of the company to be subsequently used to validate if it has any effect on the performance level.*
Year of last available Annual Accounts	*A control measure to ensure that the three most current annual returns are used in this research.*
Total Assets (TA) *(for Year$_t$, Year$_{t-1}$, Year$_{t-2}$)*	*3 years data entered individually* *TA = Fixed Assets (FA) + Current Assets (CA)* *FA = Tangible assets + Intangible assets* *CA = Debtors + Cash + Sundry debtors* *Assumption: If FA not stated then only CA used to compute TA*
Total Liabilities (TL) *(for Year$_t$, Year$_{t-1}$, Year$_{t-2}$)*	*3 years data entered individually* *TL = Current Liabilities (CL) + Liabilities due over 1 year (LTL)* *Assumption: If LTL not stated then only CL used to compute TL*
Current Assets (CA) *(for Year$_t$, Year$_{t-1}$, Year$_{t-2}$)*	*3 years data entered individually* *CA = Debtors + Cash + Sundry debtors*
Current Liabilities (CL) *(for Year$_t$, Year$_{t-1}$, Year$_{t-2}$)*	*3 years data entered individually* *CL = Creditors dues within one year*
Long Term Loan (LTL) *(for Year$_t$, Year$_{t-1}$, Year$_{t-2}$)*	*3 years data entered individually* *LTL = Liabilities due after one year* *Assumption: All liabilities due after one year have been treated as long-term loans. Under standard accounting practice, LTl includes mortgages, debentures, term bonds, bonds etc (Walsh 1996,pp 20) but majority of the annual returns for the sample do not have any breakdown*
Retained Earnings (RE) *(for Year$_t$, Year$_{t-1}$, Year$_{t-2}$)*	*3 years data entered individually* *RE = Profit After Tax (PAT) – Dividends Paid* *Assumption: Majority of the Annual returns of the sample do not state the dividends paid for the year. In that case the full PAT has been taken as Retained Earnings (RE)*
Earnings before Interest & Tax (EBIT) *(for Year$_t$, Year$_{t-1}$, Year$_{t-2}$)*	*3 years data entered individually* *EBIT = Revenue – Cost of Sales – Admin expenses* *Assumption: All other income (including interest income) has been ignored*

  Source: Excel 2007 output

B   Assumptions used to compute the SVA

Item	Assumptions
Forecasted Period	4 years
Forecasted revenue growth rate	10%
Fixed Assets growth rate	10% - Linear growth with revenue
Net Working Capital Growth rate	10% - Linear growth with revenue
Margin Calculation	$\frac{EBIT_{yt}}{REV_{yt}}$, margin earned in the most current year has been used in all future calculations
Corporate Tax Rate	25% Effective rate for 2010, source:www.hmrc.gov.uk
Average Interest Rate for Short Loans	7.0% FTSE Index (2010) source: www.FTSE.som
Risk Free Rate	4.5% 1 year Government Bonds return (2010) Source: www.Bloomberg.com
Average return on Equity	14.5% All share return on Equity (2010) Source: www.FTSE.com
Beta Co-efficient	1.50 Typically ranges between 0.50 to 1.50. (Walsh 1996, pp 280). We have deliberately chosen the upper extreme.

C   SVA computation.

Computed Data	Measures and justifications
SVA_FA_yt Fixed Assets for year t	$TA_{yt} - CA_{yt}$ TA= Total assets; CA = Current Assets of the most current annual account
Net Working Capital for Year t SVA_NWC_yt	$CA_{yt} - CL_{yt}$ CA= Current Assets; CL = Current Liabilities of the most current annual accounts
Operating Fund for year t SVA_OF_yt	$NW_{yt} + LTL_{yt}$ NW = Net Worth (TA-CL-LTL); LTL = long term loans of the most current annual accounts
Forecasted Revenue SVA_REV y1….y4,	SVA_REV$_{y1}$ = $REV_{yt} * F'casted\ Revenue\ Growth\ Rate$ SVA_REV$_{y2}$ = $REV_{y1} * F'casted\ Revenue\ Growth\ Rate$ SVA_REV$_{y3}$ = $REV_{y2} * F'casted\ Revenue\ Growth\ Rate$ SVA_REV$_{y4}$ =

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	$REV_{y3} * F'casted\ Revenue\ Growth\ Rate$
Forecasted Fixed Asset SVA_Fa y1…..y4	$SVA_FA_{y1} = SVA_FA_yt * $ F'casted revenue Growth rate $SVA_FA_{y2} = SVA_FA_y1 * $ F'casted revenue Growth rate $SVA_FA_{y3} = SVA_FA_y2 * $ F'casted revenue Growth rate $SVA_FA_{y4} = SVA_FA_y3 * $ F'casted revenue Growth rate
Forecasted Net Working Capital SVA_ NWC y1….y4	$SVA_NWC_{y1} = SVA_NWC_yt * $ f'casted revenue growth rate $SVA_NWC_{y2} = SVA_NWC_y1 * $ f'casted revenue growth rate $SVA_NWC_{y3} = SVA_NWC_y2 * $ f'casted revenue growth rate $SVA_NWC_{y4} = SVA_NWC_y3 * $ f'casted revenue growth rate
Forecasted Margins SVA_Margin y1…. y4	$SVA_Margin_{y1} = SVA_REV_{y1} * $ calculated margin $SVA_Margin_{y2} = SVA_REV_{y2} * $ calculated margin $SVA_Margin_{y3} = SVA_REV_{y3} * $ calculated margin $SVA_Margin_{y4} = SVA_REV_{y4} * $ calculated margin
Forecasted Tax liability SVA_Tax y1…. y4	$SVA_Tax_{y1} = SVA_Margin_{y1} * $ Corporate Tax Rate $SVA_Tax_{y2} = SVA_Margin_{y2} * $ Corporate Tax Rate $SVA_Tax_{y3} = SVA_Margin_{y3} * $ Corporate Tax Rate $SVA_Tax_{y4} = SVA_Margin_{y4} * $ Corporate Tax Rate
Forecasted Net Operating Profit After Tax SVA_NOPAT y1 ….y4	$SVA\_NOPAT_{y1} = SVA\_Margin_{y1} - SVA\_tax_{y1}$ $SVA\_NOPAT_{y2} = SVA\_Margin_{y2} - SVA\_tax_{y2}$ $SVA\_NOPAT_{y3} = SVA\_Margin_{y3} - SVA\_tax_{y3}$ $SVA\_NOPAT_{y4} = SVA\_Margin_{y4} - SVA\_tax_{y4}$
Forecasted Fixed Asset Cash Flow SVA_FACF y1…..y4	$SVA\_FACF_{y1} = SVA\_FA_{y1} - SVA\_FA\_yt$ $SVA\_FACF_{y2} = SVA\_FA_{y2} - SVA\_FA\_y1$ $SVA\_FACF_{y3} = SVA\_FA_{y3} - SVA\_FA\_y2$ $SVA\_FACF_{y4} = SVA\_FA_{y4} - SVA\_FA_{y3}$
Forecasted Net Working Capital Cash Flow SVA_NWCCF y1….y4	$SVA\_NWCCF_{y1} = SVA\_NWC_{y1} - SVA\_NWC\_yt$ $SVA\_NWCCF_{y2} = SVA\_NWC_{y2} - SVA\_NWC_{y1}$ $SVA\_NWCCF_{y3} = SVA\_NWC_{y3} - SVA\_NWC_{y2}$ $SVA\_NWCCF_{y4} = SVA\_NWC_{y4} - SVA\_NWC_{y3}$
Forecasted Net Cash Flow SVA_NCF y1….y4	$SVA\_NCF_{y1} = SVA\_NOPAT_{y1} - SVA\_FACF_{y1} - SVA\_NWCCF_{y1}$ $SVA\_NCF_{y2} = SVA\_NOPAT_{y2} - SVA\_FACF_{y2} - SVA\_NWCCF_{y2}$ $SVA\_NCF_{y3} = SVA\_NOPAT_{y3} - SVA\_FACF_{y3} - SVA\_NWCCF_{y3}$

	$SVA\_NCF_{y4} = SVA\_NOPAT_{y4} - SVA\_FACF_{y4} - SVA\_NWCCF_{y4}$
Terminal Value SVA_TV	$SVA\_TV = SVA\_NCF_{y4} / SVA\_COE$ Terminal Value = Net Cash Flow of terminal year / Cost of Equity
Book Weight of Operating Fund(OF) SVA_OF_BW	$NW\_yt / (SVA\_FA\_yt + SVA\_NWC\_yt)$ Book Weight of OF = Net Worth of base year / (Fixed Assets of base year + Net Working Capital of base year)
Book Weight of Long term Loans (LTL) SVA_LTL_BW	$LTL\_yt / (SVA\_FA\_yt + SVA\_NWC\_yt)$ Book Weight of LTL = LTL of base year / (Fixed Assets of base year + Net Working Capital of base year)
Market Premium Rate SVA_MP	$SVA\_AVGRE - SVA\_RFR$ Market Premium = All share average Return – Risk free rate
Cost of Equity (COE) SVA_COE	$SVA\_COE = SVA\_RFR + (SVA\_BETA * SVA\_MP)$ Cost of Equity = Risk free rate (RFR) + (Beta value * Market Premium)
Weighted Cost of Equity SVA_WCE	$SVA\_WCE = SVA\_COE * SVA\_OF\_BW$ Weighted Cost of equity = Cost of equity * Book weight of operating fund
Weighted Cost of Long Term Loans (LTL) SVA_ WCLTL	$SVA\_WCLTL = SVA\_INT * SVA\_LTL\_BW$ Weighted Cost of LTL = Interest Rate * Book weight of LTL
Weighted Cost of Short term Loan (STL) SVA_WCSTL	$SVA\_WCSTL = SVA\_INT * SVA\_STL\_BW$ Weighted Cost of STL = Interest Rate * Book weight of STL
Weighted Average Costs of Capital (WACC) SVA_WACC	$SVA\_WACC = SVA\_WCE + SVA\_WCLTL + SVA\_WCSTL$ Weighted average Costs of Capital = weighted cost of equity + weighted costs of LTL and weighted costs of STL

Total Investment SVA_TOTINV	SVA_TOTINV = Sum ($NWCCF_{y1}$ +$NWCCF_{y2}$ + $NWCCF_{y3}$ +$NWCCF_{y4}$) Total Investment = Sum of Net Working Capital cash flow for forecasted years
Net Present Value SVA_NPV	SVA_NPV = Net Cash Flow for each forecasted year discounted by WACC Excel 2007 Formula
Total Value SVA_VAL	SVA_VAL = SVA_NPV – LTL_yt – SVA_OF_yt Total Value added = NPV from operations less LTL and Initial operating funds
Internal Rate of return SVA_IRR	The internal Rate of return has been calculated using the total investment and the Net present Value of the forecasted Net Cash flow Excel 2007 formula

Appendix 5: Demarcation between EO & SBO using conventional performance measure

Conventional performance measure = average 10 & 3 years sales growth as dependent variable.

Dependent variable computation

a) **Sales Growth (%):** The year-to-year percentage growth in sales over the last 10 years and 3 years or as available was computed.

$$Sales\ Growth\ (\%) = \left(\frac{Rev_{year\ t} - Rev_{year\ t-1}}{Rev_{year\ t-1}}\right) x\ 100$$

b) **Average Sales Growth (%):** A mean of the above sales growth was computed for all the years of accounts available. (AVG_ALL10_SG & AVG_DT3_SG)

Using 'conventional' measures

The conventional performance measure was used in order to cross validate the demarcation between EO and SBO type microenterprises. The test was also conducted using both the 10 years and 3 years average sales growth (AVG_ALL10_SG & AVG_DT3_SG) and separately. Again, it was anticipated that there would be a non-significant difference in the mean of the two groups and that the principle of equal variances would not be violated.

<ins>Using 10 years data</ins>

While on average, the performance the EO group measured either in terms of average sales growth [AVG_ALL10_SG (M= .1886, SE= .04165)] respectively was greater than the SBO group, this is however non-significant (t (154) = .547, p>0.05). Again, it was observed that the principle of equal variances in the groups using any measure has not been violated.

Group Statistics

	Genstat	N	Mean	Std. Deviation	Std. Error Mean
AVG_ALL10_SG	EO	66	.1886	.33833	.04165
	SBO	90	.1191	.98952	.10430

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
AVG_ALL10_SG	Equal variances assumed	.845	.359	.547	154	.585	.06953	.12700	-.18137	.32042
	Equal variances not assumed			.619	115.615	.537	.06953	.11231	-.15293	.29198

Using 3 years data

Here, the 3 years data for average Sales growth was compared for the two groups (EO Vs SBO).

Again, it was anticipated that there would be a non- significant difference in the mean of the two

groups and that the principle of equal variances would not be violated.

Group Statistics

	Genstat	N	Mean	Std. Deviation	Std. Error Mean
Avg_DT3_SG	EO	64	.1419	.58704	.07338
	SBO	90	.0228	1.03498	.10910

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Avg_DT3_SG	Equal variances assumed	.522	.471	.830	152	.408	.11910	.14348	-.16439	.40258
	Equal variances not assumed			.906	145.635	.367	.11910	.13148	-.14076	.37895

While on average, the performance of the EO group measured in terms of average sales growth [AVG_DT3_SG (M= .1419, SE= .07338)] was greater than the SBO group, this is non-significant (t (152) =.830, p > 0.05). The principle of equal variance has been upheld when comparing the groups (EO & SBO) using average sales growth.

Therefore, it is possible to conclude that, selecting any one of these groups for subsequent analysis using either 'potential value' or the conventional measures (average sales growth) using 10 years or 3 years data) is valid as both groups are independent.

Appendix 6: Bivariate correlations (Kendall tau-b)

	Innov1	Innov2	Innov3	Proac1	Proac2	Proac3	Risk1	Risk2	Risk3	INFOC1	INFOC2	INFOC3	TACIT1	COMint1	COMint2	COMint3	TACIT2	INFOC4	INFOC5	TACIT3	TACIT4	INFOC6	TACIT5	INFOC7	INFOC8	INFOC9	INFOC10
Innov1	1.000																										
Innov2	.272	1.000																									
Innov3	.269	.521	1.000																								
Proac1	.247	.290	.306	1.000																							
Proac2	.228	.417	.390	.439	1.000																						
Proac3	.131	-.075	.045	.174	.106	1.000																					
Risk1	.212	.135	.127	.094	.163	.055	1.000																				
Risk2	.229	.196	.247	.196	.033	.041	.182	1.000																			
Risk3	.287	.183	.239	.149	.169	.267	.199	.298	1.000																		
INFOC1	.239	.129	.141	.226	.197	-.110	.209	.127	.178	1.000																	
INFOC2	.199	.123	.268	.066	.110	.082	.043	.064	.178	.275	1.000																
INFOC3	.075	.011	.139	.159	.071	-.058	.082	-.047	.034	.374	.310	1.000															
TACIT1	.174	.029	.045	.135	.090	-.106	.112	.201	.008	.429	.291	.485	1.000														
COMint1	.002	-.112	.086	.045	-.033	.068	.051	.036	.051	.389	.285	.614	.424	1.000													
COMint2	.021	-.010	.028	.100	-.028	-.062	.097	-.045	-.006	.209	.252	.668	.311	.439	1.000												
COMint3	.053	-.038	.065	.052	-.036	-.073	-.004	.004	.016	.360	.272	**.772**	.465	.661	.583	1.000											

TACIT2	-.174	.127	.064	.030	.069	-.135	.101	-.002	-.095	.124	.090	.273	.262	.218	.211	.288	1.000										
INFOC4	.144	-.063	.069	.231	.067	.114	.074	.023	.053	.294	.207	.282	.330	.247	.253	.197	.195	1.000									
INFOC5	-.038	.075	.026	-.151	.008	-.004	.120	.123	.059	.045	-.128	-.176	-.108	-.080	-.110	-.148	-.160	-.281	1.000								
TACIT3	.042	-.002	.190	-.044	.077	-.049	.114	.051	.089	.233	.170	.259	.220	.280	.229	.197	.060	.146	.128	1.000							
TACIT4	.067	.011	.051	.194	.110	-.065	.095	-.075	-.045	.186	.191	.347	.360	.357	.355	.272	.186	.311	-.069	.160	1.000						
INFOC6	.113	.084	.158	.187	.129	.001	.061	.160	.024	.183	.278	.173	.379	.185	.038	.140	.263	.154	-.146	-.023	.247	1.000					
TACIT5	.152	.143	.202	.294	.139	-.046	-.099	.046	.013	.394	.250	.473	.491	.416	.298	.489	.290	.276	-.293	.219	.225	.251	1.000				
INFOC7	.258	.273	.268	.304	.300	-.018	.163	.179	.094	.488	.277	.309	.379	.238	.213	.204	.126	.311	.056	.216	.224	.247	.403	1.000			
INFOC8	.040	.124	.156	.002	.081	-.206	.057	.054	.065	.389	.298	.266	.247	.234	.194	.202	.203	.125	-.012	.285	.046	.202	.365	.372	1.000		
INFOC9	.139	.114	.183	-.043	.053	-.103	.018	.099	.090	.239	.230	.279	.215	.109	.207	.210	.274	.266	-.089	.206	.040	.139	.168	.234	.267	1.000	
INFOC10	.240	.200	.299	.077	.137	-.005	.151	.059	.113	.274	.458	.344	.318	.221	.291	.316	.305	.338	-.096	.253	.235	.111	.259	.359	.179	.424	1.000

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