

Exploring Entrepreneurship and Organizational Culture in a Higher Education Context

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Abstract

The United Kingdom Higher Education sector is undergoing a prolonged period of turbulence in its external environments. This is causing universities to seek to develop entrepreneurial activities to support the diversification of their traditional income streams, whilst also widening their societal and economic contribution at the Government's request. The researcher has worked within this field for twenty years and has witnessed perceived tensions and barriers that have emerged as university organizational cultures have been required to adapt to meet these new challenges. The purpose of this research is to explore perceptions of entrepreneurship and organizational culture within this context.

The research has been undertaken using a social constructionist ontology and interpretivist epistemology, utilizing two complementary qualitative research methods to draw out an understanding of the key issues perceived by twelve participants within a single study organization. Thematic analysis has been utilized to explore the research data drawn from the semi-structured interviews and participant diagrams.

The research has identified five key themes that are perceived by participants to be antecedents for entrepreneurship: *time*; *resources*; *support*; *leadership & management*; and a *supportive culture*. Analysis has further suggested that some antecedents to entrepreneurship are themselves precursors for others, with a matrix developed herein to outline these interactions. Participants have highlighted that all of the perceived antecedents to entrepreneurship may be considered to be elements of organizational culture, with a belief expressed that these may be amended over time to become more supportive of entrepreneurship. It has further been reported that a university has many, not a single, organizational culture with local cultures being perceived to be generally more supportive than those associated with larger organizational units. In light of this research and its findings, contributions are made to knowledge and practice, with specific recommendations also made to the study organization around these issues.

Dedication

For

Ciara,
Hamish, Archie, Harry & Johnny

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List of acronyms

BIS	Department for Business, Innovation and Skills
EU	European Union
EUA	European University Association
HE	Higher Education
HEFCE	Higher Education Funding Council for England
HEI	Higher Education Institution
HEPI	Higher Education Policy Institute
HESA	Higher Education Statistics Agency
PG	Postgraduate
SFC	Scottish Funding Council
UG	Undergraduate
UK	United Kingdom
UUK	Universities UK
WAM	Workload Allocation Model

Definitions used in this study

Confidentiality	The participants can be identified by the researcher but access to this information will not go beyond the researcher. (Edinburgh Napier University Ethical Procedures, 2014)
Creativity	“The production of novel and useful ideas within a domain”. (Amabile 1996, p.1)
Entrepreneurship	“The recognition and exploitation of new business opportunities involving new products, markets and technologies” (Sathe 1989, p.20)
Higher Education Institution	The collective term used in the UK to describe universities, university colleges, specialist higher education institutions and other higher education colleges (UUK, 2012).
Innovation	“The successful implementation or exploitation of creative ideas within an organization” (Amabile 1996, p.1).
Interpretivism	“Is a philosophical position whereby knowledge and understanding is the result of active, cooperative enterprise or persons in relationships”. (Gergen 1985, p.267)
Organizational Culture	“Is a pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems” (Schein 2010, p.18).

Risk	An exposure to the possibility of outcomes involving loss. (Knight (1932) cited in Goodale et al, 2011)
Social Constructionism	“Is a philosophical position principally concerned with explicating the processes by which people come to describe, explain or otherwise account for the world in which they live”. (Gergen 1985, p.18)

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CHAPTER ONE: INTRODUCTION

1.1. Chapter introduction

The United Kingdom (UK) Higher Education (HE) sector is undergoing a prolonged period of turbulence in its external environments. It has been reported that since 2011 universities are experiencing unprecedented changes in the external policy environment, funding arrangements and recruitment patterns (UUK, 2013). These external environments are becoming increasingly volatile, with changes by government forcing alterations to both stakeholder expectations and income streams available to UK universities (Leadership Foundation for Higher Education, 2013). Furthermore bodies in the public sector do not exist in a vacuum; they influence and are influenced by the environments in which they are based (Greenwood, et al, 2002). Dynamic external stimuli have led many universities to seek to become increasingly entrepreneurial, with the ambition of generating new income streams and developing new markets. As Etkowitz et al (2000, p.313) report, "there is empirical evidence that identifying, creating and commercialising intellectual property have become institutional objectives in various academic systems". Shattock (2008) likewise observes the growing requirement for, and demonstration of, entrepreneurialism by universities in response to their changing environment.

In this challenging context, HE managers and leaders are required to increasingly ensure they are supporting their workforces in being entrepreneurial; developing creative and innovative opportunities for income generation in an ever more competitive global market. Engwall (2007) observed how modern universities must begin to act as businesses, with increasing participation and interaction with the free marketplace. Universities are however complex, multi-structural entities with an array of organizational goals associated with the creation and dissemination of knowledge (Mainardes, et al. 2011, p.125). Such complexity is manifesting itself in slow decision-making, corporatism, and internal bureaucracy (Scott, 1992), resulting in organizational cultures that may adversely affect the ability to focus on entrepreneurial success.

Deal and Kennedy (1982), Schien (2010) and Wilson (2001) claimed that organizational culture is critical to the way organizations operate, how things get done and the way individuals behave. It may be questioned therefore if actors, at a range of organizational levels, who operate within the sector perceive there to be a relationship between organizational culture and the opportunities for staff to be entrepreneurial within a UK HE context.

1.2. Aim and objectives of the research

The aim of the research outlined in this thesis is to 'Explore perceptions of entrepreneurship and organizational culture within a HE context'. The research seeks therefore to explore perceptions of participants from within a HE context to develop an understanding of their views on matters related to entrepreneurship and to consider if these could be affected by, or considered to be a part of, organizational culture. Based upon the findings of this research, the implications for the practice of actors working within the sector in a diverse variety of roles are explored and recommendations are outlined.

Within a United Kingdom HE context, four objectives guide the study and deliver the research aim:

1. Examine critically the existing literature regarding entrepreneurship and organizational culture.
2. Examine and consider critically the perceptions of Higher Education actors regarding entrepreneurship and organizational culture through conducting semi-structured interviews and collecting participant diagrams.
3. Identify key organizational characteristics and relationships through thematic analysis.
4. Generate recommendations for actors seeking to ensure organizational culture is an enabler for entrepreneurial activities within a Higher Education context.

1.3. Broad approach to the research study

The aim of the study is to develop an understanding of actors' perceptions regarding the issues identified through the four objectives, which were outlined in section 1.2. The research methodology and methods chosen to conduct the research (considered fully in Chapter Four) were selected as being supportive of and appropriate to the stated research aim. A single organization was chosen as the location for the study wherein two qualitative enquiry methods were applied (semi structured interviews and participant diagrams), with twelve participants. The researcher applied the two enquiry methods whilst embedded within the study organization. Drawing upon a social constructionist ontological position and an interpretivist epistemology, the researcher placed emphasis on the value of perceptions of participants from a wide range of roles and internal organizational contexts.

As a consequence of the research methodology, it is recognized that claims of generalizability cannot be made for the research findings. Such generalizability was not however the researcher's intention, endeavouring instead to develop an understanding of the research phenomenon so that they could be transferrable to other appropriate HEI contexts. It is further recognized that as the research was undertaken within a single organizational setting, the research herein would perhaps lend itself to further broader studies at a later date, perhaps within multi-organizational settings.

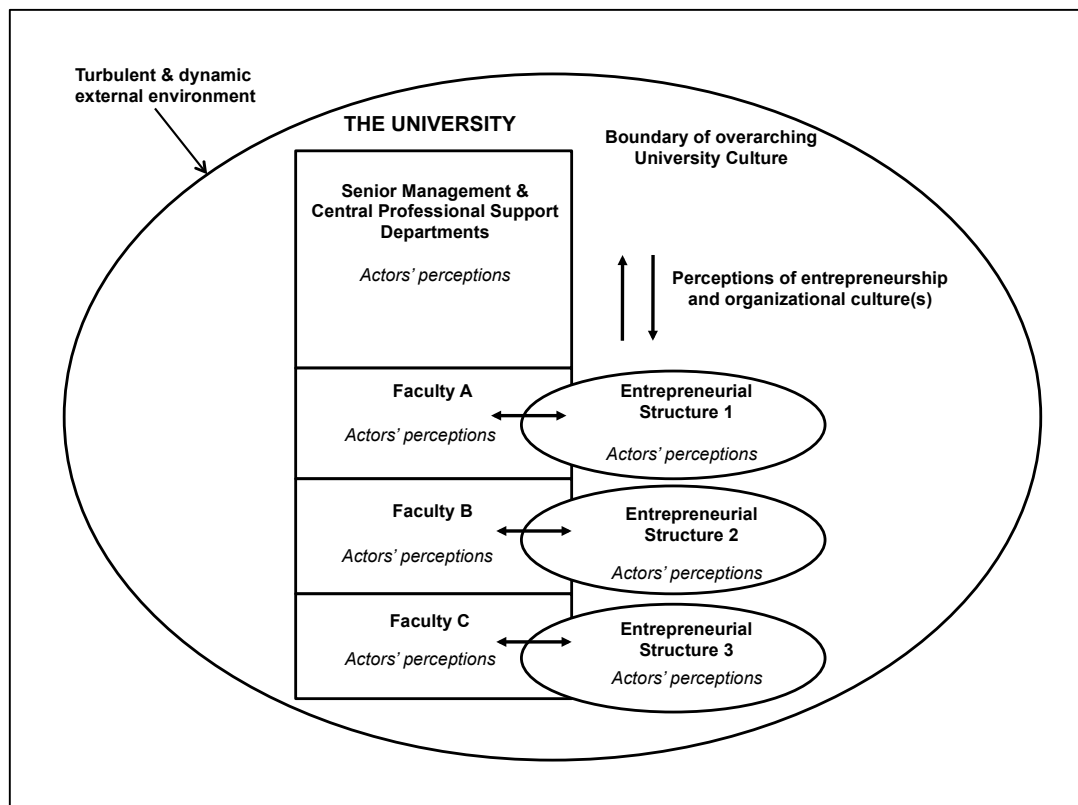
1.4. Motivations for this study

The researcher has worked for various organizations within the UK public and HE sectors for twenty years and during that time has witnessed first-hand the increased requirement for organizations to become more entrepreneurial in their outlook and approaches. Increased complexity in the external environment for HE has been observed along with the growing requirement for universities to develop new income streams that help reduce reliance (and in some instances over-reliance) on the public purse. In response to this it has been highlighted that some HEIs have sought to address the need for entrepreneurship through, for example, the creation of internal structures or processes specifically as vehicles to drive innovation, creativity and commercialization of knowledge.

As a witness to these developments, the researcher has gained exposure informally to various issues that staff working within the HEI sector perceive affect them when being entrepreneurial. Tensions in systems have been observed when colleagues have sought to challenge traditional university paradigms and organizational cultures as they attempt to be creative and innovative. As a manager embedded currently within a HEI context where the development of entrepreneurial activities is being sought, a primary motivation for the study has been to explore the issues around entrepreneurship and organizational culture in order to seek an understanding of them within such a HE context. Through developing this understanding, it is the researcher's goal to make a contribution to both theory and practice.

Figure 1 provides a simple visualization of the focus of the study and is revisited again in Chapter Seven (Conclusion). The figure illustrates that the research explores perceptions of entrepreneurship and organizational culture, whilst also exploring if these are homogenous across the organization, or if heterogeneous variations are observed in different areas.

Figure 1: Simple overview of the research study



1.5. Contributions to knowledge and practice

By delivering against the identified aim and research objectives a contribution is made to both knowledge and practice within the UK Higher Education context; and these are now considered.

1.5.1. Contributions to knowledge

Drawing upon the issues identified throughout the study a contribution to knowledge is made through considering if models of entrepreneurship developed in the private and broader public sector are resonant with participants from within the Higher Education sector. The study furthermore identifies antecedents and barriers to entrepreneurship as perceived by participants from within the HE sector and suggests relationships that may exist between some of the identified dimensions. Reflection is provided upon whether there is a perceived link between antecedents for entrepreneurship and organizational culture, building on previous literature in this field. Consideration is given as to actors' views on whether a university has a single culture or multiple organizational cultures, as well as outlining perceptions regarding whether antecedents to entrepreneurship and/or organizational culture can be amended over time to become increasingly supportive thereof.

1.5.2. Contributions to practice

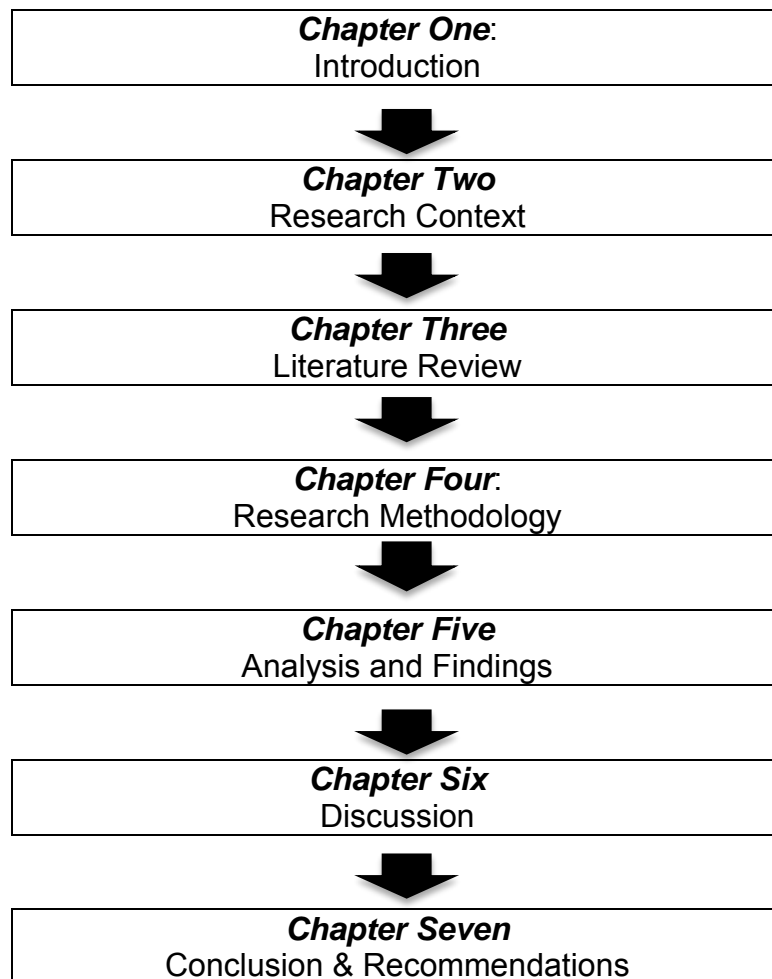
The research makes a contribution to practice through highlighting organizational characteristics that are considered to be antecedents to entrepreneurship within an HE context, thereby focusing attention on dimensions that actors may wish to foster within their own organizational context if they wish to enhance entrepreneurship. The research also reveals that some antecedents have an effect upon others – for example time affecting idea generation. Furthermore a contribution is made through revealing a bridge between entrepreneurship and culture, as it indicates to managers that cultural dimensions should be taken into account when considering how to support entrepreneurship. The research concludes that although the antecedents to entrepreneurship are perceived by staff to be cultural, participants believe that the organizational culture can be amended through management efforts to be more supportive and can change over relatively short timescales – an issue that managers may benefit from being mindful of. Importantly the research suggests

that traditional models of dimensions of organizational culture may not alone explain the dimensions of culture that are perceived to affect entrepreneurship in a HE context. The contributions to both knowledge and practice are considered more fully in Chapter Seven (Conclusion and Recommendations).

1.6. Thesis structure

This thesis is structured as outlined in Figure 2, in order to provide a logical and systematic presentation of the research that has been planned and undertaken, through to the conclusion and recommendations that may be drawn therefrom.

Figure 2: Overview of the thesis structure



Chapter One has provided a short introduction to the topic of the research and states clearly the aim and objectives the researcher has addressed. A broad overview has been outlined of the study approach and the motivations for conducting the research. The contribution toward knowledge and practice that may be made through the conduct of this research has also been outlined.

Chapter Two provides a more detailed analysis of the environmental context within which the research is being undertaken. An overview of the HE sector in the United Kingdom is presented and issues and challenges arising therein are identified and considered critically. Reflection is provided on the issues raised for managers and leaders in the HE sector before the chapter closes with a consideration of gaps that require study through a review of the relevant literature. In addition to providing contextual information regarding the sector, the chapter elucidates an understanding of why entrepreneurship is of particular importance to HE at this time.

A literature review is presented in Chapter Three, which furnishes a critical reflection upon the key literature relevant to the areas of study presented in Chapters One and Two. The chapter commences with an outlined of the scope of research on entrepreneurship with a particular focus on the antecedents thereof. A link between entrepreneurship, creativity and innovation is reviewed, and the notion of organizational culture is outlined and explored. The chapter concludes with a summary of the gaps and issues arising from the review and key research questions raised for this study.

The methodology applied to the study to ensure the research aims and objectives are addressed appropriately are considered in Chapter Four. Within the Chapter the philosophical research paradigm informing the study is discussed, with reflections upon the ontological, epistemological and axiological positions adopted by the researcher. The influence of these on determining the research methods is considered, with the data collection and analysis methods outlined. Discussion is provided on the generalizability and reliability of the study and ethical issues pertaining to the research are identified and addressed.

Analysis and findings from the data collection phase are outlined in Chapter Five. A summary of the participants is presented and the application of Thematic Analysis is considered. The analysis and findings are presented clustered around five key themes that emerged through the research process.

Building upon this Chapter Six presents a deeper discussion on the themes that have arisen through the research process. Reflection is given to those issues that were anticipated in advance but which were not revealed through the primary data collection or analysis. The interaction between various research findings is considered, before the research questions identified through the Literature Review are considered in detail.

The final chapter (Chapter Seven) presents the conclusion of the study. The implications of the research for knowledge and practice are considered and a number of recommendations are made to the study organization. The limitations of the study and recommendations for future research are discussed.

CHAPTER TWO: CONTEXT

2.1. Chapter introduction

This chapter presents key information regarding the context within which the research was undertaken. An overview is provided of the HE sector within the UK (Section 2.2), key challenges and issues for the sector are summarized (Section 2.3) and the implications of these for university managers are considered (Section 2.4). A brief outline is provided of the organization chosen as the study context (Section 2.5), before the chapter considers an identification of issues that warrant further exploration (Sections 2.6).

2.2. Overview of the Higher Education sector within the UK

To frame the research study it is important to define the sector clearly at the outset. The term Higher Education is defined by Universities UK (UUK) to include universities, university colleges, specialist HE institutions and other HE colleges (UUK, 2012). At the time of writing there are 165 HEIs in the UK, of which 116 are universities (Guardian League Table 2015). This is a marked increase from just 16 designated universities in 1946 and only 45 in the 1970s (Webber, 2000), highlighting the considerable growth in the sector in the post-war period and the rapid acceleration from the 1970s to the present day.

Various reports have sought to identify the main aims and objectives of HEIs in the UK, most notably those known as the Robbins Committee (1963) and the Dearing Report (1997). Both of these government enquiries described in broad terms the contribution the HE sector should make to individuals, the advancement of knowledge, the economy and society. Critical to the growth and development of the current UK HE system, Robbins assumed as a starting point the axiom “that courses of higher education should be available for all those who are qualified by ability and attainment to pursue them and who wish to do so” (Robbins Committee, 1963, p.8).

At their core the activities of UK HEIs are the creation and dissemination of knowledge through research and teaching; with an increasing emphasis – encouraged strongly by the UK and Scottish governments - on knowledge exchange in liaison with industry. UK HEIs are, in the main, charities

functioning quasi-independently from the direct control of the national and devolved Scottish governments. Many however rely heavily on government funding for a significant proportion of their operating income, with the government supplying considerable funding to the sector annually. HEFCE, the funding body for England and Wales, allocated £3.883 billion for 2014/15 (HEFCE, 2014). Meanwhile the latest communications to the sector from the Scottish Funding Council for Higher Education (SFC) indicates the national budget for 2015/16 will be £1.041 billion (SFC, 2015).

Through the government funds and those attracted from all other sources of HEI income (including through student fees, research council, charities, European Union, commercialization and industry partnerships), it is estimated the UK HEIs spend over £26bn per annum (HESA, 2012) employing almost 400,000 staff (HESA, 2012). Whilst the size of individual HEIs varies considerably with an average (median) income of £119m (UUK, 2011) it may be observed that these are each significant organizations within their local communities and taken collectively as a sector are of importance nationally to the economy.

UK HEIs teach over 2.5m students each year (HESA, 2012). Over recent years there has been a drive to recruit overseas students primarily, it may be observed, as a means of boosting income from sources other than the UK government. As a consequence over 300,000 non-UK students study in the UK per annum (HESA, 2012), making it one of the key worldwide destinations for international students over recent years. Although overseas fee income is of increasing importance to the UK economy and HEI coffers, this is concentrated at present in a small handful of HEIs. HEFCE, for example (reporting in England) highlighted that only 20 HEIs accounted for over 50% of the total amount generated (HEFCE, 2012).

2.3. Identification of issues and challenges in the UK HE sector

As may be anticipated given the size, diversity and complexity of the sector, a number of issues and challenges can be identified. Indeed it has been reported “Higher Education in the United Kingdom is undergoing a significant period of

change. This is being driven by a number of factors: political, cultural, economic and technological. The trends are global in their scope and far reaching in their impact” (UUK, 2012, p.2). This view is echoed by Goddard et al (2014) who highlight that due to changes in funding regimes the university sector has entered ‘uncharted waters’ since 2010.

At a UK level the HE sector has become a focus for increasing political attention, as the government seeks to balance its expenditure on the sector with greater demands for results linked explicitly to government strategic and economic priorities. This is likewise the case for the devolved Scottish Government, where political intervention has increased in the HE sector over the last five years. This intervention is evidenced in the annual Ministerial Letters of Guidance issued from The Scottish Government’s Minister for Education and Lifelong Learning to the Scottish Funding Council for Further and Higher Education (SFC). In September 2011, the first paragraph of the letter of guidance outlines clearly the role Government expects HEIs to play in supporting the economy, when it states “The Scottish Government’s *Programme for Government* and our revised *Economic Strategy* show how the role of our colleges and universities, and our investment in them, will contribute to achieving the Government’s Purpose” (SFC, 2011, p.1). This issue is emphasized further in paragraphs 21-23 of the same letter whereby Government outlines the need for HEIs to be entrepreneurial, reaching out to share knowledge in innovative and creative ways with industry.

Such instruction from the Scottish Government to the SFC has continued, and arguably ratcheted up in language, year on year, ever since. The most recent Ministerial Letter of Guidance (2015-16) again emphasizes - as its primary high level objective for the HE sector – universities combined contribution to the economy. Over a series of paragraphs (SFC, 2014, pp.7-8) the Minister outlines in detail how HEIs must contribute to society and the economy through: developing world class research; encouraging innovation links to industry; developing ‘Scotland CAN DO’ as a statement of intent towards being a world-leading entrepreneurial and innovative nation; developing entrepreneurial mind

sets; establishing Innovation Centres; and encouraging cross HEI collaboration on innovation and enterprise.

Given this Ministerial Guidance it is perhaps unsurprising to see the call for greater innovation and entrepreneurship embedded within with SFCs own Strategic Plan 2012-2015, entitled 'Delivering ambitious change'. Within this Strategic Plan is a clear objective regarding University/industry collaboration and the exploitation of research. Indeed the Foreward to the Strategy reports that for the SFC "Our priority in this plan therefore is to improve knowledge exchange and the coherence of the innovation system in Scotland through a range of new initiatives and our Outcome Agreement process". (SFC, 2012, p.4).

At the time of writing the SFC is at present consulting on the development of it's new Strategic Plan 2015-18, entitled provisionally "Ambition 2025: Scotland – the Best Place in the World to Learn, to Educate, to Research and to Innovate" (SFC, 2015). Within this draft Strategy greater innovation in the economy feature as one of three simplified draft core outcomes, that will continue to be delivered and monitored through the Council's formal Outcome Agreement process.

The Scottish HE sector is at present continuing to deal with considerable uncertainty generated via the debate about future independence for Scotland, or the planned extension of powers to the Scottish Parliament developed by different political parties in response to the Calman Commission (2009), the 2014 referendum and subsequent Smith Commission (2014). The referendum of 18th September 2014 has provided formal clarity, for now, on the question of Scottish independence. However in the aftermath there continues to be considerable ambiguity regarding the impact the outcome will have on issues such as the financial, economic, educational and social policy landscapes. The political landscape is further complicated by the UK political parties' positions with regards to the nation's relationship with the European Union (EU). Many UK HEIs derive significant income from EU funded research activity and from students from elsewhere in the Union studying in the UK. The ability to access

these markets and funding streams may be in doubt if the UK holds, as some political parties are seeking, an in-out referendum on future membership of the EU following the Westminster election of May 2015.

In light of the growing importance of international recruitment, the UK Government's approach to national immigration policy also has a direct impact upon the sector. It has, for example, been reported that the number of new entrants from some countries has dropped dramatically since visa regulation changes in 2011/12; such as India (-20%), Pakistan (-21%) and Saudi Arabia (-36%) (UUK Parliamentary Briefing to Lord Giddens, 2012).

The UK HE sector finds itself subject to broadly similar budget constraints as other parts of the public sector as the UK undertakes a period of austerity in response to world economic events. Scottish HEIs have fared slightly better than the rest of the UK in comparative terms and after an initial real-terms budget reduction the devolved Scottish Government has sought to retain investment in the sector. There can however be little certainty over future public funding settlements, especially in light of current political and economic uncertainty. Despite the public sector funding challenges, the sector finds itself in relatively good health with HEFCE highlighting in 2012 "the majority of key financial indicators are the best on record, with the sector reporting strong surpluses, large cash balances and healthy reserves" (HEFCE, 2012, p.3). HEFCE report this is due to HEIs becoming increasingly successful in diversifying income, such as through entrepreneurial activities, rather than through cutting costs significantly.

The UK and Scottish governments both recognize the increasing importance of the HE sector in driving economic recovery, as highlighted within the Sainsbury Review (2007), Wilson Review (2012) and Witty Review (2013). This has been a direction of travel for government policy for some time; with Laukkanen noting "it is increasingly expected that universities, beside research and teaching, should perform a third task as regional engines of innovation and economic growth" (Laukkanen, 2003 p.372). A report by HEFCE on HEI-Business Community interaction indicated the value of such knowledge exchange grew to £3.09billion in 2009-10 (HEFCE, 2011). Initiatives such as the Centre for

Universities and Business, aimed at strengthening this key partnership (HEFCE, 2012) will, it is hoped by Government, generate even further economic value for the country in this area.

At a macro-level a major potential concern facing the sector is UK demographics. Successive reports by think tanks such as HEPI (2008, 2009) have highlighted a statistically modelled reduction in the population of 18 to 20 year olds (the traditional key UK undergraduate student market). This is moderated by alternative modelling suggesting that whilst the population in this target age range will reduce, the proportion of those from higher socio-economic groups (and therefore those historically more likely to attend university) is set to rise. Modelling further into the future, such as to 2026, further complicates the issue with some statistics now suggesting the population reduction may not happen or indeed be reversed quickly. With such uncertainty and ambiguity it is challenging for HEI managers to plan sensibly and appropriately their own institutional responses to this complex sector-wide modelling.

A further impact on the sector is the changing norms for movement of potential students. Although there has for many years been a market for UK students to study abroad, the UK has fallen behind many other countries in this regard from the 1970s to more recent years (BIS, 2011). The introduction of higher UK tuition fees in 2010 - by the Conservative/Liberal Democratic coalition - and the increase in number of degrees taught in English overseas have resulted in an increased interest in, and a higher propensity for, UK based applicants looking overseas rather than simply defaulting to UK HEIs. Although a small percentage of the overall student market, this trend looks set to continue for the foreseeable future, which may result in a concomitant adverse effect upon intakes to UK HEIs.

In addition to the threat of overseas programmes, it may be noted that ongoing technical developments are also having a potentially profound impact on the provision of HE in the UK. It has been reported that “in coming years, rapid technological development will require HE institutions to continually review their

approaches to teaching and research methods” (UUK, 2012 p.20). With new web-based platforms it is proving possible for HEIs to extend the range of their geographic provision well beyond traditional boundaries into online teaching and through platforms like Coursera. Each of these types of technology-enabled offering is capable of attracting tens of thousands of students worldwide through what are known as MOOCs (Massive Online Open Courses) impacting potentially directly on the HE sector within the UK.

2.4. Key issues for managers within the HE sector

Informed by the review of the sector, it may be observed that managers working with the HE sector are faced with a number of significant challenges in practice arising as a result of the complex environments within which they operate.

These may be clustered together into a number of broad categories, as follows.

2.4.1. *Diversification of HEI income streams*

With traditional income streams from the UK exchequer under threat due to the economic climate and changing political landscapes, HEIs are increasingly seeking out new ways in which to generate income. The European University Association reports that the question of funding, and how to increase and diversify it, is a top priority for universities (Esterman and Pruvot, 2011), whilst Universities UK report that HEIs have already “demonstrated their readiness to embrace change by modifying their financial strategies to prepare for uncertain times ahead” (UUK, 2013. p.2). Universities may be seen to be seeking to reduce their reliance on government whilst broadening and diversifying their income streams, such as through increasing tuition fees, research grants, development funding, alumni donations, philanthropy and commercialization of knowledge in liaison with industry and social enterprises (Williams, 2009). In practice these issues require a response from HEI managers, to support the identification of new markets (both domestic and international), new opportunities and new ways of commercializing the specialist knowledge to which they have access. Managers are however doing so in a period of increasingly intense competition between HEIs, which, it has been suggested, demands an increasingly entrepreneurial response by institutions (Gibbs, et al. 2009, p.7).

2.4.2. Complexity

Todorovic (2005, p.115) reports "it is widely recognised that the contemporary environment is dynamic - exhibiting a high rate of change in response to global competition and the application of new technologies." With this rapidly changing environment comes complexity for those engaged within it. As an example many organizations within the UK HEI sector have sought over recent years to diversify their student-related income streams, moving from a traditional base of home (UK) undergraduate (UG) teaching provision, to provision of UG and postgraduate (PG) education services to a complex set of student segments based in home, EU, and international markets. This diversification has resulted in UK HEIs now engaging more actively than ever before in global market places. Reflecting upon this globalization of the sector, Stromquist (2014) contends that the effects on HE are: a significant market of over 4m students studying outwith their home country; the development of a stronger than ever before a 'client-customer' relationship and a concomitant intensified focus on customer satisfaction; increased and more sophisticated use of technology to deliver services; and stretched academic staff engaging in a wider array of activities than in previous years (Stromquist, 2014). This analysis outlines vividly the increasing complexity that managers must contend with in practice when dealing now in the contemporary HE student environment.

In addition to the complexity of a globalized student marketplace, it has been proposed (Altbach, 2009) that universities are also now called upon to fulfill different roles in society, so their focus on teaching and research has been required to change as they focus increasingly on entrepreneurship. HEI managers also need to manage the complexity of increasing commercialization of knowledge through closer liaison with industry. The Wilson Review (2012) highlights that in a competitive market place for providing support to business, universities must identify their unique capabilities and offerings if they are to optimize their performance. A new political landscape is developing, whereby the previous autonomy of institutions is under increasing threat from new funding regimes, which are linked to expected outcomes. Such complexity requires new and diverse skill sets in managers, an increasingly business-like

approach, and an ability to manage the ambiguities of a changing and challenging environment.

2.4.3. *Ambiguity*

Consideration of the research context indicates there is considerable dynamic change underway, with more possible change on the immediate horizon, in the external environment for HEIs. Such change may be not just come from the political and economic landscape but also through different threats such as new entrants to the market. As an example the possible proliferation of for-profit commercial HE providers in the UK is an area of considerable current ambiguity – with a recent report by the Department of Business, Innovation & Skills itself reflecting on the paucity of definitive information about current and likely future provision (BIS, 2013). Such ambiguity makes planning difficult, particularly the identification of possible new entrepreneurial opportunities. In such a dynamic market, it is increasingly important for HEI managers to scan the horizon, monitor developments, model different futures, and plan strategies that help HEIs ride short-term perturbations to longer-term stability. It is also important that universities increasingly transform from formal hierarchical bureaucracies, to more agile and responsive organizational forms that can adapt to changing needs quickly and responsively when opportunities arise. Universities Human Resources go so far as to suggest (UHR, 2012, p.10) that “bringing about culture change conducive to greater agility” may be a key market differentiator in a contest of survival of the fittest.

2.4.4. *Entrepreneurship & opportunity recognition*

Seldom have there been so many opportunities for HEI managers to explore new opportunities: new ways of delivering services; to new audiences; in new markets; with new partner organizations; new regulatory and funding regimes; new opportunities to commercialize knowledge; and changing political and economic contexts. HEIs have the government’s attention as they are viewed as drivers for economic recovery and stimulus to new industry within a knowledge economy. Such opportunities would, it could be argued, benefit from HEI managers being entrepreneurial in their approaches – operating “where new ideas are expected, risk taking is encouraged, failure is tolerated,

learning is promoted, product, processes and administrative innovations are championed” (Ireland et al, 2003. p970).

2.5. Research study organizational context

In order to seek an understanding of the issues being researched a single organizational context was identified for this study. It would be inappropriate to claim that the organization chosen is entirely representative of UK HEIs as the sector is heterogeneous in nature with a range of types, sizes, missions and traditions of institutions. The chosen organization should therefore be regarded as a singular HEI context, the findings within which may be transferrable to other HE contexts in the UK.

The study organization chosen for the study is a ‘modern’ university founded in 1992 following a period of operation as a college and more latterly as a polytechnic. Based within Scotland the university considers itself to be both innovative and professional, and its publicly available ‘Key Facts and Figures’ reports that it has over 17,000 students of whom over 5,000 come from overseas locations such as Hong Kong and India. The university undertakes teaching across a wide range of academic disciplines such as nursing, business, languages, engineering, creative industries and life sciences. Research and knowledge exchange is undertaken across the breadth of this operation, with a number of areas acknowledged by the Research Assessment Exercise in 2008 and Research Excellence Framework in 2014 as being internationally recognized. The university has over 1,800 staff and an alumnus base of over 78,000 active graduates. A relatively recent internal report has indicated it contributed 42% of graduate startups in Scotland in 2011 and that it provided an estimated impact of £291 million Gross Value Added in 2012/13 for the Scottish economy. The university has recently reaffirmed its commitment to delivering commercial and research activity through Institutes, aimed at corralling entrepreneurial activity and focusing endeavour onto sectors identified by the devolved Scottish Government as being key to the Scottish Economy; such as the Transport, Sustainable Construction and Creative Industries sectors. The number of Institutes was amended during the study from nine to

six, as the university sought to ensure each has appropriate critical mass to succeed. This change is not however considered to have affected the study.

2.6. Identification of issues for analysis

Having considered the challenges and opportunities for the sector identified in this analysis of the HEI context, the following paragraphs summarize key issues that may merit further analysis through this study. The issues identified herein provide important context for the literature review presented in Chapter Three, which considers key literature pertinent to the academic focus of the research.

The external environment is dynamic, challenging and contains a wide range of ambiguities which make it difficult for managers to plan with certainty for the future. In this context, how do managers ensure their HEIs develop the capabilities and orientation required in order to respond entrepreneurially to opportunities when they arise? Given the need for growth of new diversified income streams, the requirement to be entrepreneurial has become essential to many HEIs. In this context, what are the dimensions or characteristics of an HEI that can contribute towards, or conversely act as barriers against, staff being entrepreneurial? It has been reported that the organizational focus of HEIs has broadened in recent years, with missions expanded to include the commercialization of knowledge and a requirement to make a contribution to local and national economies. With this changing focus, do universities have the organizational cultures required in order to address the new and growing areas of operation? Reflecting upon the dynamic environment is there a perception that HEIs can change key dimensions within appropriate timescale to address the new demands they face? What do participants believe to be the timescales it would take to implement appropriate change?

2.7. Chapter conclusion

Within this chapter an overview has been provided of the HE sector within the UK, with a number of complex issues and challenges having been identified. Consideration has been given to the key issues for managers operating within the sector, with these being revealed to cluster around four main points, namely: the requirement for the diversification of income streams; the need to manage complexity; the ability to cope with ambiguity; and an imperative to

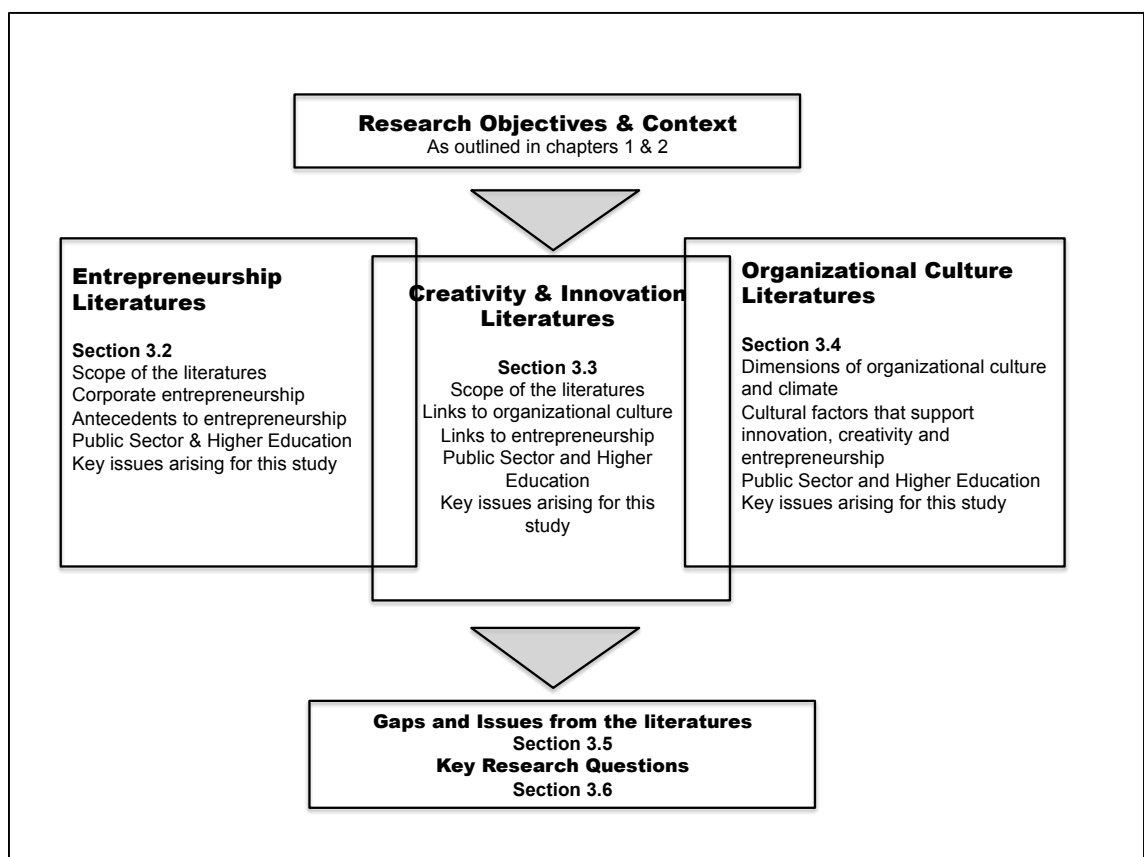
enhance entrepreneurship and opportunity recognition. It is these issues and in particular the requirement for entrepreneurship that underline the appropriateness and timeliness of undertaking this study at this time.

CHAPTER THREE: LITERATURE REVIEW

3.1. Chapter introduction

This chapter presents a literature review of previous academic works relating to entrepreneurship, innovation and creativity, and organizational culture. Figure 3 represents diagrammatically the approach taken within this review to make sense of the large array of research that has been conducted and published within these academic areas. As such the diagram demonstrates how broad academic fields have been filtered down systematically to those that are most relevant to addressing the research objectives.

Figure 3: Representation of the literature review



In undertaking the review a holistic approach was adopted to possible literature that may appropriately inform the study. Therefore whilst entrepreneurship, innovation and creativity, and organizational culture literature were reviewed, so too were relevant academic books and articles derived from other literature such as, *inter alia*, leadership, organizational development, strategic management, managerial psychology, and business strategy. In total 294 books and articles were consulted as part of this study and recorded in the

researcher's bibliographic database, although not all are cited herein. This approach to exploring issues around the central topics provided a rich resource of articles of relevance to the research.

Section 3.2 commences by defining entrepreneurship and considers the broad scope of the field within the entrepreneurship literature. From this the antecedents to entrepreneurship within large organizations (known as corporate entrepreneurship) are explored. As this study is focused within the context of a university in the UK, consideration is given to the entrepreneurship literature grounded in the broad public sector and the narrower HE sector.

Section 3.3 considers the relationship between innovation, creativity, entrepreneurship and organizational culture matters. Within this section, particular consideration is given to issues of innovation and creativity in the public sector, including consideration as to how this may differ from within the private sector. Section 3.4 reflects on the notions of organizational cultures from the prevailing literature and highlights key dimensions thereof proposed to date. Consideration is given to cultural factors which previous studies have suggested influence innovation, creativity and/or entrepreneurship. Sections 3.2 to 3.4 (inclusive) consider questions that arise from the literature reviewed. Section 3.5 synthesizes the questions and the review concludes in section 3.6 in which consideration is given to key questions and gaps arising from this examination of the literature, which warranted further investigation.

3.2. Entrepreneurship

Srivastava and Agrawal (2012) state that entrepreneurship is not a new academic discipline. As far back as the 1930s authors such as Schumpeter (1934) have sought to explain the economic impact of entrepreneurial and innovative behavior. Over the last 40 years however the rate of enquiry into entrepreneurship has grown considerably, with a particular increase in interest since the late 1970s.

Despite the growth in the research there is as yet no single agreed definition of entrepreneurship. Jones and Morris (1999, p.1), building on the earlier work of Miller (1983) suggested entrepreneurship should be thought of as “a manageable process with underlying dimensions of innovativeness, risk taking and proactiveness”. Hitt et al (2002) posited that entrepreneurship is the ability

of organizations to identify and exploit opportunities that rivals have not. Ireland et al (2003) align with the importance of the identification and exploitation of opportunities previously unexploited. Zahra et al (2006) meanwhile proposed that the entrepreneurial process is about creating, defining, discovering and exploiting opportunities before rivals can do so. Although much is written about entrepreneurship being a planned, managed and sometimes continuous organizational process, not all authors subscribe to this view. Drawing upon Burgelman (1984) for example, entrepreneurship has also been proposed as being periodic or emergent, occurring as a by-product of an organization's spontaneous activities.

Whilst managers often regard entrepreneurship positively, concern has been expressed that unbridled entrepreneurship may not necessarily be helpful to organizations. Goodale et al (2011, p.119) explored the notion that it must be channelled and controlled if it is to help an organization achieve its strategic objectives. They highlighted that "without specific organizational elements that encourage and support entrepreneurial behaviour, systematically recognizing and exploiting opportunities, they will not happen regardless of how intensely pre-entrepreneurial an organization's members may be." Sathe (1989) and Morris et al (2009) likewise advocated the need for firm control over entrepreneurial activities if organizations are to ensure their activities are directed positively to achieve corporate goals. Having reflected upon the range of literature the definition of entrepreneurship adopted by this study is that proposed by Sathe at the outset of this thesis:

Definition adopted for this study: Entrepreneurship

Entrepreneurship is the "recognition and exploitation of new business opportunities involving new products, markets and technologies". (Sathe 1989, p.20)

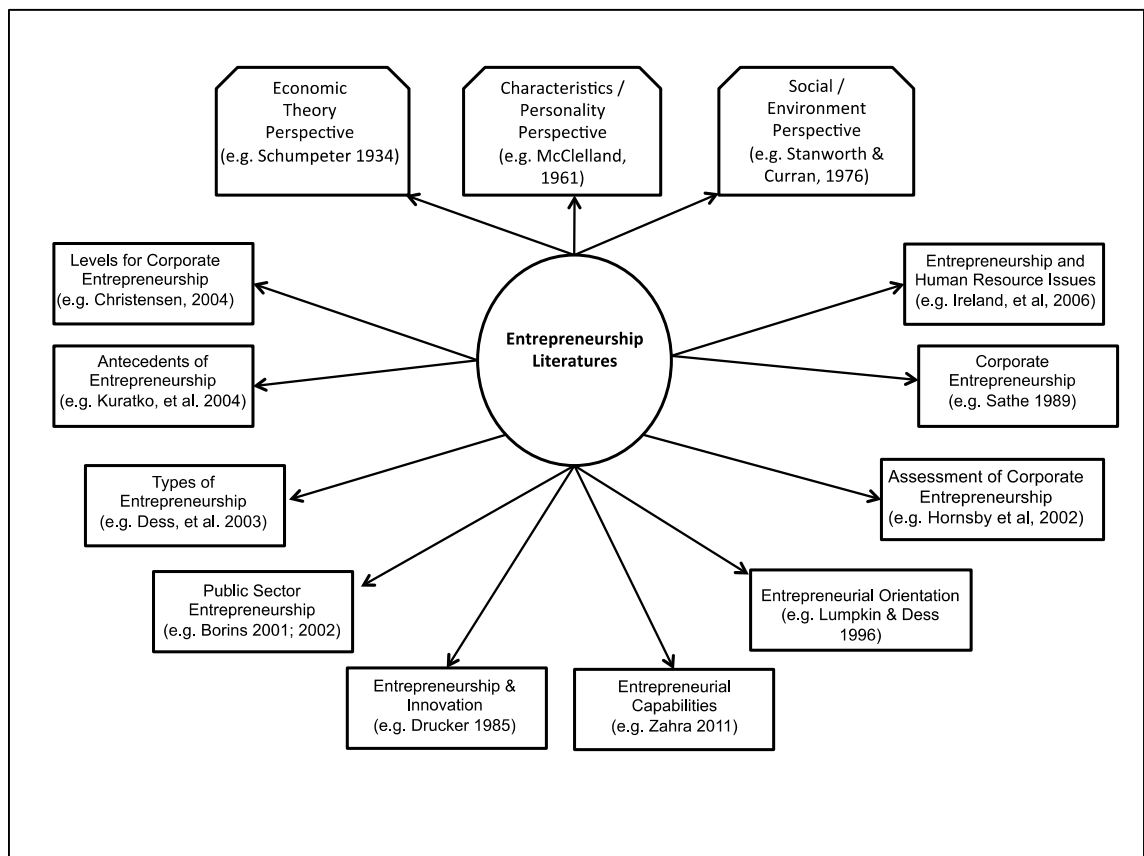
3.2.1. The scope of literature on entrepreneurship

Chrisman and Sharma (1999) suggest there are two groups of entrepreneurial scholars – those who look at the characteristics (for example, McClelland, 1961) and those who are focused on the intended outcomes (such as those who approach entrepreneurship from the economic theory perspective, e.g. Schumpeter, 1934). There is however also a thread of research that seeks to

understand the social environment perspective (e.g. Stanworth and Curran, 1976), its influence upon entrepreneurship and the development of entrepreneurs. Exploring the literature through this review suggests that the domain is more complex than this categorization would perhaps suggest.

In undertaking this review a wide range of research on entrepreneurship was identified that appeared pertinent to this study. On closer examination these could however be grouped into a number of separate, but related and apparently often complementary, categories of enquiry. Broad fields of the literature identified and considered during this review are categorized and indicated in Figure 4, with examples given of authors who have published in each area.

Figure 4: A scope of the field of entrepreneurship literature



Given the apparent scale of the literature, it is acknowledged this may not be exhaustive of the full domain of entrepreneurial research, however it is perhaps sufficient to demonstrate a complex and diverse field of study. In preparing for this review, literature has been considered that encompasses each of the broad categories outlined, however only those considered most pertinent to the

proposed research are now reflected herein this literature review: Corporate Entrepreneurship; Antecedents to Entrepreneurship; and Entrepreneurship in the Public/HE Sectors.

3.2.2. Corporate entrepreneurship

Where entrepreneurial activities take place within the context of existing organizations the phenomenon has become known as Corporate entrepreneurship (or occasionally intrapreneurship). Pinchot (1985) and Thornberry (2001), cited in Sambrook and Roberts (2005), suggested corporate entrepreneurship is simply start-up entrepreneurship turned inward. Guth and Ginsberg (1990, p.6) meanwhile reported that whilst some do indeed view corporate entrepreneurship as analogous with new business start-ups, others see it as “the struggle of large firms to renew themselves by carrying out new combinations of resources”. This notion of a sense of organizational renewal is prevalent in much of the more recent literature in the field with, for example, Hornsby et al (2013) reporting that it is a process used by many organizations in order to ensure the development of new products and services that are differentiated in the market place. Kuratko et al (2014) propose that a driver for such renewal and development is the recognition by managers that innovation is required if they are to remain sustainable in volatile and changing markets (for example, such as those outlined for the UK HE sector in Chapter Two).

Given the importance ascribed to it in sustainable businesses, considerable research has now been undertaken on the key dimensions and building blocks of corporate entrepreneurship. As far back as the late 1990s, Zahra et al (1999) noted that research in the field had been increasing for over 25 years. Dess et al (2003) highlighted later that there had continued to be considerable growth in research in recent years regarding Corporate Entrepreneurship and the rate of research in this field does not appear to have slowed since that observation was made. The need for this is expressed well by Kelley (2011, p.74) who observed that without an understanding and management of key dimensions, corporate entrepreneurship was in simply in danger of being “relegated to serendipity”. The antecedents – the building blocks – of entrepreneurship are therefore now considered.

3.2.3. Antecedents to entrepreneurship

This review turns to the dimensions considered to be the organizational antecedents for entrepreneurship. In particular this section focuses on the dimensions identified as enablers for corporate entrepreneurship; the focus being chosen due to the context of the research study within a large organization.

In a frequently cited article by Miller (1983), it is proposed the antecedents for entrepreneurship depend upon the type of organization in question, rather than simply the type of planned entrepreneurial outcome. The article is of relevance as a starting point in this section of the literature review as the study was perhaps one of the first to identify and test the proposed antecedents. By synthesizing earlier literature Miller suggested that entrepreneurship is a composite weighting of innovation (such as product, markets and technical), risk taking and proactiveness, before noting that different works place emphasis on different aspects of these determinants. Reviewing the many articles on entrepreneurship that have followed Miller's work, these three dimensions of innovation, risk taking and proactiveness remain remarkably resonant. The field has however expanded and more dimensions have now been suggested through a variety of studies. Table 1 summarizes eight key antecedents considered in this section, highlights key literature that support their inclusion herein and these are considered in the subsequent paragraphs. It should be observed the antecedents are not presented in a perceived order of significance or importance, due to the lack of clear agreement on this in the literature. Each antecedent is therefore given equal weighting herein. A small number of other antecedents were also identified and these are considered briefly.

Within the literature perhaps one of the most frequently cited antecedents to entrepreneurship is that of *risk* and *tolerance of failure*. Knight (1932) (cited in Goodale et al, 2011) suggests that risk may be defined as exposure to the possibility of outcomes involving loss. Kenney and Mujtaba (2007), drawing on the work of Dess and Lumpkin (2005) propose that risk management to support entrepreneurship requires the knowledge of business, financial and professional risks affecting an organization. Goodale et al (2011) meanwhile contend that risk control moderates the relationship between a number of antecedents to entrepreneurship (e.g. management support and rewards/reinforcement).

Table 1: Antecedents to entrepreneurship as proposed by earlier studies

Risk & Tolerance of Failure	Rewards & Recognition
Knight (1932) Miller (1983) Sathe (1989) Mathisen et al (2004) Ireland et al (2003) Dess and Lumpkin (2005) Kenney & Mujtaba (2007) Srivastara & Agrawal (2010)	Abraham (1997) Hornsby et al (2002) Ireland et al (2003) Kuratko et al (2004) Mathisen et al (2004) Dess & Lumpkin (2005) Rutherford & Holt (2007) Kenney & Mujtaba (2007) Srivastara & Agrawal (2010) Goodale (2011)
Resource Availability	Discretionary Time / Effort
Pinchot (1985) Thornberry (2001) Hitt et al (2002) Hornsby et al (2002) Ireland et al (2003) Kuratko et al (2004) Shaw et al (2005) Burgelman & Valikangas (2005) Srivastara & Agrawal (2010) Kelley (2011)	Lumpkin & Dess (1996) Abraham (1997) Thornberry (2001) Hornsby et al (2002) Kuratko et al (2004) Mathisen et al (2004) Kenney & Mujtaba (2007) Goodale (2011)
Opportunity Recognition & Pro-activeness	Leadership & Strategic Direction
Miller (1983) Sathe(1989) Stopford et al (1994) Shane & Venkataraman (2000) Ireland et al (2003) Shaw et al (2005) Dess & Lumpkin (2005)	Thornberry (2001) Hornsby et al (2002) Ireland et al (2003) Dess et al (2003) Rutherford & Holt (2007) Ireland et al (2009) Kelley (2011)
Management Support and championing	Supportive culture / climate
Abraham (1997) Hornsby et al (2002) Kuratko et al (2004) Kenney & Mujtaba (2007) Srivastara & Agrawal (2010) Goodale (2011) Kelly (2011)	Hornsby et al (2002) Ireland et al (2003) Ireland (2003, 2006, 2009) Rutherford & Holt (2007) Kuratko & Goldsby (2004)

Hornsby et al (2002, p.259) report that effective *rewards and recognition* can spur entrepreneurial activity and enhance, in particular, middle managers' willingness to take risks. Building on this work and earlier work by Morris and Jones (1995), Ireland et al (2009) highlight the particular importance of reward systems on entrepreneurial behaviours, suggesting that they are a 'principal determinant', and stating they can have a direct influence on behaviours

(whether they are formally or informally part of the organizational operations). More pointedly perhaps, Kenney (2007) draws upon the work of Dess and Lumpkin (2005) to assert that organizations need to pay staff as entrepreneurs if they wish them to act as entrepreneurs. This view is not however held universally, with others such as Sathe (1989) and Amabile (1996) suggesting intrinsic personal motivation is perhaps more powerful than extrinsic modifiers such as rewards.

The literature suggests that given the unpredictable and risky nature of entrepreneurship there is a constant battle within organizations to know how much *resource* to make available to initiatives as they develop. This challenge is summarized well by Burgelman and Valikangas (2005) as being the need to ensure neither too many nor too few resources are provided to each project if it is to be a sound investment decision. In order to do this Kelley (2011) draws attention to the importance of having processes that can quickly help to identify and support resource decision-making. Ireland et al (2009) discuss this issue in terms of the notion of 'entrepreneurial capability'; that is the ability to direct and utilize combinations of resources that are different from those available for use by competitors. Pinchot (1985) meanwhile reports that resources for innovations are often constrained and middle managers, supporting entrepreneurial activity, can struggle to obtain what they require from more senior managers.

It has been identified that discretionary *time and effort* to engage in entrepreneurship are reported as being important antecedents. This is sometimes considered as part of resource availability (e.g. Hornsby et al, 2002) given that time and staff effort are key organizational resources, however it has also been identified as a separate antecedent by authors such as Abraham (1997), Thornberry (2001), and Mathisen et al (2004). Goodale et al (2011) highlights the importance of high levels of worker discretion in undertaking their tasks, although caution that appropriate control mechanisms must also be in place. Sathe (2001, p.24) supports the view that organizations should allow individuals who believe in an opportunity to pursue it, rather than simply appointing managers with the intention they act as entrepreneurs, arguing the strength and importance of intrinsic motivation of individuals.

Authors such as Stopford et al (1994) and Shane and Venkataraman (2000) have suggested that the ability to *recognize and exploit opportunities* are essential, defining elements of the entrepreneurial process. Ireland et al (2003, p.968) refer to this recognition and exploitation as 'entrepreneurial alertness' or 'flashes of superior insight'. Dess and Lumpkin (2005) supported this view, by identifying the importance of organizations being able to differentiate successfully between genuine opportunities as they emerge and possible ideas simply drawn from trend analysis. Sathe (1989) further reinforce the point, reporting entrepreneurship is the ability of firms to recognize and exploit new opportunities, such as products, markets and technologies. Sathe however extends his argument and makes the further observation that organizations should see entrepreneurship as a process, rather than an outcome of specific initiatives and that it is the interaction between individuals and their environments that foster entrepreneurial activity. Indeed in the article he goes so far as to suggest that in a large organization, lower level managers need to have sufficient empowerment and autonomy to identify and explore opportunities they believe in; although he balances this by highlighting that good control is essential to entrepreneurship if it is to ensure freedom is not misused (Sathe, 1989).

Miller's (1989) research highlighted the significant importance of *leadership* to entrepreneurship. Hornsby et al (2002) explored this leadership theme from a different perspective, identifying the key factors that influence middle-managers to initiate and champion corporate entrepreneurship. This may be considered to be an issue of real importance given that, as Dess et al (2003) observe, it is the managers who are responsible for shifting routines and resources to support new (entrepreneurial) activities. Ireland et al (2009) building upon this finding, reported that leadership of an entrepreneurial strategy can result in organization wide generation of behaviours that can support and shape its operations to recognize and exploit opportunities. Kelley (2011) meanwhile commented that one of the key issues for organizations seeking to be entrepreneurial is to provide clarity of strategic objectives, to set clear directions and to help employees through their repeated interpretation. Through such leadership it is suggested that organizations may arrange themselves to deliver on those strategic entrepreneurial objectives.

Complementing the notion of the importance of leadership Hornsby et al (2002) highlight that *management support* can help to institutionalize entrepreneurial activity, through championing innovation. Kuratko and Goldsby (2004) however cautioned that whilst the management of an organization may be able to support entrepreneurial activity this alone cannot guarantee success, as others within the organization will be required to implement it. For entrepreneurship to become embedded successfully one of the key elements is a *culture and climate supportive of entrepreneurship*. Ireland et al (2009) report a potential strength of organization members being supportive of entrepreneurship is that this is related positively to the strength of cultural norms favouring entrepreneurial behavior. This builds on Ireland's earlier work (Ireland et al, 2003, p.970) which indicated an "effective entrepreneurial culture is one in which new ideas and creativity are expected, risk taking is encouraged, failure is tolerated, learning is promoted, product, process and administrative innovations are championed, and continuous change is viewed as a conveyor of opportunities". Kuratko & Goldsby (2004) further highlight the importance of culture in successful, innovative organizations in fostering (entrepreneurial) values that pervade all parts of the organization.

In addition to the key dimensions highlighted in Table 1, a range of authors also note other antecedents to entrepreneurship. These less cited dimensions include, but are not limited to, open communication (Amabile, 1996; Hayton 2005), idea generation (Ireland et al 2003; Mathisen et al 2005), stimulation and support for change (Shaw et al, 2005; Tushman and O'Reilly, 1997) and a focused strategy and mission supportive of entrepreneurship (Ireland et al, 2009; Denison and Mishra, 1995). Reflecting on the range of antecedents to entrepreneurial performance, many of which have been outlined above, Goodale et al (2011) suggest that managerial attempts to deliberately lever the antecedents of entrepreneurship may not necessarily lead to innovation outcomes, suggesting that whatever is developed must lever existing organizational capabilities through a coordinated and controlled set of mechanisms working in complementary ways. This observation is somewhat at odds with the earlier reflections of Rutherford and Holt (2007, p.442) whose empirical research has suggested that "managers can, through deliberate actions, affect the level of [entrepreneurship] within a given organization".

These contrary views may yet require further investigation to establish a stronger evidence base.

Whilst considering the antecedents to entrepreneurship, Kuratko and Goldsby (2004) reflected it is not perhaps the absolute details of the key dimensions that are of the utmost importance when promoting entrepreneurship, it is the perception of these by key individuals (given entrepreneurship is, they argue, conducted by individuals not organizations). Rutherford and Holt (2007) likewise note the importance of perceptions on entrepreneurial outcomes. Such observations may be particularly important to organizations seeking to promote entrepreneurship, as it may reflect a need to ensure individuals perceive that the dimensions are supportive, rather than that perception solely being held by managers. Indeed the article goes on to highlight the key role played by individuals and attributes they require.

3.2.4. *Entrepreneurship in the public and HE sectors*

This section reflects upon how entrepreneurship may differ in the Public and HE Sectors, as it is revealed through the literature that it presents different challenges to those within the private sector.

Firstly, Kearney et al (2008) and Sadler (2000) comment that in the public sector the external environment plays a key role in enabling (or not) entrepreneurship as it can, for example, help create the demand and impetus. Kuratko et al (2011, p.128) highlight the turbulence in the external environment for the public sector, noting that there are “dynamic, hostile and complex” conditions making it difficult to operate entrepreneurially. Sadler (2000, p.27) meanwhile, reports that public sector organizations are frequently perceived as being “bureaucratic, conservative and disingenuous monoliths”, incapable of performing entrepreneurially. Diefenbach (2011) reinforces the notion of difficulty by observing that entrepreneurship is not part of the approach normally adopted by the Western public sector; proposing that little is known about the transferability of private sector models into the public sector context. This is not however the only view, with authors such as Jones and Morris (1999) arguing that entrepreneurship is a universal construct which can be undertaken within the public sector. Jones and Morris (1999) go on to expand this argument in

their synthesis of a variety of earlier works to define the key characteristics of entrepreneurship in the public sector. Through their work an ongoing process is outlined that ends in innovative and proactive behaviours that create value through bringing unique combinations of resources together. It may be observed this definition is congruent to those expressed earlier regarding entrepreneurship in its broadest sense. Differences in the public sector are perhaps the motivations, barriers and enablers for entrepreneurship. It is argued by Jones and Morris (1999) that within the public sector there has, traditionally, been less of a profit motive to encourage entrepreneurial activities. The lack of profit motive is however changing, as highlighted within the HE sector, with authors such as Guerrero-Cano et al (2006, p.2) highlighting that “increasingly higher educational institutions are being required to operate more entrepreneurially, commercializing the results of their research”.

It has been identified that the Public Sector, including HEIs, must address a number of challenges when they seek to be entrepreneurial that are in some ways different from the private, commercial sector. Borins (2002) reports that due to the source of funding many processes are aligned to minimize the possibility of corruption and ensure due processes take place. Meanwhile, Mulgan and Albury (2003) suggest a range of barriers including: short term budgeting and planning horizons; poor rewards and incentives; risk aversion; and reluctance to close failing activities. This latter barrier may perhaps align with another - resistance to change (Borins 1998). Borins (1998) reported there is high visibility of public sector initiatives that can often lead to external interference and in some cases fear of high profile failure of initiatives. Adding to this list of barriers, Cornwall and Perlman (1990) further emphasize the tendency for short-termism in planning, whilst in addition highlighting issues such as the multiplicity of goals that the public sector must address, the limited managerial autonomy that can lead to over caution, and personnel policies that limit the ability of public sector managers to provide leadership for innovation. Discussing the HE Sector in particular, Kirby (2006) contended that many universities simply lack the entrepreneurial talent because it is not something they have had to do traditionally – suggesting that the required skillsets and knowledge may not be present to undertake such activities. The importance of being able to engage appropriate staff in entrepreneurship was also reflected

upon by Borins (2011), who discussed public sector incentives, observing their 'asymmetric' nature, and suggesting that unsuccessful attempts at innovation are severely punished whilst successful attempts do not bring rewards for the teams involved.

From this overview it may be observed many barriers have been identified to entrepreneurship within the public sector, however given entrepreneurial activities are known to occur it may be reasoned that there are also enablers which when implemented can support the overcoming of such issues. Much of the literature on public sector entrepreneurship espouses similar key antecedents to entrepreneurship, and corporate entrepreneurship in particular, that have been explored earlier in this review, such as innovation, risk taking, autonomy and pro-activeness. Others do however exist, for example clear missions and goals for entrepreneurship, along with reflecting upon the importance of structures that are flexible and adaptable to responding to opportunities, are highlighted by Drucker (1985), Sadler (2000), Sporn (2001) and Guerrero-Cano et al (2006) as being of real importance. Considering universities in particular Clark (1998) cites the importance of creating structures that can cross traditional boundaries, whilst Brennan et al (2005) and Brennan and McGowan (2006) reflect upon the establishment of 'centres' to do just that whilst building expertise in commercialization.

A frequently cited enabler identified in the literature is that of having an organizational culture supportive of entrepreneurship, innovation and enterprise. This has been reported by *inter alia* Clark (1998), Sadler (2000), Sporn (2001), Kirby (2006), Rothaermel et al (2007), Kearney et al. (2008) and Luke et al (2010). In the HE sector Todorovic et al (2011) argue that whilst university performance and reward structures are important, the local cultures within an organization can have a significant impact upon how they are interpreted and implemented. Guerrero-Cano et al (2006, p.2) meanwhile capture the matter succinctly by reporting "the university culture (such as values, norms, attitudes, etc.) are central to the development of entrepreneurial activity within universities". In presenting their analysis of factors affecting entrepreneurial universities, Gibb et al (2009) highlight the above and propose further enablers such as: flexible strategic thinking; maximizing individual

ownership on initiatives; delegating responsibility appropriately and encouraging staff to 'own' relationships with external stakeholders.

3.2.5. Key issues arising for this study

Having considered a range of issues concerning entrepreneurship and corporate entrepreneurship in particular, it is important to summarize key issues that pertain to this specific study and the research questions therein.

Within the review a wide range of antecedents to entrepreneurship have been identified and as such these indicate the potential building blocks for any UK HE manager interested in fostering a climate for entrepreneurship. The expounded antecedents do not appear to have been explored within the Scottish HE sector and it is at present unclear if actors within this context perceive the same antecedents as being of importance to them. This would be worthy of exploration, in particular when reflecting on the observation by Kuratko and Goldsby (2004) that it is the perception of key actors that is of most importance in fostering entrepreneurship rather than the absolute arrangements of the antecedents thereto.

The literature discussed in Section 3.2.4 highlighted the widely-held perceptions that the challenges of fostering entrepreneurship in the public sector and the HE sector are different from seeking to do so within the private sector. A range of issues and reasons for this phenomenon has been proposed. The review has identified few studies that have explored these issues explicitly within the UK HE context so it is at present unclear if the past literature aligns with perceptions of participants in the current context.

Finally, the review has identified literature that considers and discusses the possible influence that managers have on entrepreneurship, and the ways in which this may be supported. Given the axiology for this study, there would be merit in exploring this matter with a range of actors, undertaking a variety of roles, to develop an understanding of whether they believe the dimensions can be amended to support entrepreneurship.

3.3. Innovation and creativity

It may be observed that a number of articles within the literature regarding entrepreneurship make explicit reference to the close relationship between the

notions of entrepreneurship, innovation and creativity. Indeed, as Oosthuizen (2012, p.5) observes “in every definition of entrepreneurship innovation is inevitably a core component”. What these terms mean, the relationship between these terms and the determinants for innovation and creativity are therefore now considered. The particular issues of innovation and creativity within the public sector are also reflected upon, given the context of the research. The section ends with a consideration of the key issues arising for this study.

3.3.1. *Scope of literature and links to organizational culture / entrepreneurship*

It is perhaps worthwhile commencing with definitions of the terms innovation and creativity so that it is clear how they are used within the scope of this study. Rae (2007) reports that whilst the two terms are often used in association with each other, they are not synonymous and have separate meanings. Two definitions originally outlined by Amabile (1996) are cited and / or paraphrased frequently within the literature and it is these that are adopted as the key definitions for the purpose of this study:

Definitions adopted for this study: Creativity and Innovation

“Creativity is the production of novel and useful ideas within a domain. Innovation is the successful implementation (or exploitation) of creative ideas within an organization” (Amabile, 1996, p.1).

Innovation is linked with creativity in a different article by Amabile et al (1996, p.1154) who suggest “all innovations begin with creative ideas”. Drucker (1998) meanwhile reports that entrepreneurship may be considered to be the discipline of continuous innovation. Building on earlier definitions of entrepreneurship Amabile (1996) further argues that entrepreneurship is a particular form of innovation, implemented successfully and creatively to produce new business initiatives. When these ideas operate together the result may be described as ‘entrepreneurial creativity’. The literature therefore suggests that there is an essential and complementary relationship between the three terms. Creativity is a spark of an idea that can lead to innovation, and innovation can in turn (but not always) lead to entrepreneurship where it results in new or different business ideas. Having acknowledged this important link it is appropriate to

consider what the literature reveals about the factors that can be supportive to innovation and creativity within organizations.

Bessant and Tidd (2011) suggest four main themes: recognizing opportunity; finding resources; developing the venture; and creating the value. Ahmed (1998) had earlier highlighted a wider array of what he describes as norms that promote innovation. These include: challenge and stretch; freedom and risk taking by staff; trust and openness; awards and rewards; time to innovate and undergo training; the importance of organizational myths and stories; and having an organizational structure that promotes individual autonomy. These norms align closely with those identified by Martins and Terblanche (2003), who add dimensions regarding the importance of strategic vision, open communications and cooperation between teams. Amabile (1996, 1998) and Amabile et al (1996) cover similar ground, highlighting the importance of having sufficient resources that may be targeted to support innovation and creativity, an overarching organizational wide motivation to engage in innovation, and supportive management practices (including supervisory environment). Bessant and Tidd (2011), building on Drucker (1998), suggest the notion of 'recognizing opportunities' by stating the importance of systematic scanning of the horizon and external environment for opportunities that can be exploited.

Reflecting upon what may be considered Human Resource related dimensions to supporting innovation, Leavy (2005) highlights the importance of letting people grow their skills, allowing ideas to flourish, and allowing the internal mobility of staff so that they can best develop ideas creatively. Leavy also describes the determinants he identified as "climate-setting" factors. Ahmed (1998) meanwhile describes such determinants as being key elements of an organization's culture, suggesting that to become innovative an organization requires an organizational culture that nurtures and encourages a climate where staff can be creative. Ahmed furthermore reports that culture is a primary determinant of innovation.

From the literature highlighted it may be observed there is a wide array of potential determinants that can be supportive of innovation, however it is also outlined in the literature that if they are not present, or implemented in the

wrong way for an organizational context, they can as easily lead to the killing of creativity (Amabile, 1998). Likewise Amabile notes that internal strife between areas or people within organizations, overt conservatism (related to low tolerance of risk) and rigid formal structures are likewise significant barriers to innovation. Kanter (2003) agrees by cautioning that innovation may be stifled by factors such as poor communication, limited resources, top-down dictates, and unfocussed activity.

3.3.2. *Literature within the public and HE sectors context*

Within Section 3.2.4 it was highlighted that there are issues affecting entrepreneurship in the public and HE sectors that are different from other organizational contexts. The literature review has highlighted that similarly this is also believed to be the case for innovation and creativity. For some the very notion of innovation in the public sector seems questionable; “the conventional wisdom regarding the public sector is that public sector innovation is a virtual oxymoron” reports Borins (2002,p. 467). Despite this somewhat pessimistic view, innovation does happen – as evidenced by available literature - although it is perhaps different in the public than the private sectors. A view of this difference is argued well by Koch and Hauknes (2005) who explain that whilst private sector innovation often refers to the creation and production of new things, public sector innovation very often entails novel, or new, applications of things already in existence for the delivery of new products or services.

Reflecting on a report by consultants KPMG, Manley (2001) highlighted that innovation in the public sector may be more difficult than the private sectors for three key reasons: public ambivalence to innovations launched in the public sector; the cynicism of public sector employees; and the ‘celebration of failure’ by the media and political opponents of new innovations. Borins (2001) had earlier highlighted four different areas of impediment to innovation: risks; inadequate resources; inadequate incentives and the arguably extensive nature of (public sector) bureaucracy. Mulgan and Albury (2003) meanwhile contributed further to the debate in this area, highlighting that despite public perceptions the public sector has been successful at introducing innovations. Key issues they elucidated as being important included the need to overcome the inherent public sector aversion to risks and the predominant focus on short-term deliverables. The need to foster an atmosphere of innovation throughout

an organization was also highlighted, with this dimension echoed by Yapp (2010, p.59), whose work emphasizes “the encouragement of managers and staff to be able to think creatively and laterally and to spot developments in other fields emerging”. Bason (2010) likewise emphasizes the need for staff to work together to co-create innovative solutions, thriving in an eco-system that managers should engender to ensure innovation is a planned and systematic, rather than random or chance, process.

3.3.3. *Key issues arising for this study*

Having considered a range of factors concerning innovation and creativity a number of key issues that pertain to this study and the research questions therein are as follows. Firstly there appears to be strong synergies between the antecedents for entrepreneurship and those that have been identified for creativity and innovation. This is perhaps unsurprising given the links outlined herein between the three terms, and the researcher’s observation that the terms may often be used interchangeably (albeit incorrectly). The three terms do not however have the same meaning and there would be merit in understanding if actor’s within the public / HE sectors believe that one of the terms better describes their activities than others. Do HE actors consider themselves to be entrepreneurial, or would they find the term innovative sit more comfortably with their perception of the activities with which they engage?

The review of literature on creativity and innovation in the public sector has identified that the key issues and dimension appear similar to those elucidated within the entrepreneurship literature identified earlier. It is not clear however if this is perceived to be the case in practice by actors working within the HE sector. This knowledge gap could be addressed through primary research.

A number of the articles reviewed have revealed a body of work that has already indicated an important relationship between an organization’s culture (or sub-cultures) and the way in which staff within that organization can be innovative and/or creative. This review did not explicitly find such a strong relationship having been identified between organizational culture and entrepreneurship, which is perhaps surprising given the observed close relationship between entrepreneurship, innovation and creativity. This is an

area which would be worthy of further investigation, to ascertain if study participants perceive such a link to exist.

3.4. Organizational culture

This section of the literature review seeks to outline the dimensions of organizational culture, explore how it differs from climate and considers the cultural factors that support organizational performance and innovation. The literature on organizational culture within the public sector and HE contexts are reflected upon and key issues arising for the study are highlighted.

3.4.1. *The dimensions of organizational culture and climate*

Although there has been a growing body of research in the field of organizational culture, especially since the late 1970s, there would appear to be no single agreed definition. Deal and Kennedy (1982) provide what is perhaps the simplest and most succinct definition of organizational culture by suggesting it is 'the way we do things around here'. As a prominent author in this academic field, Edgar Schein seeks to provide a fuller definition, suggesting that it should be considered as follows. It is this definition that is adopted for the purpose of this study:

Definition adopted for this study: organizational culture

Organizational Culture is "a pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems". Schein (2010, p.18)

Schein's definition is complemented well by Wilson (2001) when he argued that culture refers to patterns of established behaviours, and to durable, stable systems within organizations. Tierney (1988, p.3) had also reflected upon the importance of culture, observing "it is reflected in what is done, how it is done, and who is involved in doing it". It can perhaps be argued therefore that culture has an enduring and organization encompassing importance.

Research has been undertaken that seeks to consider the multiple dimensions or attributes that define the building blocks of organizational culture. Indeed as

reported when considering Innovation and Creativity, there is a large number of determinants for such activities that authors have defined as being cultural (for example risk taking propensity, rewards and reinforcements and support for change, to name but a few). Hofstede et al (1990, p.287) suggested that most authors at the time agreed it had a number of characteristics that supported cultural development, namely: “holistic; historically determined; related to anthropological concepts; socially constructed; soft; and difficult to change”. This is however a single view at a point in time and a wider review of the organizational culture literature has identified a range of components of culture being suggested by researchers over the intervening years. Whilst these are in many cases quite wide-ranging, when mapped by the researcher in Table 2 there are some strong similarities and themes that can be observed clearly and these are now considered.

There would appear to be some agreement that clear and ‘lived’ organizational values, beliefs and ideologies are important. Sadri and Lees (2001) expound the importance of having corporate values that are consistent with organizational purpose, which align with the values of individuals within the organization, and which may be implemented consistently and supported by management to direct the way activities are undertaken. Likewise Kuratko et al (2011) report that organizational values can help shape what employees think is important or worthwhile doing.

Barney (1986) meanwhile identifies that values can help shape how an organization deals with its internal and external stakeholders. Furthering this discussion, Kotter and Heskett (1992) cited in Lee and Yu (2001) make the observation that values need not be set in stone, suggesting that ‘adaptive values’ (that is values that have been adapted to meet changing requirements) are associated strongly with performance over a long time frame.

Table 2: Elements of organizational culture highlighted during this review

Authors	Myths	Values, Beliefs & ideology	Sagas & Stories	Legends & Heroes	Metaphor & slogans	Rituals & Routines	Artefacts & logos	Structures	Control & Support	Cultural network	Environment	Leadership	Assumptions	Flexibility
Jermain (1991)	✓	✓	✓	✓	✓	✓	✓							
Johnson (1987 / 1992)	✓		✓			✓		✓	✓					
Deal et al (1982)		✓		✓		✓				✓	✓			
Wilson (2001)	✓								✓		✓	✓		
Schein (1995)		✓					✓						✓	
Barney (1986)		✓							✓					✓
Martin & Terblanche (2003)								✓	✓					
Sackman (1992)		✓											✓	

(KEY: ✓ indicates that the element was highlighted by the author)

There is some evidence to suggest that organizational myths, stories and legends have a role to play in the development of cultures. Johnson (1987, 1992), Jermier et al (1991) and Kuratko et al (2011), all highlight that the stories and legends developed and retold internally are linked with the building of organizational culture, reinforcing what people believe to be the way things get done. Greenberg and Baron (1997) (Cited in Sadri and Lees, 2001) propose that such stories help make elements of organizational culture tangible and can have a role in perpetuating it for the future; helping to develop an enduring culture built over a period of time. Similar to myths and stories, a number of authors agree on the importance of organizational rituals and routines. These can range from the formal (e.g. internal training programmes, selection and promotion processes (Johnson, 1987) to the informal (e.g. the Christmas party and retirements, (Kuratko et al, 2011)); building upon a picture of how an organization wishes to operate.

A recurring component in organizational culture literature is the systems and structures in place across an organization. Authors suggest these range from what may be perceived to be control or management systems such as those highlighted by Johnson (1987, 1992), to the formal organizational or internal power structures discussed by Wilson (2001), Barney (1986) and Martin and Terblanche (2003). Such control systems can pervade all areas of an organizations operation, such as payroll, reward systems, planning, and affect how resources and activities are planned and so doing, having a direct effect on what is prioritized. In addition to the most commonly reported components there are many others that researchers have proposed have an impact upon organization culture. These include, but are not limited solely to: the importance of the external business environment (Deal and Kennedy, 1982); leadership of the organization (Wilson, 2001); the basic assumptions of the organization (Schein, 1995 and Sackman, 1992); the collective will of the individuals within the organization (Sackman, 1992); and informal socialization processes (Wilson, 2001).

With so many possible components of culture having been identified within the literature it can be argued that organizational culture is a multi-faceted and therefore complicated construct to develop and understand. It is perhaps also

important to highlight that authors such as Edgar Schein, Alan Wilson and Michael Denison are amongst the many researchers whose research has revealed that organizations may possibly have multiple cultures or cultures that manifest themselves at different levels, such as at the visible and the less visible (sub-conscious level). Indeed Jermier et al (1991, p.172) state “apart from public impressions, an organization usually does not have a singular monolithic culture”. Sadri and Lees (2001) report that although organizations may have a strong ‘dominant culture’ there will also be sub-cultures; noting the imperative that these should be aligned as far as possible. The possibilities of multiple or multi-layered cultures within the same organization raises interesting questions for research, and these are considered later.

Having discussed organizational culture it is important to pause briefly to consider organizational climate, the two constructs being used apparently interchangeably and in parallel in a number of research articles. Ahmed (2005) and Denison (1996) outline similar views when they state that whilst organizational culture refers to deeply held beliefs, assumptions and values, climate refers to the observable practices and policies of an organization. Denison further argues that climate may be thought of as ‘temporal’, and is something that can more easily be influenced and controlled than organizational culture. Sims and Lafollette (1975) espouse that climate is a set of characteristics that may be used to describe an organization, which are enduring, and “influence the behavior of people in the organization”. This latter definition is perhaps striking in its similarity to how some researchers have sought to describe organizational culture. Given the areas of convergence identified by researchers, it is perhaps unsurprising that debate can be found that queries whether culture and climate are indeed different or, as Denison (1996) eloquently summarizes, are they very similar and related phenomena that are simply explored by researchers from different perspectives. Setting this debate to one side having identified what culture and climate are, this review turns to considering how this may affect creativity, innovation and entrepreneurship (therefore returning to the exploration of the relationship between these dimensions).

3.4.2. Cultural factors that support innovation, creativity and entrepreneurship

Martins and Terblanche (2003) report that organizational culture can have a significant influence upon organizations and their ability to be creative, innovative and entrepreneurial. Addressing this issue Ireland et al (2003, p.970) state "an effective entrepreneurial culture is one in which new ideas and creativity are expected, risk taking is encouraged, failure is tolerated, learning is promoted, product, process and administrative innovations are championed, and continuous change is viewed as a conveyor of opportunities". A number of other authors have also considered the key cultural dimensions that may have an impact upon the ability of an organization to be innovative, or to develop what may be called superior performance in their chosen markets.

Organizations that display strong core managerial values, which foster innovation and flexibility in their workforce and which use appropriate management controls will display such superior performance, argues Barney (1986). This theme is developed further by Gordon and DiTomaso (1992) who identify what they describe as eight cultural factors that can lead to innovation, namely: clarity of strategy; systematic decision making; integration and communication; innovation and risk taking; accountability; activity orientation; fairness of rewards and the development and promotion of individuals from within the organization. Meanwhile Denison and Mishra (1995) consider similar cultural criteria but broken down into two key dimensions: those that support growth (flexibility, openness and responsiveness); and those that may be used to support organizational profitability (integration, direction and vision). In their work, which acts to synthesize earlier research in this area, Martins and Terblanche (2003) also seek to consider the key cultural dimensions of organizations that are supportive to innovation. In their research they identify five key areas: strategy; organizational structure; support mechanisms; behaviours and communications. A recent meta-analysis presented in 2013 by Hogan and Coote (2013, p.4) further supported this wide array of components.

These articles appear to be representative of others and the listing of cultural components identified is perhaps helpful to show similarities in the types of issues considered. Despite the studies coming from research undertaken from

a variety of methodologies (e.g. meta-analysis of other literature reviews, positivist survey of organizations and case study qualitative research) common themes may be discerned through the literature. These cultural dimensions can be summarized as: the importance of a clear strategy or vision; support and control mechanisms; explicit acceptance and support for risk taking; and values / behaviours that support the development of innovation (such as support for change, fair evaluation of ideas and the way mistakes are dealt with).

In addition to considering the above components of culture, authors such as Gordon and DiTomaso (1992) have also considered whether culture is static or changeable over time. Wilson (2001, p.362) meanwhile adds to this debate, questioning whether the possible existence of many sub-cultures means that organizational culture is even more difficult to manage and control. This issue is perhaps of pertinence to the study in that it brings into question whether a Higher Education Institution seeking to use its culture to support entrepreneurship could deliberately influence the culture in order to do so.

3.4.3. *Literature within the public and HE sectors context*

Academic literature with regards to the public sector and public sector administration has over recent years been dominated by the notion of New Public Management (NPM) and even more recently by a post-NPM debate. This is now considered in the context of the research objectives of this study.

The inclusive NPM term of was first proposed by Hood (1991) who observed that there had been a move since the 1980s to a new form of public sector administration, which was characterized initially by a change in public accountability. Hood went on to identify seven key 'doctrines' that he identified from the emerging public administration literature as being the key components of NPM, namely: public units organized by product; competitive provision and internal markets; private sector management styles; increased emphasis on frugality of resource use; emphasis of 'hands-on' top management; use of measureable standards and measures of performance; and greater emphasis on controls. Writing on the same topic some thirteen years later the key components of NPM were summarized by Denhart (2004), cited in De Vries

(2013), as covering ten key principles including being: customer oriented; mission driven; enterprising; anticipatory and market oriented. Whilst these are perhaps expressed in different terms to those originally identified by Hood, there would appear to be significant similarities between the expounded components. Indeed the key essence of the broad NPM agenda has been summed up well by Mackie (2005, p.5) who observed that NPM is “a movement on the part of the public sector to become more like private business coupled with greater accountability to funders, stakeholders and clients for results achieved”.

The debate about NPM has not however remained static. Writing in 2008 Lapsey suggested that the emphasis of NPM now lay in management processes, such as the introduction of general managers into the public sector, the advocacy of entrepreneurial thinking and the impact of public accountability on management processes (Lapsey, 2008). Others however argue that public management and administration has moved well beyond the NPM agenda. Fenwick and McMillan (2010), for example, proposed that NPM is now an insufficient theoretical tool to explain issues in public administration and that individual actors increasingly use their own tools and techniques to make sense of the public sector contexts within which they operate. Christensen and Laegreid (2011) argue that whilst the NPM agenda emphasized fragmentation of the public sector, new public agendas are emphasizing a requirement for reforms that lead to increasing integration of services.

From this brief overview it may be observed that the complexity of the NPM and post-NPM public administration debate has made a significant and relevant contribution to the culture of organizations operating within the public sector over the past twenty to thirty years. Through the drive in the 1980s and 1990s for public sector organizations to operate in the ways traditionally associated with the private sector, actors have been advised that the challenges of working in the public and private sectors have become more similar (Peters and Pierre, 1998). This literature review has however revealed the numerous ways in which the public sector and HE contexts affect the notions of entrepreneurship, innovation and creativity. These have been explored in some detail within

sections 3.2.4 and 3.3.2. It has been highlighted, for example, that organizations operating in these sectors must: cope with dynamic and hostile conditions (Kuratko et al, 2011); have robust processes to minimize corruption (Borins, 2002); deal with short term budgeting and planning horizons (Cornwall and Perlman, 1990); operate within a context of risk aversion and poor incentives for staff (Mulgan and Albury, 2003); and overcome an inherent problem of such organizations often being perceived to be bureaucratic and conservative (Sadler, 2000). Such differences between the organizational cultures of public and private organizations, have been explained by Schraeder et al (2005, p.494) as being “largely due to the uniqueness of external environment characteristics shaping the boundaries and expectations of the organizations”.

It may be observed that an array of literature was identified through this review that highlight differences (such as those identified earlier) in context between public and private sector organizations. Likewise the impact of these and ways in which such differences manifest themselves on the ability of organizations to be entrepreneurial, innovative and creative was likewise reported. This literature review has not, however, identified articles that suggest the identified building blocks of organizational culture (the key dimensions identified in Table 2) are in any way different between the public and private sectors. As this is the focus of section 3.4.3, this review therefore turns to considering the key issues for this study regarding organizational culture.

3.4.4. Key issues arising for this study

Having considered a range of issues concerning organizational culture and climate, the key issues that pertain to this study and the research questions that flow therefrom are as follows.

The review of organizational culture has indicated through a wide range of previous studies that numerous possible components of organizational culture exist. Furthermore the review has identified a number of factors that have been identified as being important to the development of cultures that support innovation and creativity. Fewer articles have been identified within this review that outline such components with regards to supporting entrepreneurship. This

would seem to be a gap in the extant literature that is worthy of further investigation. Such future enquiry should also seek out actor's perceptions to build an understanding of whether those components identified in other organizational contexts are resonant with those working within the UK HE sector. The review has identified that multiple cultures may be perceived to exist within a single organization. Literature has not however been identified that seeks to understand whether such sub-cultures are perceived by actors to be more or less supportive of innovation, creativity and (most importantly for this study), entrepreneurship. Given it has been noted that many universities are developing small organizational units specifically to foster entrepreneurship, it would be valuable to identify if these could have their own cultures and if so what steps could be taken to ensure they are appropriate environments for fostering such activities.

It has been reported that different views exist regarding how easy or difficult it may be to leverage organizational culture and ensure it is changed and developed in ways that support innovation and entrepreneurship. Given the variety of views there would be merit in exploring and developing an understanding of actor's perceptions of this important point within the HE context; aiding in the development of practice and academic knowledge.

3.5. Gaps and issues arising from the literature

This review has examined critically existing literature regarding entrepreneurship, innovation, creativity and organizational culture within a HE context in particular. The following key gaps and issues arising from the literature have been identified.

The literature review has suggested there is a paucity of empirical research within current literature that is focused solely on the possible relationship between entrepreneurship and organizational culture. Whilst culture and climate have appeared as aspects of literature on entrepreneurship (e.g. Kenney and Mujtaba (2007), Pinchot (1985), Kuratko et al (2004), Ireland et al (2006) and Hornsby et al (2002), Luke et al (2010)) this review has been unable to identify many empirical studies that make the dimensions of organizational

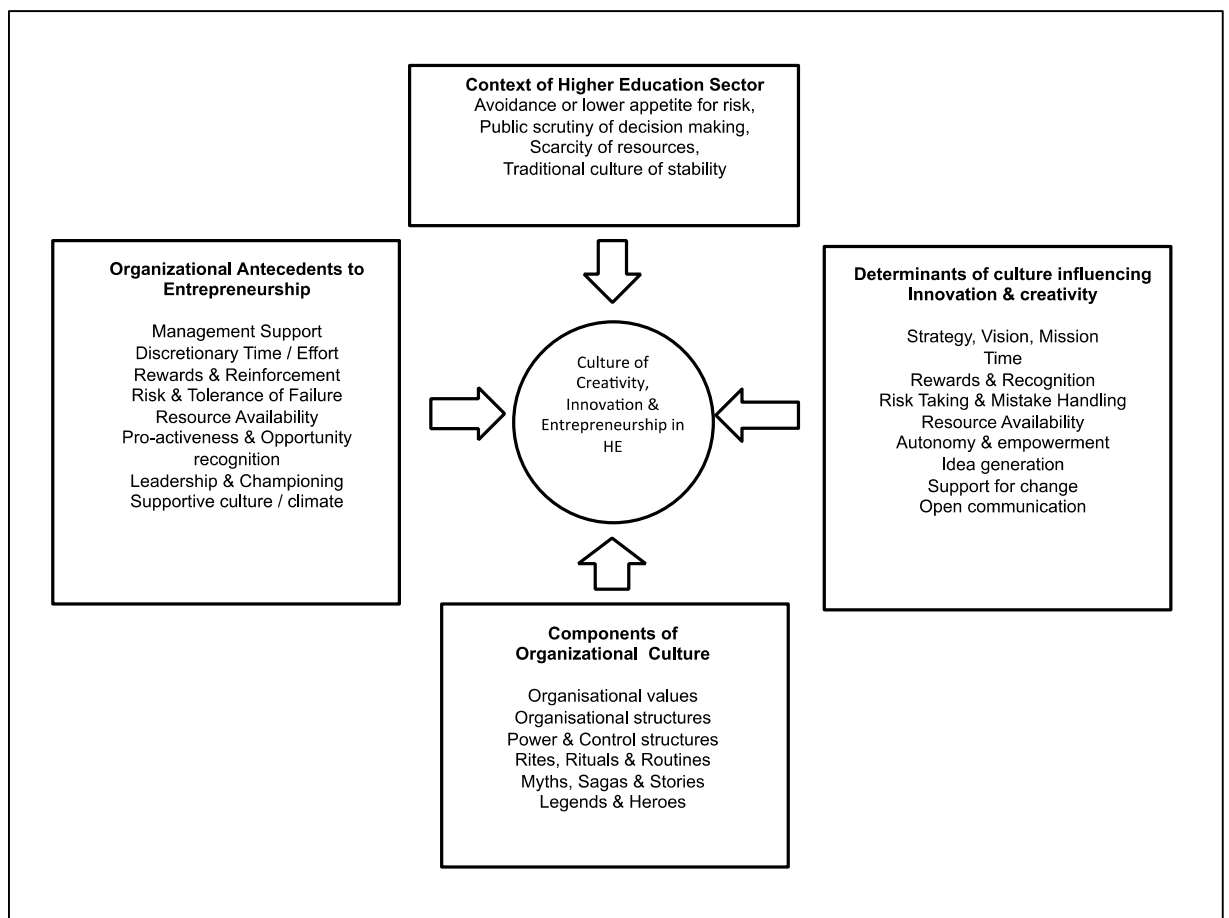
culture and entrepreneurship as their primary focus. This suggests that a gap exists that warrants further examination. Furthermore, whilst there appears to be an overall lack of such literature, very little could be identified which reviews these dimensions within the public sector or, far more specifically, the HEI sector, which as this literature review has identified has markedly different challenges and opportunities than the private sector.

Of the many academic sources considered as part of this literature review, it has been observed that the majority of empirical research supporting the literature identified has been undertaken from what may be described as broadly positivist/objectivist ontological and epistemological positions. It may be argued that this stems from the predominant traditions of the disciplinary perspectives from which most of the current research has grown (for example economic and psychological perspectives on entrepreneurship) and from the nature of many peer-reviewed journals that require positivist approaches to research. That is not however sufficient reason to continue to plough this same furrow and whilst some research has been interpretivist in approach, it could be argued this is limited and few studies identified herein have followed a methodological approach suited to seeking deep understanding of the phenomena and the perceptions of key actors. Future study undertaken from an interpretivist epistemological perspective would therefore bring refreshing new understanding of the interactions between entrepreneurship and culture, particularly within a HE context.

Figure 5 has been developed by the author building upon the types of meta-analysis models presented within Martins & Terblanche (2003) and Oosthuizen (2012). This figure brings together a very high level summary of some of the key determinants of entrepreneurship and determinants of culture influencing innovation and creativity outlined within this chapter. The figure also highlights a number of different components of organizational culture taken from this area of literature. The figure takes cognizance explicitly of the particular context of the study within the public and HE sectors and indicates some of the important factors that have been highlighted which suggest differences between these sectors and the for-profit private sector. This diagram displays the complex and diverse range of issues that stakeholders/actors seeking to support

entrepreneurship within the HE context may need to consider. The diagram may also assist in building a bridge between organizational culture and entrepreneurship (the two areas of focus for this study), in that the cultural determinants of innovation are very closely aligned with the organizational antecedents to entrepreneurship.

Figure 5: Determinants for a culture of entrepreneurship, innovations and creativity in an HE context



Through this literature review it has been identified that there is a body of research indicating innovation and entrepreneurship in the HE (and broader not-for-profit sector) presents different issues to those arising in the traditional for-profit sector. The research to date may however not yet consider fully the instances where HEIs seek to commercialize their knowledge through new ventures, structures or opportunities which are arguably at the cusp between the commercial and public sectors. Given the continued and increasing pressure from Government on HEIs to be creative, innovative and entrepreneurial in their transfer of knowledge to industry, there may be

considerable benefit in undertaking research that develops a better understanding of the phenomena and which therefore can impact positively upon practice.

The review has identified that there is already a well researched and documented link between creativity, innovation and entrepreneurship. This review has also highlighted literature that suggest there are cultural determinants to innovation within organizations and, furthermore, that these determinants of innovation align closely with those themes identified as the antecedents for entrepreneurship. Given this it could be questioned, using primary research, whether the antecedents for entrepreneurship could – or indeed should - be viewed as cultural phenomena as well. A number of philosophical approaches could be taken to address this question, but given the earlier observations regarding the apparent preponderance of positivist research in the field, an interpretivist approach would bring a different perspective to exploring an understanding of the issue. For example such enquiry may bring a fresh perspective through obtaining the perceptions of actors in a range of different roles.

Literature has been identified that have sought to reveal the components of organizational culture. Synthesizing a variety of the models identified has indicated a potential set of components commonly identified by academic authors as being elements of organizational culture. These may be used as a means of exploring understanding of whether or not these have a relationship or not on being supportive of entrepreneurship. The components of organizational culture could also be used as means of exploring aspects of the antecedents of entrepreneurship / determinants of innovation and creativity themselves. For example new primary research could explore if components such as rituals and routines, myths and sagas have an impact upon perceptions of management support, risk and tolerance of failure.

A thread of previous research has been revealed that indicates organizations may have multi-layered and multiple internal organizational cultures. For a researcher interested in developing a deeper understanding of an organization this raises interesting possibilities. If a number of separate sub-cultures can be

identified within a single organization, could these be explored to understand whether some sub-cultures align more strongly with the espoused organizational culture and if so why? Such questions also raise the possibility of exploring whether some sub-cultures could promote and/or inhibit entrepreneurship and innovation more than others; or whether such sub-cultures are perceived as being of greater or lesser importance than the overarching culture when it comes to performance against stated goals (such as supporting staff in being entrepreneurial).

Considerable commonality has been identified between the antecedents for entrepreneurship and determinant factors for innovation and creativity (as shown Figure 5). These similar factors are likewise identified in the section on how to support entrepreneurship in the public sector and the discussion of how cultural dimensions may be used to support entrepreneurial performance. In order to focus on specific aspects of organizational performance, it would be possible and reasonable to narrow down on one or more of these and conduct an in-depth research study to gain a better understanding of the relationship, or perceptions of the relationship, with entrepreneurship. For example there may be benefit in focusing a detailed enquiry into risk taking/tolerance, the allocation of resources, or rewards and recognition. Each of these single focus studies could perhaps bring valuable new understanding. Alternatively a research design that sought understanding or explication of issues from a multi-functional perspective could also bring new insights onto the subject. Such a multi-functional approach may also bring greatest benefits and insight to practice, given the literature review identified the close relationship and interplay between numerous antecedents.

It has been identified that there is some debate regarding whether it is possible to use the antecedents of entrepreneurship as management levers to enhance performance. Where this is linked to aspects of culture there is likewise current debate regarding whether culture can itself be manipulated and changed, or whether it is too nebulous to effect directly. It has been revealed that there is ongoing debate about whether organizations have a single culture, and if numerous sub-cultures exist it has been questioned whether this makes deliberate culture change (for example deliberately seeking a more

entrepreneurial organizational orientation) even more problematic. This issue could be explored within the HE context to, for example, understand whether different parts of a single university can develop entrepreneurial cultures whilst other parts do not; and if so what factors leveraged that position. A thread of discussion has emerged which identified a key factor in organizations being entrepreneurial is that of vigilance to opportunities when they arise, the ability to be creative and innovative in response to such opportunities, and an organizational ability to mobilize appropriate resources quickly enough to gain decisive advantage before competitors do. The review has identified the factors that influence an organization's ability to do this are likely to be influenced by organizational culture. There would be merit therefore in seeking to obtain actors' perceptions from within an organization, such as an HEI, to establish whether the culture does indeed support or inhibit such pro-activeness to opportunities. Understanding of these phenomena could perhaps be used to inform practice.

As has been indicated in a wide range of possible factors that may have a relationship with the ability to be entrepreneurial have been identified – ranging from antecedents to entrepreneurship, cultural determinants of innovation and the dimensions of organizational culture. Given the wide and varied nature of these there would be merit in exploring with actors within the HE/Public Sector context what they perceive to have the strongest relationships. Addressing this knowledge gap would permit managers and leaders within the sector to target activities on the key factors.

3.6. Key research questions

Informed by the research aims, the gaps in knowledge and the array of potential issues highlighted in Section 3.5 the following primary research question has been developed for the study and used in the data collection phase.

Primary Research Question

What issues regarding organizational culture and entrepreneurship do participants perceive exist within a UK HE context?

In order to elicit an understanding on this question and to develop an output that will provide an opportunity to inform practice and knowledge, the following subsidiary research questions have been developed.

Research Questions:

1. What do participants perceive to be the key organizational characteristics that affect their ability to act entrepreneurially?
2. Which of these characteristics do participants perceive to be the main enablers or barriers to entrepreneurship?
3. Which of the characteristics do they believe can be influenced / levered to become more supportive of entrepreneurship?
4. Do participants perceive that the characteristics identified could be described as part of an organizational culture; and if so why/why not?
5. Do participants perceive there to be a single organizational culture or a number of sub-cultures; and what relationship is this perceived to have with entrepreneurship?

3.7. Chapter conclusion

As outlined in research aim one in Section 1.2 this chapter has provided a critical examination of the existing literature regarding entrepreneurship and organizational culture. The relationship of these dimensions to innovation and creativity within the context of the public and HE sectors has been revealed. Having concluded with the identification of a number of key research questions, consideration is now given to an appropriate methodology and methods for the conduct of research in this field of enquiry.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1. Chapter introduction

Identifying the philosophical paradigm adopted for any research is of vital importance to the shaping of the study. Easterby-Smith et al (2008) highlight that failure to think through philosophical issues can affect significantly the quality of research. The philosophical paradigm adopted for the study may be seen to define “the basic belief system or world view that guides the investigation, not only in choice of method but in ontologically and epistemologically fundamental ways” (Guba & Lincoln, 1994, p.105). It has also been argued there is no single philosophical paradigm considered ‘correct’ or ‘better’ for any particular study, as this will depend on the research questions seeking to be answered (Saunders et al, 2009). Crotty (2006) reports that researchers can struggle to keep ontology and epistemology apart conceptually due to the confluence between the two notions. Whilst acknowledging this perceived difficulty, the following section attempts to do so. Within this chapter Section 4.1 considers the research philosophy and approach used in this study, whilst Section 4.2 outlines the data selection and analysis methods. The means used to trial the data collection methods ahead of the study is reviewed in Section 4.3 whilst Sections 4.4 and 4.5 reflect upon generalizability, repeatability and ethical considerations associated with the study.

4.1.1. *Ontology*

Ontology is described by Saunders et al (2009, p.110) as being “concerned with the nature of reality”. Benton and Craib (2011, p.4) meanwhile suggest “ontology is the answer one would give to the question: ‘what kinds of things are there in the world?’” whilst Blaikie (2000, p.8) complements these views stating ontology relates to “claims and assumptions that are made about the nature of social reality”. A synthesis of these views indicates ontology is concerned with the possibility of understanding reality in different ways, which may be seen to be important to research as it shapes the type of questions asked and researchers’ ability to achieve different outputs therefrom.

The ontological position adopted for this research study is informed by social constructionism, although it is acknowledged that social constructionism is not a

single fixed position (Stam, 2001). Burr (2003) concurs with this, indicating it is a theoretical orientation underpinning a number of approaches. Holstein and Gubrium (2008) describe it as a mosaic of research efforts whilst Cunliffe (2008) draws distinctions between various social constructionist interests and orientations, reporting that the term is simply a broad umbrella under which a number of approaches to research, knowledge and theorizing lie. Common dimensions to many of these views are summarized in Gergen's (1985) description of social constructionism, and this is the definition adopted in this study:

Definition adopted for this study: social constructionism

Social constructionism is "principally concerned with explicating the processes by which people come to describe, explain or otherwise account for the world in which they live". (Gergen, 1985, p.266)

A social constructionist approach argues there is no objective single reality that may be revealed through research or scientific enquiry. Rather it suggests individual actors create reality through a variety of social means. This can be through sense making as a cognitive process, through focus on language and its use, and through understanding derived via discussion.

4.1.2. Epistemology

Epistemology may be defined as the philosophical enquiry into the nature and scope of human knowledge, and seeking to distinguish genuine knowledge from mere belief, prejudice or faith (Benton & Craib, 2011), whilst Grix (2002, p.177) suggests it "focuses on the knowledge-gathering process". Aligned well with the social constructionist ontology, an interpretivist informed epistemological position is adopted for this study, which argues researchers must understand differences between humans in their role as social actors (Saunders et al, 2009). Explicit within this epistemological position is the assumption human knowledge is constructed via the interactions and interpretations of everyday life and that different subjective interpretations of these interactions are possible by each actor. This view is supported by Berger and Luckmann (1966, p.60) who proposed in their seminal text that they

“encounter knowledge in everyday life as socially distributed, that is, as possessed differently by different individuals and types of individuals”. Cunliffe (2008) defines the matter noting the epistemological position ranges from views that social construction occurs at micro levels (e.g. in everyday conversations) to macro levels (e.g. cultural and institutional). Having reflected upon a range of descriptions, the definition adopted for this study is from Gergen who reports:

Definition adopted for this study: interpretivism

Interpretivism: is a position whereby knowledge and understanding “is the result of active, cooperative enterprise or persons in relationships”. Gergen (1985, p.267)

A key significance of this epistemological position is that it directs researchers to use methods of study supporting the development of understanding based on these social interactions, building on the perceptions of individuals or the study of them within their daily context. This is explored further in Section 4.2.

4.1.3. Axiology

An important third strand of an overall research methodology is the identification of the researcher’s axiology (more simply referred to as the values adopted for the purposes of an individual study). Heron (1996) indicates values are the guiding reason for all human action and axiology may therefore be understood to be the role values have played in a researcher’s choices throughout their study. Some philosophical positions (such as positivism/objectivism) would perhaps suggest social research is value free and the researcher’s values have no impact upon the design, conduct, analysis or results of research. This is not however the position adopted within social constructionist research, which argues (Grix, 2004, p.83) social phenomena do not exist independently of the interpretation of them, and therefore “researchers are inextricably part of the social reality being researched”.

In this study the researcher’s values relate to the equality of individuals’ perceptions and the importance of capturing views from all levels of an organizational hierarchy rather than, for example, just those views of managers. Through undertaking this study a managerial perspective was not adopted for

the data collection phase. The approach instead aimed to develop a better understanding of the phenomena observed in a single study organization through the lens of participants' perceptions at a variety of appropriate levels of the organization. The researcher also aligns with the view research can best draw deep understandings by being embedded within the study organization, rather than being undertaken at 'arm's length', such as may be the case in a controlled, scientific tradition. In being embedded, however the researcher acknowledged the potential influence of his presence in the area of study and how this may have impacted upon the data collected – an issue considered further in Section 4.5.

4.1.4. Research approach

The overarching approach planned for this study may be described as predominately inductive, rather than deductive; although as is described in section 5.3 a careful combination of first inductive then deductive approaches was eventually used. It may be observed that a primarily inductive study approach aligns well with the interpretivist epistemology adopted for the research in that it is concerned with building understanding of an issue or problem within its particular context to allow for the formulation of a theory or new insights (Saunders, et al. 2009). The inductive approach accepts that researchers are embedded within their research context. If a predominately deductive approach had been adopted, this would have been at odds with the philosophical paradigm and the study would have been deducing, expressing and testing a hypothesis in order to test a theory and, if necessary, modifying it. Furthermore a solely deductive approach would have required the researcher to be independent of the matter under review, rather than embedded therein. By carefully combining elements of both approaches, as is considered later, it was possible to identify different elements of the study

In considering how to address the research aim and objectives, consideration was required regarding the research approach to be adopted in terms of the organization or organizations in which the study would be undertaken. Having considered the research methodology and possible study limitations it was decided to undertake study within a single organizational context. In undertaking a study in a single organization it was acknowledged that further

study may be required in the future, which would broaden the scope and questions to incorporate further organizations.

4.2. Data collection and analysis methods

Silverman (2006) proposes there is no right method to use in research design, suggesting instead the approach must be considered in light of the data required to address the research questions. In selecting appropriate methods for capturing the research data for this study, considerable thought was given to choosing those that would address the research questions in a manner consistent with the research philosophy outlined in Section 4.1. In so doing, consideration was also given to Lindgren & Packendorf's (2009, p.26) observation that a social constructionist perspective means "entrepreneurship is constructed in social interaction between individuals", implying therefore that it is the task of the researchers to choose methods to enhance our understanding of these interactions.

The philosophical stance places considerable emphasis on the researcher being an embedded and active participant in the data collection process, with a value placed on discussion and the flexible exploration of issues to develop a deep understanding. Such an approach also places an importance on the gathering of participant viewpoints and perceptions, rather than seeking what may be considered to be a single truth or universally generalizable findings. Quantitative collection methods from the scientific / positivist tradition were therefore discounted from consideration as they would not have aligned with the adopted research paradigm and would not have provided the information required in order to build an understanding around the research questions. Attention was instead given to appropriate qualitative research methods such as interviews, group interviews or focus groups, with the strengths and weaknesses of each being considered carefully during the research design process.

4.2.1. Data collection method 1: semi-structured interviews

An assessment, undertaken by the researcher, of the proposed semi-structured individual participant interviews identified that it would provide an appropriate means of data collection for this study. In particular the interview method was

chosen as it would allow in-depth one-to-one discussion between the researcher and participants to draw out their perceptions of the issues being explored. Arksey and Knight (1999, p.32) argue "interviewing is a powerful way of helping people to make explicit things that have hitherto been implicit - to articulate their perceptions, feelings and understandings". Saunders et al (2009) define a semi-structured interview as a method by which an interviewer starts with a set of key themes, but may vary the order or ask new questions as the interview progresses. Interviewing may therefore be observed to have a number of strengths. In considering the method however, consideration was balanced with the views of authors such as Denzin & Lincoln (2003), Silverman (2006), Gray (2007) and Saunders et al (2009), who have cautioned about the practical limitations or weaknesses of their use. It has been highlighted they can be time consuming to arrange, conduct and analyze, there can be perceived to be data quality issues arising from interviewer bias and interviewee/response bias and it has been questioned whether the researcher has the ability to understand what is being said by participants. Nonetheless the current literature on qualitative research design indicates that interviews remain a powerful and frequently deployed means by which researchers may explore and develop understanding. As such it was chosen as a primary data collection method for the pilot and subsequent full study.

4.2.2. Data collection method 2: participant diagramming

Pink (2004) cited in Silverman (2006) suggests there can be value in mixing visual methods with other qualitative methods to gain different levels of understanding of a matter being researched. Having considered a range of options, and having reviewed the possible limitations of using interviews as a sole method of data collection, it was decided this could be complemented by the use of a second data collection method, namely participant diagramming. The participant diagramming method is a means by which participants are invited to present in a diagram or picture they create, a representation of the topic being explored. Umoquit et al (2008) outline the value of using participant diagramming to complement insights gained through other qualitative approaches. Buckley and Waring (2013) report diagrams can be effective in generating, exploring and recording ideas whilst acting as a useful catalyst for discussion. The study borrows participant diagramming from the action

research tradition and in so doing it was recognized it may not, as yet, be considered a mainstream approach to qualitative data collection in business research. The effectiveness of this approach is reflected upon in Chapters 6 and 7.

In order to undertake the study a purposive sampling method was applied which identified twelve roles to be consulted. Table 3 highlights the various roles.

Table 3: Role that participated in the study (sorted alphabetically)

i	An Administrator
li	A Business Development Executive
iii	A Centre Director
iv	A Consultant or Affiliate
v	A senior manager with a responsibility for commercialisation
vi	A senior manager with a responsibility for human resources
vii	A Faculty level manager responsible for Institute activity
viii	An Institute Director
ix	A Lecturer
x	A Professor or Reader
xi	A Research Assistant or Fellow
xii	A Senior Lecturer

Drawing upon the key findings of the literature review, five broad areas of questioning were highlighted and these formed the basis for the semi-structured interview. A total of sixteen interview questions were developed and these are presented in Appendix One. A thematic analysis approach was adopted for the data analysis of the primary research information captured in interview transcripts (including the participants' interpretations of their participant diagrams). This method of data analysis is outlined more fully in Section 5.3.

Having outlined in detail the various dimensions thereof, the research methodology and methods applied to this study are summarized in Table 4.

Table 4: Summary of Research Methodology

Ontology	Social Constructionism
Epistemology	Interpretivism
Axiology	Valuing the role of individuals. Enquiry not being developed from a managerial perspective
Approach	Inductive enquiry Single organization study.
Methods	Semi-structured interviews Participant diagrams
Sampling	Purposive approach
Analysis	Thematic analysis.

4.3. Trialing the data collection methods: a pilot study

Before undertaking the full study a pilot study was undertaken, the primary purpose of which was to undertake what Baker (1994) describes as a pre-testing 'try-out' of the planned study instrument. In undertaking the pilot study an objective was to reduce the probability of participants experiencing difficulty responding to questions or of problems being experienced in the recording of interview data (Saunders et al, 2009). As suggested by Peat et al (2002) the pilot was also used to help improve the planned full study, for example through: seeking feedback to identify difficult questions; recording the time to complete the interviews; discarding ambiguous questions; and ensuring questions offer an adequate range of possible responses.

Based upon the purposive sample the pilot study was conducted on three participants, with care being taken to ensure the roles selected provide an appropriate cross-section of likely participants in the full study (Table 5). This deliberate choice of roles allowed the researcher to gain insight into whether a range of role-holders - with different levels of seniority, knowledge and experience - would be able to understand and engage with the data collection method being used in the full study.

Table 5: Roles selected for the pilot study

Pilot Study	Role description
Pilot role 1	A Senior Lecturer
Pilot role 2	An Administrator
Pilot role 3	A Faculty level manager responsible for Institute activity

Although only a limited number of participants (three) were included in the pilot study, it was considered to be sufficient to be sure that the participants would be able to understand the questions, follow the flow of questioning, use a participant diagram and, most importantly, provide information that would help to address the study's research objectives. When reflection on the pilot study was complete only one change was identified for the full study – with the wording of a single question being revised to aid the participant's understanding of what was being asked. All other aspects of the study, including the planned administration and analysis were left unchanged.

Careful consideration was given as to the arrangements for the administration of the study to ensure this would not impact negatively upon the study. Ahead of each interview the participants were asked to prepare a diagram / mind-map / rich picture (any drawing style they felt most comfortable with) on a sheet of A4, which provided a representation of their view of the relationship between organizational culture and the ability to be entrepreneurial at Edinburgh Napier University. A copy of the pre-interview instructions sent to participants in advance is included in Appendix Two.

The Social Constructionist philosophical approach adopted for the study emphasizes that the researcher should be embedded within the study organization, in order to more fully understand the context of an issue being explored (Holstein & Gubrium, 2008). Therefore all pilot (and subsequent final study) interviews were conducted at locations chosen by and therefore convenient for the study participants. Interviews were conducted in three separate campuses of the study university and one was undertaken within a city centre café. Interviews were held in the participant's own office or small

meeting rooms, as chosen by the participants, with no attempt made by the researcher to control the chosen data collection environments.

4.4. Generalizability, repeatability and reliability

Interpretivist research does not make claims that research outcomes are generalizable or predictive in nature. Similarly there are no claims the results and conclusion from this study would be applicable directly within another organizational setting. The findings are not intended to be developed as 'a single truth' but rather intended solely as an accurate reflection and understanding of a set of actors' perceptions within the single study organization. Lincoln and Guba (1990), cited in Stiles (1993), address this point eloquently, suggesting that the results and conclusion of interpretive research may be considered more appropriately for their applicability than their direct generalizability; applicability being defined as the way in which the findings help readers consider ways of adapting and applying these to their own circumstances. This notion of applicability of research findings into different contexts is also known as transferability; a claim that may be made for this social constructionist informed study.

One of the key issues for consideration in developing research results and conclusions is triangulation. Grix (2004) and Saunders et al (2009) define triangulation as the use of various different sources of data within a single study to limit the possibility of bias and to permit crosschecking of results. From a traditional positivist/objectivist research methodology this would imply the need to address issues of validity and reliability. Burr (2003, p.158) states reliability "is the requirement that the research findings are repeatable" whilst validity "is the requirement that the scientist's description of the world matches what is really there". In social constructionist qualitative inquiry the issue of triangulation is considered to take different forms as, for example, given its view reality is constructed socially by individual actors where many realities may possibly exist, the notion of testing research findings match a single reality that is 'really there' is perhaps implicitly paradoxical.

In the social constructionist tradition there continues to be difficulty in agreeing what criteria should fill this 'triangulation gap'. The use of multiple methods or

sources of data (primary and/or secondary) may be seen to be one solution; hence the use in this study of both interviews and participant diagrams. Taylor (2001) highlights methods that could enhance coherence and rigour of research; and the notions of demonstrating trustworthiness and soundness of analysis has also been mooted. Stiles (1993) raised the importance to distinguish between procedural trustworthiness and the trustworthiness of the interpretations of research findings, whilst Creswell (2013) further reinforces the importance of trustworthiness and credibility. The methodological limitations of this study are considered in further detail in reflections incorporated into Chapter Seven.

4.5. Ethical issues

Ahead of both the pilot study and full study, ethical approval was sought from the Edinburgh Napier University Business School's Research Integrity Committee. A copy of the ethical approval form is included in Appendix Three. This process ensured that a wide range of ethical issues was considered in advance of research being undertaken. In so doing the researcher used the checklist developed by Patton (1990) as a basis for self-reflection. Although great care was given to ensuring a number of ethical issues were anticipated in advance of the pilot and subsequent full study, others were only experienced whilst the study was underway. These are now reflected upon.

4.5.1. *Ethical issues anticipated in advance*

As noted, careful consideration in advance of the study identified a variety of issues that required thought and action, including: negotiating appropriate access within the study organization; ensuring appropriately informed consent of participants throughout the study; obtaining approval of interview transcripts; confidentiality of participant data; and ensuring no harm would come to participants through their engagement with the study. Approval for appropriate access to conduct a research study within the proposed university context was sought from the relevant senior member of the University Leadership Team, namely the Vice-Principal (Strategy, Resources and External Relations). To ensure that research could be undertaken within all three faculties, similar approval was obtained from the three Deans, augmenting the already robust authorization. As a courtesy, although not a formal requirement for access,

discussions were also held with local managers to ensure research in their areas of operation could be conducted.

In advance of interviews being held, the selected study participants were advised they could choose not to participate, could withdraw at any time and could expect their privacy to be respected. Issues of confidentiality were highlighted in advance, so participants were able to understand if they would be named or could be identifiable (directly or indirectly) in research outputs. For the purposes of the study, the definition of confidentiality was drawn from the researcher's University's Ethical Procedures (2014) which state:

Definition adopted for this study: confidentiality

Confidentiality means that the participants can be identified by the researcher but access to this will not go beyond the researcher.

A Participant Information Sheet and Informed Consent form (Appendix Two) was approved as part of the university's ethics procedures and sent to participants when they were first approached to participate in the study. This was followed up quickly with direct contact by the researcher (in person or by telephone) who provided an overview of the research and key ethical issues related to the study and participation therewith. Participants were offered the opportunity to ask questions and seek clarification on points. Informed consent was then obtained in writing at the start of interviews, whereby the researcher again talked through the ethical issues, checking participants understood the arrangements and ask them to sign the Informed Consent form to demonstrate agreement to participation prior to the research commencing. Completed forms are held as part of the formal records of the research process.

It was explained that participants would receive copies of draft interview transcripts for review and comment after the interviews were completed. Participants received a standard post-interview communication, developed by the researcher to ensure each received the same guidance, which stated they could:

- *'highlight instances where they think the researcher may have made an error in the transcript of what you said;*
- *add any points of clarification where they feel it would be helpful to the study and/or the interpretation of what was meant; and*
- *highlight any area where, on reflection, they would rather the researcher didn't use material in the study/thesis. In this latter case participants do not need to give any reasons'.*

In the Information Sheet and Consent Form for Participants, circulated as part of the invite to participate, care was taken to ensure it was clear how the interview data would be held, who would own it (only the researcher), how confidentiality would be maintained (each participant was given a unique participant cypher e.g. P001) and who would have access (again, only the researcher). Before conducting each pilot study interview, consideration was given as to whether there were any particular risks to the participants, such as political repercussions given their roles within the case study organization. It was observed that the possible identification of individuals could be a particular issue for the research, as it was being undertaken in the case study organization in which the researcher was working and studying and also in which the DBA supervisory/assessment team is based. It was also identified as a threat because some of the roles identified to participate in the study only have one or two individuals who hold the same role. To address this concern the informed consent form made explicit to participants that

'All data will be anonymized as far as possible, your name and role will be replaced with a participant cipher and it should not be possible for you to be identified in any reporting of the data gathered. Specific roles will not be identified, though it is likely that broad categories such as "manager" will be used'.

In producing the transcripts of the research interviews, it was notable some comments were made that could potentially be harmful to the participant if these were ever to become publicly attributed. Therefore in addition to the guarantees in the Informed Consent Form, in some instances where comments were not pertinent to the focus of study, the sections of the interview were not

transcribed and this editing was made clear in square brackets with italicized explanation in the transcript. Similarly examples were given where the names of the individuals outlined in responses were not pertinent to the study findings. In such instances the names were removed and this action was shown in square brackets. Care was taken to use this approach selectively so as not to affect the integrity or coherence of the original interview data. The original voice data files from each interview were retained securely for future reference and the edited sections of interviews were therefore not lost from the rich tapestry of original research data gathered.

4.5.2. *Ethical issues arising during the research process*

In addition to ethical considerations identified in advance, for example through using the Patton (1990) checklist, others were also identified and addressed whilst the study and data collection in particular was underway. These focused in the main on a number of issues arising from the researcher being a staff member within the study organization; not all of which were anticipated by the researcher at the outset and whilst ethical approval was obtained.

It became clear during the pilot study that the researcher had knowledge of the study organization that was greater than some of the participants. Care was therefore required not to lead the participants' responses, to provide confidential business information they may not be aware of, or to assume prior knowledge of issues that may not have been there. It also became clear that power and positional relationships could be an issue if this was not managed carefully at interview. For example, one participant had previously been a direct subordinate of the researcher and worked in a considerably more junior role; however they were only one of handful of possible participants in an identified role and their insights were anticipated to be particularly fruitful as they had worked in different areas of the study organization. It was identified as being necessary in the pre-amble to interviews to highlight the researcher's role in the process, and to remind participants to approach the interviews as if the researcher were unknown. This approach in the last of three pilot interviews helped to address the perceived ethical, power and positional relationship issues. The impact of pre-existing relationships and power/position issues on the outcome of the interviews is unknown, however the social constructionist

approach to research acknowledges explicitly the researcher may be embedded within the research context and be familiar with issues therein.

A significant ethical issue that arose for the researcher not anticipated in advance of the study is that knowledge, once acquired, cannot be forgotten. That is to say the researcher obtained views and information during the study that were pertinent to their day-to-day operation for the organization within which he, the participants and the study were located. This observation has highlighted the need for the researcher to show great care in their work-based practice to avoid any potential breaches of confidence of information acquired through the study process. The researcher obtained privileged access to views and information and this must be treated with great care even now after the completion of the study process, particularly as participants have been given important assurances about confidentiality.

4.6. Chapter conclusion

This chapter has highlighted the research paradigm and methods adopted for this study and the implications this had on the research planned and undertaken. In Chapter Five the findings of the research undertaken is considered. An outline is provided of the study participants and the analysis and findings are detailed.

CHAPTER FIVE: ANALYSIS AND FINDINGS

5.1. Chapter introduction

This chapter focuses upon presenting the analysis and findings of the research undertaken in this study. Section 5.2 provides a summary of relevant participant details and reflects upon how this may have affected the study. Section 5.3 provides an overview of the thematic analysis that was undertaken and consideration is given as to how data quality issues were managed. Section 5.4 presents the study findings and outlines five themes that have been identified via the research: time issues; resourcing issues; support issues; leadership and management issues; and supportive culture issues. Within each of these themes consideration is also given to sub-themes that were surfaced with participants through the research process. The findings are subsequently discussed in detail in Chapter Six.

5.2. Summary of participants

In undertaking the research, semi-structured interviews were conducted with twelve participants. As outlined in Chapter Four the participants were drawn from a cross-section of employees of the university; chosen to provide a number of perspectives from staff in different local organizational contexts and from a variety of different roles. No two participants undertook the same role for the university or were based within the same local organizational unit. Care was taken to ensure the views were obtained from both staff based in faculties (directly involved in what may be considered entrepreneurial activities) and those who were based in central professional support services (who have a role in facilitating and supporting entrepreneurial activities in the faculties and/or elsewhere in the university).

A list of the roles that were included in the research was included earlier in Table 3 (see page 61) presented in alphabetical order. Of these roles highlighted some were undertaken by single or a small pool of staff, therefore it is possible participants could be identified in this report. Considerable care has been required throughout the thesis to ensure that the perceptions and views of individual participants may not be attributed directly to them through the possible identification of their roles.

Table 6 presents the details of the participants' lengths of service to the organization and the time they have been based in their current role, sorted by length of university service from longest to shortest. This highlights a wide range (25 years) of service to the university, but a much smaller range (four years) in participants' length of service in their current roles; this is reflective perhaps of recent changes in roles, responsibilities or structures within the university.

Table 6: Length of service of participants in the study (sorted by length of service to the university)

Role	Length of total service at university	Length of service in current role
A	27	3
B	25	2
C	19	4
D	14	2
E	9	4
F	9	2
G	5	2
H	5	5
I	4	1
J	3	2
K	2	1
L	2	2
Mean	10	3
Medium	7	2
Range	25	4

In order to illustrate the breadth of experiences of the participants, it is helpful to provide some illustrative numbers. The mean length of university service was ten years whilst the mean length of service in a current role was four years. It may be noted therefore that the participants had a range of different experiences to draw upon in relation to the study organization whilst

participating in the research. In conducting the research it was anticipated that the participants would have a variety of years of experience in the organization and in their engagement with entrepreneurial activity via their current roles. Whilst the diversity was welcomed, this was not a characteristic taken into account explicitly during the participant selection process. The age, gender and nationality of the study participants was likewise not an explicit selection criteria and data on these dimensions were not captured during the research process as these were not considered to be important factors in this study. The researcher does however acknowledge that had such extra dimensions of data been captured, it could have allowed further analysis to have been undertaken that may have given different insights to the findings elucidated herein.

In order to maintain confidentiality of participants, Table 5: Roles selected for the pilot study) and Table 6: Length of service of participants in the study (sorted by length of service to the university) are displayed in a different order and the length of service of any role participating in the study cannot be aligned with the role title from the information presented,

5.3. Thematic analysis undertaken

It has been suggested the primary focus of qualitative data analysis is “defining, categorizing, theorizing, explaining, exploring and mapping” Bryman & Burgess (1996, p.176). As its means of drawing understanding regarding the research questions, the qualitative data collected as a result of this study was interpreted using thematic analysis. Thematic analysis was described by Grbch (2013) as a process of data reduction and one of the major analytical options available to researchers. Daly et al, (1997) described it as a search for themes emerging as being important to the description of the phenomenon being explored. Pope et al (2007, p.97) further note the approach allows for “the identification of the main, recurrent or most important issues or themes arising from a body of evidence”. One possible drawback cited for thematic analysis (Guest, et al, 2012) is that its application relies up the interpretation of potential codes and the application of these codes to texts. This was considered as a possible risk to the research however, on careful balance, thematic analysis was chosen as the appropriate method to elicit meaning from the data collected, due in particular to its alignment with the other key interpretive elements of the

methodology chosen for this study. It was noted that care would need to be taken with its application and it is acknowledged other methods of qualitative analysis could have been selected for use.

Thematic analysis approaches may be informed by inductive or deductive elements, or a combination of both (Fereday and Muir-Cochrane, 2006). These two elements were combined and utilized in the analysis of the research material collected. The data was initially reviewed using a deductive approach against a framework of key words (codes) pre-identified from the extant literature as part of the literature review (see Chapter Three). A copy of the pre-identified codes is given in Table 7.

Table 7: Codes used in the initial analysis based on literature review

Code	Antecedents/Cultural Determinants Of Entrepreneurship, Innovation And Creativity
A	Management Support
B	Discretionary time / effort
C	Rewards & reinforcement
D	Risk & tolerance of failure
E	Resource availability
F	Pro-activeness & opportunity recognition
G	Leadership & championing
H	Supporting culture & climate
I	Idea generation
J	Support for change
K	Open communication
L	Strategy, Vision and Mission
	Components of Organizational Culture & Climate
Z	Organizational Values
Y	Organizational Structure
X	Power & control processes
W	Rites, rituals & routines
V	Myths, sagas and stories
U	Legends & heroes

It may be reported that the codes were clustered into two broad themes; again flowing from the findings of the literature review. A series of twelve codes were identified related to the literature regarding the antecedents / cultural determinants of entrepreneurship, innovation and creativity. A second broad coding theme clustered around the six components identified via the literature as being key elements of organizational culture or climate. The researcher prepared transcripts of the interviews. After the participants had approved these formally, analysis was undertaken by firstly annotating to highlight any points of emphasis, humour, and pauses. This was undertaken to address issues on transcription highlighted by authors such as Guest and McQueen (2008), who highlight the importance of paralinguistic and non-verbal information, and who suggest that stress and pauses may impact upon the meaning of the spoken word.

This was followed by a second exercise by which the transcripts were analyzed thematically and annotated with the codes identified in Table 7. A third exercise, using an inductive approach, was used to complement the other two approaches and sought emerging themes that were not anticipated in advance. Braun and Clark (2006, p.13) observe that in addition to inductive and deductive elements, thematic analysis may use a semantic approach or a latent approach. The former is regarded as looking simply for surface meaning whilst the latter seeks to “identify or examine the underlying ideas, assumptions and conceptualizations”. The latter approach was adopted, which necessitated looking beyond key words to identify broader themes arising from the raw research data. As an example of this approach, participants who highlighted process and procedure issues affecting their ability to be entrepreneurial had this linked to code (Z) ‘power and control structures’. Such an approach therefore required a level of researcher interpretation, with Braun & Clark (2006) highlighting this latent tradition aligns well with an interpretivist research paradigm, as outlined has been utilized in this study (see Chapter Four).

5.3.1. Use of participant diagrams

During the interview process the participants were asked to discuss participant diagrams they had prepared in advance, so as to ensure the transcript could capture the participants’ own interpretations. In completing these diagrams

participants chose to use rich pictures, mind-maps, a SWOT analysis and an annotated version of Johnson's Cultural Web (Johnson, 1987). This capturing of the interpretation of diagrams by the participants themselves was a deliberate and planned element of the research method design, which sought to eliminate any requirement for the researcher to attempt to analyze or interpret the participant diagrams. Given the criticism such analysis lacks an analytical framework (Pain and Francis, 2002) analysis by the researcher could have led to accusations that themes were identified to suit preconceived ideas, thereby tainting the study with a possible lack of robustness.

It is considered important to note the diagrams were used as a means by which participants could start to think about issues ahead of, or in some cases during, the interviews. They were therefore a means in which an interview discussion could take place complementing the semi-structured interview questions. A number of instances were identified where the use of the diagrams revealed new or different perspectives on the participants' perceptions, which may not have been elicited solely through the use of semi-structured interviews.

Although a significant quantity of research material was collected through the study process it was not considered necessary to use Nvivo or other qualitative data software to aid the analysis process. Following the process of coding and annotating the interview transcripts, data was recorded in a large spreadsheet. This was used as a tool to allow analysis of responses within individual interviews; between responses to similar questions by different participants; and across the full range of study responses. This analysis process, undertaken manually by the researcher, permitted a rich understanding to develop around the areas being explored, from which a number of key findings were elucidate

5.4. Analysis and findings

Having undertaken thematic analysis the findings were identified as clustering around five main themes, each of which had a number of sub-theme findings. It may be highlighted that the themes identified within this chapter build upon the findings of the literature review outlined in Chapter Three. The key themes are considered below, although it should be noted the themes are not presented in order of perceived priority or the frequency of participants' mentions of each.

The themes are presented in the order that they were identified during the thematic analysis process.

5.4.1. Theme 1: time issues

The first major theme identified during the thematic analysis is the perceived importance study participants place on *time* and the impact this has on their ability as university employees to be entrepreneurial. Sub-themes identified within this section were the detailed approach to management of workload and the desire by the participants to prioritize student focused activities, thereby reducing discretionary time available to undertake tasks supportive of entrepreneurship.

Within the study university it was perceived that the management of staff time through a relatively rigidly applied Workload Allocation Model (WAM) was a key reason for lack of discretionary time to engage in entrepreneurship. Such models are understood to be used widely across the HE sector, however perceptions of the WAM used at the case-study organization were overwhelmingly negative, as the following representative examples from Participants One and Ten demonstrate:

“ Well what hinders is the WAM [Workload Allocation Model], because working within WAM you have to ask all of the time, you know, ‘can I do that?’. And then you are asked can it fit into your WAM, how many WAM hours will you get for it?”

[Participant Ten]

“I think the Workload Allocation Model has been a disaster, from the point of view that it tries to time everything.”

[Participant One]

It was recognized by participants that having a time allocation tool can be helpful, however it emerged that participants consider the version used is too restrictive and that there was undoubtedly a perception of greater flexibility in the use of staff time before its implementation. The lack of time was also perceived to have a significant adverse impact upon other enablers for

entrepreneurship. For example, it was believed by participants that they did not have time to develop fully new creative ideas, work upon the development of new Intellectual Property (IP), seek out external opportunities or foster interests that could lead to future possibilities for exploitation. It was also highlighted that opportunity recognition does not happen by chance, and that it is enabled through having time allocated to support such activities.

Participant Three, who had been allocated time in their WAM to undertake entrepreneurial activities (in contrast to what appeared to be a prevailing norm amongst the twelve participants), reflected extremely positively upon how this had led to external funding and research links:

“To me it’s the intellectual freedom and that’s, you know, time, well time is important as well. But I do value the fact that I have been allowed to, you know, pursue the research agenda that interests me.” [Participant Three]

A further importance of the WAM reported by participants, was the notion that such formal allocations of time are (or rather, perhaps should be) reflective of the relative priorities management ascribe to different activities. The view was expressed that if entrepreneurship is important to the leadership at the study University, time should be formally allocated in the WAM to allow it to happen and flourish successfully. For example Participant Six noted:

“If we [the case-study University] think something is important then we should therefore put the time, the effort, the development, money and everything else into it to make it happen. We don’t. We are very, very kind of half-hearted about it.” [Participant Six]

Seven of the twelve participants indicated that the over-riding priority for most academic staff is student support, through the various activities associated with learning, teaching and assessment. Indeed it was clear from responses that staff valued this student contact and that student support time was considered as being an important positive reason for working within the University sector. It was however noted that there is a perceived challenge in allocating the majority of staff time to such activities whilst also encouraging, in many cases, the same

individuals to engage in entrepreneurial tasks such as research and commercialization. The apparent tension between what is widely perceived to be the primary teaching focus of universities and the emerging (and increasing) requirement for generation of entrepreneurially sourced revenue streams (see Chapter Two) became a recurring theme throughout the discussions with participants. It was suggested by two participants that this tension is particularly problematic to the few employees who are perceived by management to be good at teaching, are engaged actively in research and also wish to be entrepreneurial through identifying and developing external commercial activities. For these individuals it was reported to be extremely difficult to do everything well within the time available and as allocated through the formal workload model (WAM).

5.4.2. Theme 2: resourcing issues

A second major theme identified through the findings of the research analysis, was the importance of *resourcing issues*. Sub-themes identified within this section include the perceived lack of resources in the public sector, the broad interpretation by participants of what may be considered to be of resources, and the speed of decision-making by leadership regarding resource allocation.

A number of participants were clear that the availability of internal resources to pump-prime activities is extremely important to their ability to be entrepreneurial. As an example, Participant Three spoke very positively regarding how a small internal university travel grant had paid for attendance at an external workshop, during which a key relationship was fostered that led eventually to significant research income and other ancillary benefits which were still being exploited for the study organization. It was however recognized by participants that within the university context – particularly due to the challenges outlined in Chapter Two - resources are relatively scant, in major part due to the external environment in which it is operating at the current time. It was therefore reported that within the case study organization "*getting resource takes lots of resource*" [Participant Five], suggesting that the process of acquiring funding was itself perceived as problematic and often felt to be a waste of valuable staff time. Participants in the main did however recognize

that given the scantiness of resource, they must be used extremely carefully and prioritized to support important strategic initiatives and opportunities.

Discussion highlighted that when considering resources, participants took a broad view of this beyond a narrowly constrained definition that may be associated solely with funding or budgets. It became clear that resources were perceived to mean funding and budgets, but also includes aspects such as time, staffing, equipment and space. Frustration was expressed with the means by which resources are allocated and the attitude of leadership and management towards this. As an example, Participant Five suggested that university management often take too short-term a view of resource allocation into consideration:

“So part of the problem is a resourcing one and that is at a university level commitment, long term commitment to doing things.” [...] “They don’t look at it realistically. They look for headline things, but they don’t really put the resources behind it.” [Participant Five]

It was suggested that relatively little resource has been allocated for supporting entrepreneurship with an example given that none of the business development staff – considered by some participants to be important in supporting entrepreneurial activity - are employed on permanent contracts.

In their responses it was clear that very few participants (just two out of twelve) believed they have a direct and personal responsibility for generating the budgets they require in order to pursue entrepreneurial activities. The two staff who spoke against this prevailing opinion were clear in their thoughts that in the HEI sector, staff cannot simply wait for such items to be allocated from central university funds. In order to do this the importance was highlighted, once again, of having discretionary time to develop external networks, relationships and appropriate funding applications. A strong theme that was also found to align with resources was the university’s speed of decision making and its perceived inherent conservatism / risk aversion, which participants highlighted made it very challenging to have internal business cases approved or funding requests considered. Participant One stated: *“the conservatism is certainly engrained*

within the university.” whilst Participant Nine reported: *“I think we are probably quite risk averse”* before suggesting that the university needs to *“speculate to accumulate”*. Participant Eight went further, by noting that even highlighting risks for consideration in sufficient time did not help with the speed of decision making:

“There is [sic] always risks ahead, but nobody is ever willing to take the risks although you do put the risks up there in a big circle in good time – here you are.”

[Participant Eight]

Through the variety of responses captured, the perceptions elicited in this study indicate that the avoidance of risk is very much present in a university context, reflective of the conservatism described in the literature regarding the wider UK public sector.

Although Participants Four and Seven reported the case study organization claims to be ‘fleet of foot’ (interpreted by the researcher to mean responsive quickly to emerging new business opportunities), few participants who expressed a view believed this management rhetoric to be a true or accurate depiction of the prevailing approach in the case study organization. An exemplar of this was revealed by way of a participant vignette, highlighting a case where the university took four to five months to have a commercial contract signed through what was reported to be its bureaucratic authorization structures, while the external organization – a large FTSE100 company- subsequently had the contract signed in nineteen minutes. Participants’ frustrations with such issues and the consequent impact upon entrepreneurship were clearly apparent throughout the study interviews.

What became particularly noticeable through the research process was the perception by participants that the quick allocation of resources and decision-making was not prevalent in the HEI being examined. It was not clear however, if participants observed this to be a localized issue within the study organization or whether it was also their experience of working elsewhere in the HE sector; a matter that is perhaps worthy of further investigation.

5.4.3. Theme 3: support issues

A third major theme revealed through the study is perceptions about *support issues* and how these can have a significant effect upon the ability of staff to engage in entrepreneurial activities. Sub-themes identified within this section include the requirement for clear support pathways and the need for processes and procedures that deliver more than the more traditional university business of learning, teaching and assessment.

Throughout the majority of interviews, views were expressed that the case-study organization lacks a clear route through which staff can find out how to obtain support for entrepreneurial activities. Participant Seven summarized this perceived situation clearly:

“I think there is not a clear commercial pathway and a clear commercial policy. I think, and I could be wrong, every Faculty does it slightly differently. I don’t think there is [sic] any clear guidelines if you have an idea and you want to do something, how you do it?”

[Participant Seven]

Similarly, reflecting upon experiences when looking for support within the university, Participant Five reported that they go externally where possible, because it is perceived to be simpler than looking within the organization; stating their view of the situation *“that’s not right”* [Participant Five]. It was proposed by various participants that the university has ‘enclaves’, ‘silos’ and ‘pockets of knowledge’, with a view expressed that it can feel a constant battle to join up support areas. This is not to report that all participants felt there was a lack of support *per se*; rather that there is poor connectivity between them and considerable ambiguity regarding which support can be obtained locally within Faculties and which is available from central university professional services. To this end, it was suggested by four participants that once you know your way around the university system, make contacts and develop relationships, the support mechanisms could work effectively. This is particularly the case for those staff making use of such services relatively frequently, however for those setting out on the process of being entrepreneurial, the prospect of identifying and navigating an uncharted pathway was perceived to be somewhat daunting.

Concern was raised by participants that support departments are often considered to be unsupportive and blocks to entrepreneurial activity, rather than being supportive of it. Two representative examples are as follows:

“Finance seems to be a block [...] Instead of trying to work with us they will put a block there and they won’t move.”

[Participant Two]

“There is none of that kind of atmosphere or culture [of support] it is always what have you done; block, block, block rather than help, help, help.”

[Participant Five]

A recurring sub-theme was a perception that systems and processes in the case study organization are not well aligned to supporting entrepreneurial activity, as summarized by Participant Twelve:

“The fact is that this is a very big organization that has long standing policies and practices and that is definitely not what entrepreneurial is supposed to be.” [Participant

Twelve]

Participants explored the notion that the university has systems and processes that have been developed to support its core area of business, perceived to be teaching undergraduate students. Participant One went on to lament that support for entrepreneurship takes a secondary position because:

“We are set up as a university, I think, primarily to support the work of the Schools which is teaching students, [student] recruitment, all that sort of thing.”

[Participant One]

It emerged that such support systems can often be felt to be in tension with the requirements of sales and commercialization, with views expressed that there is too much rigidity to support innovation, flexibility and responsiveness to opportunities as and when they arise. It was further reported that there is a perceived lack of appropriate administrative support for what are considered to

be key areas of university business such as learning, teaching and assessment. Participant Ten, for example highlights:

“In the [Faculty] academics are bogged down in far, far too much administration” before reporting that the university is *“very bureaucratic.”* [Participant Ten]

It was suggested that this administration and bureaucracy in itself affects entrepreneurialism, as academic colleagues who may have good ideas for exploitation cannot develop these fully through lack of discretionary time. Participants' views varied regarding whether the small organizational structures (Institutes) established to promote entrepreneurial activity within the study organization had a positive effect upon the support received or not. Some participants noted that because the structures are smaller and more focused on entrepreneurial types of endeavours they are more flexible, informal, supportive of individuals and less bureaucratic than other parts of the case study university. This view was not however universal, with Participant Three observing wryly:

"I keep referring back to that Monty Python moment in the Life of Brian; what have the Romans ever done for us? What have the Institutes ever done for us?"

[Participant Three]

This theme regarding the importance of having systems and structures supportive of entrepreneurship was in many ways anticipated in the literature review when considering elements of organizational culture. What was perhaps emergent in these findings was that despite an organizational vision and plan for entrepreneurship, basic processes were perceived to be unsupportive of this rhetoric.

5.4.4. Theme 4: leadership & management issues

The fourth major theme identified in the research findings was the importance of *leadership and management issues*. Sub-themes identified within this section include the need for clear goals, communicated well, and the perceived impact of local leadership on entrepreneurial activities.

Leadership was perceived to be of particular importance, with the following examples made by Participants Eleven and Six:

“The leaders have got to be seen to be leading so that everybody else follows – no point in having authentic leaders if you don’t have authentic followers at the same time.”

[Participant Eleven]

“Somebody somewhere has got to say this is what it is, this is what it’s about, this is how you do it.”

[Participant Six]

These and a variety of other comments across all of the participants suggest that they believe it to be important that the university’s leadership make clear the importance of entrepreneurial activity and then take steps to ensure this can be supported. In the research interviews a significant number of comments were made regarding the importance of the university having a clear set of values, a vision and a strategy that supports staff entrepreneurship. It was also highlighted that once these are in place, participants stressed that they need to be communicated clearly across the organization so that staff recognize the importance placed on such activities, echoing Martins and Terblanche’s (2003) highlighting of the importance of clear cross-organizational communications.

As within the Support Theme, there was an emergent discussion regarding the perceived relative importance of university level and local level management support, and the championing of entrepreneurship by management within Faculties and Institutes. Participant Seven emphasized this as follow:

“So I think having the backing of management to be able to do commercial work does enable it to happen. And I think if you’ve got that, then it does help whereas if you have senior management, or whatever level of management, who are constantly saying ‘no’, then that doesn’t help.”

[Participant Seven]

The views were expressed that local leaders (managers) appear in some instances to be able to obtain resources and develop local cultures and support

systems that are far more supportive of entrepreneurial activity than is perceived for the wider university. Participant Five warned however that some examples of local leadership have been less successful and detrimental to the development of entrepreneurship. Overall though a perception was surfaced that local, 'decentralized authority' and 'dispersed leadership' are more supportive of entrepreneurship within the university context, especially where local managers are given autonomy and discretion for appropriate decision-making.

Within this broad theme, it was suggested that leaders have an important role to play in ensuring that time (Theme 1), resources (Theme 2) and support (Theme 3) are corralled in order to best underpin entrepreneurial activities. Furthermore there was a perception that leaders can take steps to break down silos of knowledge and encourage cross-university initiatives and cross-fertilization of ideas. Leaders were also perceived to have an important role in identifying those staff who most able to be entrepreneurial, recognizing that not everyone will be able or willing to do so. Participant Seven summed up this challenge for university leaders:

"There are some staff who are great at commercialization and who understand what we are trying to do. But there are other people who are at the complete other end of the spectrum and I think there has to be a sort of balance. If some people all they want to do is teach then that's fine, don't pressure them to do commercial research."

[Participant Seven]

It was further highlighted that leaders have a key role in helping to organize the development and training of staff that may be required in order to foster the necessary skillsets for staff to be successful in this field. For example it was noted that some staff that are research active may require only a little training to be able to become more entrepreneurial and commercial in their activities. Through these actions, participants perceived that leadership and management have an important role to play in entrepreneurship and, in particular, in the development of supportive organizational cultures.

5.4.5. Theme 5: supportive culture(s)

The fifth significant theme identified within the analysis of the study refers to the importance of a *supportive culture*. Sub-themes identified within this section included the existence of localized sub-cultures and the perception that a culture may exist that is predominately built around supporting teaching, learning and assessment of students.

The majority of participants (eight out of twelve) perceived that the broad range of enablers and barriers to entrepreneurship, which they had identified as being pertinent within the study university, could be considered to be part of its organizational culture. Furthermore it was perceived a university culture is made up of many local cultures rather than a single uniform organizational culture that is prevalent across the whole enterprise. This is a view typified by Participant Five and Participant Two who commented:

"I think there are lots of them [cultures], I think there are lots of cultures and I think they've changed and I think they keep changing."

[Participant Five]

"There are lots and lots of different cultures."

[Participant Two]

Participant Seven likewise identified different cultures as being prevalent in the university suggesting that in addition to the different departments having sub-cultures, so too did the university's different campuses. When asked directly what the perceived impacts of such sub-cultures may be it was reported:

"I think it probably changes the way people think and the way people work, definitely."

[Participant Seven]

There were divided views amongst participants regarding whether the culture(s) in the study organization was supportive or not of the aim to develop entrepreneurial activities. Some participants expressed a view that the university was broadly supportive, such as Participant Seven stating:

“I think that it is supportive but I think the lack of joined up thinking makes it difficult.” [Participant Seven]

Others however expressed a bleaker view, with Participant One stating:

“No I don’t think it is supportive at all.”
[Participant One]

Perhaps a more insightful comment that may also be considered as relevant in the context of other organizations, was made by Participant Five, who observed:

“So say if [the study organization] had a culture that was entrepreneurial, that would really have to be reflected in each local place. So the university could not say it had one if it was not clearly reflected in the individual parts it came down to, then to the individuals. So it would really have to come down and run all the way through.”
[Participant Five]

This notion of a central culture, supportive of entrepreneurialism by staff, was also reflected by three other participants, who discussed the notion of a strong central core culture that pervades all that is undertaken across the organization. As highlighted earlier in the findings, there was a strong perception from a number of participants that the university culture is formed around the more traditional areas of university activity; that is learning, teaching and assessment of students. Participant Eleven was perhaps most strident on this point, reflecting upon the following, as well as outlining what he described as the culture clash between academics and the rigor of academia with the requirement for sales:

“There is the ordinary academic side [of the university], which is really interesting because I do some of the academic work and why that has formed the way it does, and then there is the business side which is more flexible and I can understand why the academics may not approve of that. I can absolutely understand that. It’s an internal fight between degrees and money.” [Participant Eleven]

In order to be supportive of entrepreneurial activities, it was proposed that the organizational culture is required to include a 'can do' attitude, with a positive regard for success and a more understanding attitude towards failure; recognizing - as one participant highlighted - that not every venture will be a success.

Participant Nine, reflecting on the positive impact of the local cultures, noted that it was very different working in a small Institute than operating within a large academic school where the culture was perceived as being "*stifling*" with a "*blame culture*". Within the smaller, local organizational units it was observed:

"I am much more encouraged to flourish and you know; well if that's what you think you should do...". You know. If it's wrong we're going to support you and it's not going to be a blame culture."

[Participant Nine]

The observation that local cultures may be more supportive, with less of a blame culture inhibiting entrepreneurship and innovation is considered further in Chapter Six.

5.4.6. Participant diagrams

Participant diagrams were revealed to be an extremely effective way of elucidating information that may not have been forthcoming from the participants through use of the semi-structured questionnaires alone. A number of examples arose (e.g. Participants Three and Seven) whereby the preparation of the diagrams in advance of the interviews had allowed the participants to start to consider key issues pertaining to the research question from their perspective within the study organization. As a consequence these participants were not coming to interviews 'cold' and considering matters for the first time when they were raised through the semi-structured interview questions. Other participants (e.g. Participants Eight and One) also used the pre-prepared diagrams as aide-memoires throughout discussions, so that important issues they had considered in advance of the research interviews did not get forgotten during the semi-structured discussions.

Two participants (Participants Four and Twelve) had neglected to produce diagrams in advance and after being given the opportunity to do so instead agreed to draw them at the end of the interviews. The failure to draw diagrams in advance was identified by the participants themselves as due to failing to read the pre-interview instructions carefully enough; a matter that may be reflected upon by the researcher for any future use of participant diagrams. Drawing the diagrams during the interviews again elucidated issues not covered explicitly during the semi-structured interviews. As an example, Participant Twelve identified whilst drawing a diagram that there is no sense of flow to the university's entrepreneurship process for leading academics from ideation to project activity funding and delivery. This observation lent weight to the comments of another participant regarding the lack of clear entrepreneurial support pathways within the organization. Appendix D provides examples of the diagrams prepared by the various study participants.

5.5. Chapter conclusion

This chapter has set out the analysis and initial findings of the research study undertaken. Five broad themes have been identified and analyzed, which has highlighted that within a HE context many of the enablers for entrepreneurship are reflective of the enablers identified in the literature review for corporate entrepreneurship, especially those within a public sector environment. The findings identified within Chapter Five are now considered in further detail in Chapter Six (Discussion), which gives consideration of the importance of the findings and considers the answer to the research questions identified at the end of the Literature Review in Chapter Three.

CHAPTER SIX: DISCUSSION

6.1. Chapter introduction

The analysis and initial findings of the primary data collection process were considered in Chapter Five. This Chapter provides a more detailed discussion (Sections 6.2 to 6.6) regarding issues pertaining to the five key themes that have been identified through the primary data collection and analysis. Within the discussion, reflection is provided on findings that were anticipated or identified *a priori*, that is to say following the initial literature review but prior to primary research being undertaken within the study organization. It should be observed however that the literature review was itself an iterative process, with appropriate texts being identified and reviewed throughout the life cycle of the whole study process. Within this Chapter consideration is also given to emergent findings; that is, those that were not anticipated and are therefore newly revealed by the study. An overview is provided of those issues that were anticipated through the review of study context and the literature review, but which did not subsequently arise in the study (Section 6.7). Throughout the Chapter the interactions between the different dimensions of the study are considered and possible explanations explored where appropriate, and this is brought together in Section 6.8. This Chapter concludes (Section 6.9) by discussing the research questions identified at the end of Chapter Three and returns (Section 6.10) to a consideration of the overview of the research represented in Figure 1.

6.2. Time issues

The first of the themes identified through the analysis and findings was that *time* is perceived by participants to be a key dimension in supporting staff to be entrepreneurial. This finding aligned broadly with those of authors such as Abraham (1997), Thornberry (2001), Kuratko et al (2004), Mathisen et al (2004), Kenney & Mujtaba (2007) and Goodale (2011), all of whom also noted the significance of staff having time and effort available to pursue entrepreneurial activities. During the data collection and analysis time was a feature highlighted by all twelve participants giving a clear impression that this was a significant factor in supporting other important antecedents of entrepreneurship, such as developing Intellectual Property, fostering external networks and following up on

development opportunities. It is perhaps worthwhile remarking however that in the literature it was the notion of discretionary time that was key (e.g Sathé 1989), while with the participants in the study the emphasis was solely on time allocation. This may suggest, perhaps, an expectation by participants that their time would be allocated formally to key activities.

In light of the findings of the literature review the identification of time as a key dimension was clearly anticipated. A finding of the study that was particularly surprising however was the strength of negative feeling in the study organization regarding the way time was managed closely through the use of the organization's Workload Allocation Model (WAM). Study participants went as far as to say that the use of the WAM effectively prohibited local flexibility, innovation and initiative, with a perceived consequence that staff felt they must always check with managers before engaging in activities beyond that which had been formally agreed through the university's time allocation mechanism. This perceived restriction on personal innovation and initiative would seem to run contrary to the view that entrepreneurship requires flexibility and responsiveness – the 'fleetness of foot' espoused by the study organization's management – to identify and respond to new opportunities before competitors do.

The conflation in actors' minds of time and a formal WAM is an interesting and important finding for this study. Although the approach and system varies from university to university, academic workload allocation models are in commonplace usage across much of the HE sector both in the UK and overseas, and it may normally be observed that a relatively structured approach to allocation of time could be helpful in supporting initiatives such as entrepreneurship, in that it allows the important organizational resource (staff time) to be allocated on activities in support of a management priorities. The majority negative views regarding the impact of WAM and the priorities therein may be seen to interact with other comments highlighted in Chapter Five regarding the study organization. For example it was observed by participants that management should ensure resources are aligned to support key priorities and that through doing so the organization's leadership team can highlight to staff activities that are valued. The absence of time allocations through the

WAM to support entrepreneurship – unlike research, which it was reported did have an explicit allocation for some staff – was therefore taken by participants as a sign that management did not take the subject seriously and were unwilling to match rhetoric with action. Furthermore it was observed that activities associated with learning, teaching and assessment were widely perceived by staff (including by participants who were in management and leadership positions) to be the single highest priority, with the corollary that this priority is seen to over-ride the expressed management ambition to grow entrepreneurial income. These observations are certainly interesting in the light of findings by authors such as Dess et al (2003) and Ireland (2009) who highlight how management can have the ability to foster entrepreneurship through their allocation of resources and identification of organizational priorities.

As noted, this exploration of the participants' perceptions of WAM is an important finding of this study in that it draws a clear link within a UK HE context between what is perceived to be an important antecedent to entrepreneurship - time - and how staff believe that to be achievable or allocated. By association it furthermore highlights a link between the perceived impact of a WAM and staff ability to engage in other key antecedents to entrepreneurship such as Intellectual Property (IP) development, networking and opportunity recognition. Indeed an emergent finding of the study was that such activities are believed to be of real importance with three participants passionately advocating that entrepreneurship must be underpinned by IP developed through fundamental research. These findings suggest that management wishing to foster entrepreneurship must be aware of the perceived relationships between how time is formally allocated through a WAM, how this is perceived by staff and the impacts this can have both directly and indirectly on entrepreneurship and innovation.

As highlighted in Chapter Five, another important emergent finding of the study was a perception that not all staff will have the capability, skills or even the interest/inclination in leading or supporting entrepreneurial activities. Indeed it was observed by four participants that many academic staff are solely interested in learning, teaching and assessment; and thereby supporting students through their academic journey. It was suggested that management

should carefully identify those staff who can or are willing to engage successfully in entrepreneurship and give them time to do so, rather than seeking to carve out time for all academic staff to undertake entrepreneurial activities. It was observed by one participant that this focused approach had been adopted by the study organization to create time to support research, and that a similar approach could equally well be applied to support the development of successful commercial (herein taken to mean entrepreneurial) activity.

6.3. Resourcing issues

A second major theme that emerged through the study was that of resources. Similar to time, the issues associated with resources came through the literature review strongly as an antecedent to entrepreneurship, within the works of authors such as Thornberry (2001), Hornsby et al (2002), Hitt et al (2002), Kuratko et al (2004), Shaw et al (2005) and Kelley (2011), all of whom noted it as being an important precursor to entrepreneurial activity. The literature review also highlighted that resource issues are somewhat different within the public sector compared to private sector organizations. These issues were reflected in the outcomes from the thematic analysis.

Through the data analysis process it was revealed that participants to the study were aware of the financial challenges within the sector and the current need for budgetary constraint within universities (driven in the main by the public sector funding squeezes resulting from the recession). Therefore although there was a clear identification that resources are required in order to support initiatives, there was not a perception that unlimited funding should, for example, simply be poured at new entrepreneurial activities in the study organization. More pertinently, issues that emerged through the study were regarding the way that resources were perceived by the participants to be prioritized and allocated, by management, to entrepreneurial initiatives.

Participants suggested that often too short-term a view is taken on potential initiatives and that sufficient and suitable resources are not put fully behind new ventures. This aligns with an issue recognized more widely in the public sector, by authors such as Cornwall and Perlman (1990) and Mulgan and Albury (2003), who proposed that within the public sector there can often be short term

planning and budgeting horizons, that can affect the decision making processes around organizations being able to follow up opportunities as they arise. The significant difficulty of bringing together appropriate resources was also highlighted as an issue within the study, with a perception organizational silos existed that acted as barriers to initiatives both at development and delivery stages. This finding is of interest when compared with the outputs of Burgelman and Valikangas (2005), who reported the importance of bringing appropriate resources together often in unique combinations, to support entrepreneurial activities and to address new opportunities.

Throughout the analysis it was clear that participants perceived one of the key difficulties regarding the resourcing of entrepreneurial activities to be the speed of decision making, with vignettes being outlined that suggest it could take months for funding requests and business proposals to be processed through what was perceived to be many layers of university bureaucracy. In a related finding, a strong emergent theme from the research was that with the study university is considered by staff to be extremely conservative in its decision-making, with a perception that it is risk averse, with a low risk appetite. This finding is in alignment with extant literature, with the importance of an appropriate appetite for risk taking being identified in works by a number of authors such as Miller (1983) and Dess and Lumpkin (2005). The perception that in general there is a lower appetite for risk taking in the public sector has also been explored previously (Borins 2000). In an attempt to explicate why this may be the case, Borins (2002) advanced the view that resource allocation systems and processes in the public sector are often built to safeguard public funds through minimizing corruption, rather than the swift investment in entrepreneurial activities. What became evident from the thematic analysis was a perception by participants that due to the study organization's approach to resource issues, staff perceived themselves to be often failing to capitalize on opportunities even when they were identified and developed initially. It is possible that there would be merit in the study university noting and responding to the work of Kelley (2011), who observed that advantage that can be derived by organizations with processes that can quickly and effectively deploy resources to support entrepreneurial activity.

6.4. Support issues

Authors including Barney (1986), Johnson (1987, 1992), and Wilson (2001) have identified that control and management systems - and the processes and procedures that flow therefrom - can pervade and influence strongly and directly the ability of staff to be entrepreneurial. Ireland et al (2009) outline that by putting in place appropriate processes – what they describe as an organizations ‘pro-entrepreneurial architecture’ – management can create congruence between their espoused support for entrepreneurship and the methods. As has been reported earlier, however, it has also been suggested that within the public sector there is research which reveals such processes are often established to minimize risk (Borins, 2002), resulting in conservative bureaucracies (Sadler, 2000) designed to safeguarding public funds, rather than being designed to encourage and support entrepreneurship. It perhaps comes as little surprise therefore that support issues (as these issues may be loosely grouped and termed) emerged as a theme during the research process within the study university.

Within the study organization a number of participants alluded to, or directly referenced, the tensions of attempting to be entrepreneurial whilst operating within a large public sector bureaucracy in which the overwhelming priority of the organization’s systems and processes are perceived to be in support of the learning, teaching and assessment of students. A particular frustration expressed by participants was that support departments were not regarded by academic colleagues as being supportive of entrepreneurship, with a resulting view that the bureaucracy of the university was bogging down academics and wasting valuable time that could otherwise be engaged in more meaningful and profitable activities. Examples were provided of where systems and processes simply were not perceived to be sufficiently coordinated or coherent to provide members of staff with clear pathways for the development and exploitation of entrepreneurial activities. As a consequence of this, it was likewise expressed that support departments were seen to be persistent and immovable blocks.

Both the literature and the actors’ responses then, would seem to suggest that there is a difficult balancing act that must be achieved by organizations in the public sector when they establish systems and processes; particularly where

they must seek to address and marry the requirements of public sector governance and the more traditionally private sector approach of flexibility and responsiveness to opportunities. As Leavy (2005, p.42) reports, such organizations must “learn how to walk the fine line between rigidity - which smothers creativity - and chaos - where creativity runs amok and nothing ever gets to market”.

Reflecting upon these findings it can be reported that whilst the issue of support mechanisms was in many ways anticipated *a priori* it was emergent to find that, within the HE sector context, support departments – and the processes and procedures they manage – were perceived to be such a barrier to entrepreneurship.

6.5. Leadership and management issues

In considering issues that affect the ability of staff to be entrepreneurial, the importance of leadership and management issues have been well documented within the literature. Miller (1983, p.733) for example reported that “three prime factors, all of them leadership-related, are expected to determine the level of entrepreneurship” in a firm. Rutherford and Holt (2007), building on Hornsby et al (2002), meanwhile identified top management support as one of the key antecedents for corporate entrepreneurship. More recently Ireland et al (2009) and Kelley (2011) have likewise underlined its importance. It is therefore unsurprising that such issues arose during the data collection and analysis for this study.

Flowing from the analysis was a finding that participants believed it to be important that the university’s corporate and local leadership establish a clear vision, mission and values that can be used to direct effort toward entrepreneurial goals. This finding appears to align with the works of Drucker (1985), Sadler (2000) and Sporn (2001) who likewise indicated the importance of these key factors as being organizational determinants. As within the Support Theme, there was an emergent discussion about the perceived relative importance of university corporate level and local level management support and championing for innovation and entrepreneurship within Faculties, in particular in the much smaller organizational sub-structures known as Institutes

or Centres. Such issues were highlighted in the literature review discussion with authors such as Abraham (1997), Kenney & Mujtaba (2007), and Kelly (2011) all noting its importance. Through the analysis it was revealed that whilst overall university corporate leadership was perceived to have a role in supporting entrepreneurial activities, there was a concomitant perception that local management too has a very important role to play in this regard. It was stated, for example, that local managers may have a significant impact upon: the time that is made available to support key entrepreneurial development activities such as conference attendance, network building and IP development; that they can perhaps draw resources together more quickly through informal mechanisms than through the formal university bureaucratic decision making; and that they can set the priorities perceived to be of most importance to meet local targets and objectives. This was countered with the observation that for the larger organizational sub-structures (Faculties and Schools) leadership had a far greater priority on the management of learning, teaching and assessment of students, with time and resources formally prioritized for that purpose.

Whilst participants acknowledged their perceptions that corporate leadership could be important in affecting entrepreneurial activities, this was usually described by all twelve participants in terms of the university's senior management team, rather than through the key role of the university Principal and Vice Chancellor (acting as Chief Executive of the organization). This was perhaps an interesting finding in the context of the study organization, in which the role-holder as Principal changed during the period of the study. It may have been anticipated that participants would outlined their views of the impact such a new role-holder could have in terms of stating clearly the priority for entrepreneurship or drawing resources together timeously to allow this to happen; aligning with Kelley's (2011) views on the important role of corporate leadership.

It was highlighted that locally it was possible for managers to identify innovative ways of thanking and rewarding their staff. Such rewards were stated to include providing staff with opportunities for training and staff development, which in turn helps to develop and foster further the skillsets staff required in order to engage in entrepreneurship. The issue of rewards being a motivator aligns with

findings from the literature review, with authors such as Abraham (1997), Hornsby et al (2002), Dess & Lumpkin (2005), Kenney & Mujtaba (2007) and Goodale (2011) highlighting the importance of rewards acting as a spur that can have an important direct influence on performance. It is noticeable however that through the research the only reward mechanisms discussed by participants were those put in place informally by local management, acting in the absence of a more formal framework developed or implemented at a corporate level to promote engagement with entrepreneurship (or indeed other senior management priorities). This is perhaps reflective of the perception that the public sector does not have the same reward mechanisms available as the private sector (Borins, 2002). It was noticeable also that the rewards outlined by the participants were all non-financially beneficial, which may seem at odds with the view that you need to pay staff as entrepreneurs if you expect them to act as entrepreneurs (Kenney, 2007).

When considering the impact leadership can have, there was a noticeable thread of discussion emerged through the analysis regarding the role of management in determining who should be involved in entrepreneurial activity. Participants highlighted that not every member of staff is interested, has the capacity, capability or, in some cases, interest in exploring and exploiting entrepreneurial initiatives. Furthermore the observation was made that management should identify who would be best at doing so, develop them and give them appropriate time allocations to pursue opportunities. This observation aligns, perhaps, with Dess et al (2009) who note the important role management has in shifting routines and resources (e.g.) staff around to ensure appropriate support for entrepreneurship.

6.6. Supportive culture(s)

The final theme to emerge from the thematic analysis was the importance of the study university having an organizational culture that was perceived by staff to be supportive of entrepreneurial activities. Kuratko and Goldsby (2004) had similarly noted the importance of this when observing that the culture for innovation (and entrepreneurship) must pervade all parts of the organization.

As has been reported earlier, the literature on organizational culture has identified a range of possible elements or building blocks, with examples of these being drawn from the findings of the literature review and presented in Table 2 and Figure 5. Similarly there is a large body of academic work that has outlined the possible antecedents to entrepreneurship, with eight of these being presented in Table 1. In what is believed to be an important emergent finding of this study, there has been explicit linkage made by the participants between the antecedents to entrepreneurship and organizational culture. It has been identified through the study that the building block mechanisms to support entrepreneurship – the time, resource, leadership, and support issues – are themselves a part of the organizational culture - the pattern of shared assumptions learned by a group as it has solved problems of external adaption and internal integration.

Another finding of the analysis has been that there is more than one organizational culture at play within the study organization. Whilst some perceived there to be a broad over-arching culture, participants reflected upon the number of local cultures that existed on the university's different campuses, in different faculties, Schools or institutes. By and large there was not a perception of their being a strong 'central steering core' (Clark, 1998) as has been suggested may be necessary in order to manage successful universities. The perception of multiple cultures within large and complex organizations is not a finding novel to this research, having been identified by authors previously such as Schein (1984), Jermier et al (1991), Denison (1996) and Wilson (2001). As an example Hofstede et al (1990, p.290) reported that "one organization may include several culturally different departments, and these departments may consist of culturally different work groups". This study does however surface explicitly actors' perceptions that this is the case in a HE setting. Furthermore the findings of the analysis herein highlight that some local cultures are perceived, in general, to be able to be more supportive of entrepreneurship than others, or than the overarching organizational culture.

6.7. Issues anticipated by the literature review that did not emerge through the primary research

As has been discussed in the foregoing Sections, a wide number of issues anticipated by the literature review were articulated by the study participants through the process of primary data collection, either through the semi-structured interviews or during the discussion of participant diagrams. It was also the case that a number of new issues were emergent through the study itself. At this point however, it is perhaps useful to reflect upon any significant issues that were anticipated through the literature but which did not emerge – or emerged to an unexpected degree – through the primary data collection and analysis.

6.7.1. *Corporate entrepreneurship*

Within the literature review it was observed in Section 3.2.2 that where entrepreneurial activities take place within the context of existing organizations the phenomenon has become known as corporate entrepreneurship; a view supported by Burns (2005). It was further reported that this notion has been linked to opportunity recognition and bringing new or differentiated products to markets (Hornsby et al, 2013), bringing novel combinations of resources together (Guth and Ginsberg, 1990) and organizational renewal and development in dynamic environments (Kuratko et al, 2014). The description of Corporate Entrepreneurship would therefore appear to fit well the context within which participants find themselves in the study organization – that is, in a large and complex organization seeking innovative new business to address a volatile and changing external environment. It is striking therefore that none of the twelve study participants identified themselves as being engaged in corporate entrepreneurship (also known in some literature as intrapreneurship). It was also notable that although the participants were unable to identify themselves as being corporately entrepreneurial, the activities that they described themselves as being engaged with fit well the dimensions established through the literature review.

This finding would perhaps suggest that the term is unfamiliar to them and/or may be something by which they do not feel comfortable describing themselves and their daily activities. This latter point would certainly seem to align with the study finding that whilst participants considered their activities to be innovative

or creative, entrepreneurship was a word with which they were considerably less comfortable (although they would accept its use in the limited context of this study). To this end, some participants in this study had gone as far as to say that when seeking to engage colleagues in entrepreneurial activities they would specifically seek to mask or hide business-like terms so as not to be off-putting to staff who would find such language uncomfortable. It is not possible from the data collected to understand fully why this may be the case and indeed this finding would benefit from further review by future study. It may be hypothesized that the use of business terminology simply does not sit comfortably on the shoulders of academics, many of whom consider their activities as being entirely research-focused or pedagogic in nature.

6.7.2. Identification of key aspects of organizational culture

Organizational culture has been identified through the literature review in Chapter Three to have a number of possible building block elements, as identified by authors such as Schein (1995), Deal et al (1982), Wilson (2001) and Johnson (1987/1992). Indeed in the analysis presented in Table 2 as many as fourteen different elements were identified across the literature presented by authors. These elements were subsequently narrowed down to a cluster of five codes that were applied in the first iteration of the thematic analysis process (Table 7), namely: organizational values; organizational structures; power and control processes; rites, rituals and routines; myths, sagas and stories; and legends and heroes. At the commencement of the data collection process it was anticipated that each of these codes would be utilized although it was unknown how the frequency and spread of these would transpire. Participants' responses were perhaps notable however for three key reasons.

Firstly, with the exception of one participant (who notably had a background in business related academia) who used Johnson's Cultural Web (1987) as a framework for their responses throughout the data collection process, few participants made reference explicitly to the codes identified in advance associated with elements of organizational culture. Rather it was left to the researcher to infer that statements made aligned to these codes. This was undertaken using the latent approach rather than the semantic approach to coding as outlined earlier in Section 5.3. As an example of such coding a

number of observations were made regarding university processes and procedures, which were taken to align with the code for 'Rites, rituals and routines'. This experience of necessarily using a latent approach was noticeable by its difference to the coding associated with antecedents to entrepreneurship, where participants stated codes more clearly and explicitly without such a clear requirement for a latent coding approach. It is uncertain at this time what would account for this difference, although it could be speculated that whilst academics engaged in the study had not spent time considering building blocks for culture, their daily duties would bring them to regard the elements that would support or inhibit their ability to act entrepreneurially within the HEI (corporate) setting.

Secondly, of the codes that were applied regarding organizational culture during the thematic analysis process a notable majority clustered around just three: organizational values; organizational structures; and power and control process. These three may have taken precedence as it is known through the researcher working in the study organization, and through informal contextual discussions before and after the formal data collection process, that the organization has expended management energy in recent years and months to agree and utilize organizational values, has been reviewing and changing organizational structures, and has embarked on a coordinated effort to enhance process and procedures (captured through coding as power and control processes). This may not however be the only explanation and it would be unsound to speculate based solely on this contextual knowledge. During the thematic analysis process it was noticeable immediately that there was limited reference to rites, rituals and routines, but even less regarding myths, sagas, stories, legends and heroes - aspects identified by authors such as Deal et al (1982) and Jermain (1991). This was a rather surprising finding and one that cannot be readily explained. There was, for example, nothing brought to light through the literature review process that suggested such elements would not be present within the public or HE sectors. Nor indeed has the more recent literature identified in Chapter Three suggested that these are any less pertinent than when they were first advanced in the 1990s and 2000s. It is possible that the wording of the semi-structured interview questions did not bring such issues to the minds' of participants, but through the discursive nature of the interviews

and the opportunities to prepare and explain participant diagrams, such matters should have been addressed. This emergent finding may benefit from further consideration.

Thirdly, it is worth highlighting that when asked to provide a vignette that to the participants summed up entrepreneurship in the study organization, eight of the twelve were negative examples, where organizational barriers were perceived to have blocked entrepreneurship. The literature highlights the impact that stories, myths and legends have on organizations, and here was presented – perhaps subconsciously by participants – examples of such stories denigrating the organization’s entrepreneurial abilities. This observation is considered further in the section outlining recommendations for the study organization

6.8. Interaction of findings

Within Chapter Five it was observed that during the analysis process some of the antecedents to entrepreneurship were revealed as being perceived to be operating as enablers or precursors, in themselves, for other antecedents. As an example it was suggested that in order to engage successfully in external networks or in the development of new intellectual property (IP) – both of which arose as building blocks for successful corporate entrepreneurial activities - it was an imperative that discretionary time was available. Participants further reflected that access to resources and appropriate support mechanisms also affected these dimensions similarly. Reflection upon this observation and further review of the primary data collected and analyzed has permitted a matrix to be developed by the researcher that shows relationships of the antecedents to entrepreneurship. The interactions identified through this study have now been mapped and are shown in Figure 6. This ‘nodes of interaction matrix’ was inspired by, and developed following, a review of other models of antecedents to entrepreneurship, such as those presented by Martins and Terblanche (2003) and Oosthuizen (2012), although it should be observed the matrix in Figure 6 itself is novel and has been developed and proposed as a direct outcome of this study.

This nodes of interaction matrix is considered to be a significant finding of the study, as although it has been informed by other studies (as presented in this

thesis) no matrix was identified through the literature review which attempts to reveal the relationships as shown. In particular no previous matrix has been identified that shows key antecedents to entrepreneurship against an x and y axis with relationships existing at the points (or nodes) of interaction. Flowing from the matrix it is helpful to observe that of the dozen or more issues perceived by participants to be antecedents to entrepreneurship, it may now be questioned more clearly whether all should be considered as being of equal significance.

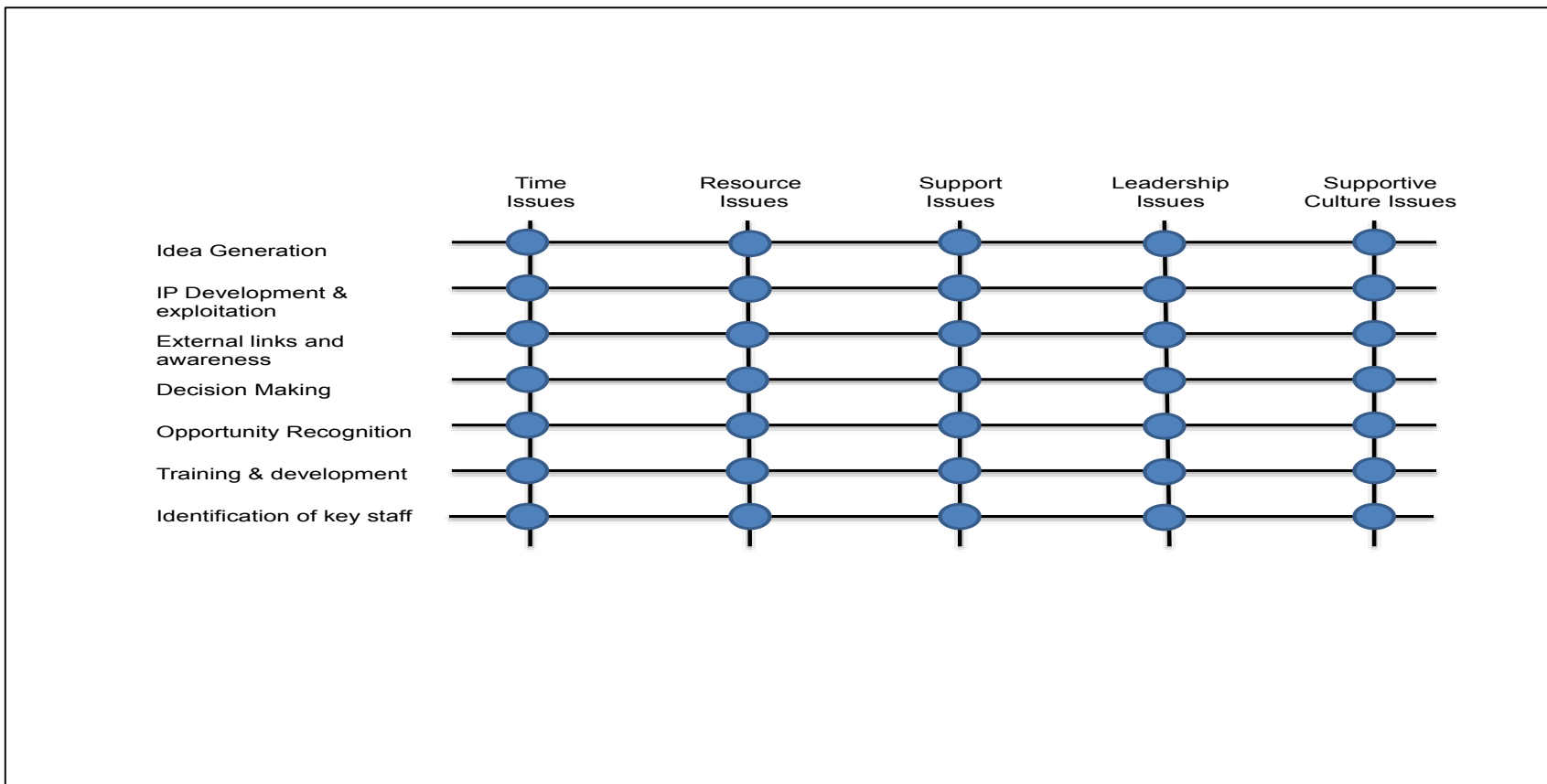
In light of the philosophical stance adopted for this research project, with a social constructionist ontology and interpretivist epistemology, no overt attempt was made to quantify perceptions of the relative importance or strengths of the findings (for example against a Likert Scale). A prioritization has however emerged organically through the thematic analysis process with those issues dimensions identified on the x axis – and which emerged as the five key themes from the analysis process – being surfaced as being of primary importance. Each of these were perceived to have a bearing on the effectiveness of others and in addition to this time issues, resource issues, support issues, leadership and management issues, and cultural issues arguably are perceived by study participants to be a central part of the organizational culture and ecosystem for entrepreneurship. The antecedents on the y-axis of Figure 6 may in contrast be observed to be important issues as they were surfaced during the study, but can also be inferred to be of a perhaps secondary order.

The y-axis issues may be described as being of secondary order, in that for them to occur there is perceived to be a requirement for those outlined on the x-axis. Therefore by way of an example a manager who recognized the importance of idea generation to the development of entrepreneurial initiatives, would require to identify discretionary time and, perhaps, resources to allow this to happen.

At present the nodes of interaction matrix has been developed based on a twelve participant study and whilst many of the nodes (and underlying relationships) have been uncovered explicitly through the data analysis, it is important to highlight that this is a study limitation and that further work is

required to have fuller confidence in the matrix proposed. The matrix, for example, identifies 35 separate nodal relationships however some of these are inferred from the overall conceptualization of the findings; they therefore would benefit from additional enquiry. Likewise at this stage the nodes are presented in the matrix diagram as being of equal size, suggesting perhaps a uniform importance and strength of relationship. Again, this could be explored further to facilitate a future sophistication and enhancement of the matrix, with nodes being shown of different relative sizes. Perhaps with such further future work the matrix could be evolved into a model with a predictive element that would more strongly show the relationships with the matrix. Such work is however believed to be outwith the scope of the current DBA study.

Figure 6: Nodes of Interaction Matrix



6.9. Research question discussion

At the end of the Discussion Chapter it is important to return to the research questions that were generated from the literature review and which were outlined in Chapter Three, in order to discuss the findings of the study. Each of the five research questions is therefore considered in turn.

Research question 1 discussion

Do participants perceive that their actions in the Higher Education context could be called entrepreneurial and if so what are the main functions thereof?

During the data collection process, seven of the participants noted that they were broadly comfortable with being called entrepreneurial. Five of the participants expressed the view that 'innovation' and 'creative' would be more appropriate terms to use within their university context, although they acknowledged that the activities they undertake would also be considered to be entrepreneurial. These responses reflect the close connections highlighted in the literature regarding entrepreneurship, creativity and innovation. Two participants highlighted that whilst activities they undertake may be entrepreneurial they were not the public perception of being so; contrasting their actions with well-known entrepreneurs by stating they were "*not a prototype Alan Sugar*" and "*not Richard Branson*". The notion of the public perception of entrepreneurship in HE was also reflected upon as a limiting factor in their ability to act in an entrepreneurial way, with one participant suggesting that businessmen may view universities as being rigid in the timing and content of what they can offer commercial companies, rather than showing the flexibility and swiftness of response often associated with being entrepreneurial.

A number of participants noted that whilst their activities could be considered entrepreneurial it was not a term that was popular internally within the organization and that furthermore some academic colleagues were unhappy with such business terms being used in the environment of an educational charity. Participants noted therefore that they would amend the use of such language to assuage concerns and help engage colleagues in entrepreneurial activities. The difficulty in finding what may be considered truly entrepreneurial academics was highlighted.

The participants in the study were able to identify a broad range of over 14 functions and/or traits they perceived to be associated with entrepreneurship in HE. These included the importance of pro-activeness and opportunity recognition, the need for idea generation by university staff, and the importance of resource availability on the ability of colleagues to turn opportunities and ideas into successful entrepreneurial activities. One participant summed up the key dimensions clearly and succinctly by stating: "*I think entrepreneurial to me means innovation, risk taking, strategic, resource aware*", before proceeding to define each notion in greater detail.

Without further enquiry it is not possible to know from the participant responses whether the participants were commenting from their own personal experience or from what they think, or had read, entrepreneurship should mean within their context. Nonetheless these functions outlined aligned well with definitions in the literature review.

Strikingly none of the participants perceived the questions about entrepreneurship to refer to 'intrapreneurship' or corporate entrepreneurship; with all considering it in the context of external commercial or in some instances research activities. None of the participants therefor commented upon the notion of using the skillsets associated with entrepreneurship within a large organizational setting, despite all working within such an environment and with a variety of strategic aims that would benefit from deploying entrepreneurial approaches.

Research question 2 discussion

What do participants perceive to be the key organizational characteristics that affect their ability to act entrepreneurially and which are perceived to be the main enablers or barriers to entrepreneurship?

From the primary research undertaken for this study a range of characteristics were identified that participants perceived to have a key impact upon their ability to be entrepreneurial. As reported earlier these may be clustered around the five key themes of: time issues; resourcing issues; support issue; leadership and management issues; and supportive culture issues. In discussion

participants highlighted that for many of these characteristics the way in which they are managed within the university context affects whether they are perceived as enablers or barriers to entrepreneurship. For example it was noted by a number of participants that discretionary time for staff to pursue their research interests to generate new ideas is a very positive enabler of entrepreneurship. The absence of such time however, for example due to the perceived demands of teaching students or engaging in teaching and quality related university administration, was seen as a barrier. In considering the organizational characteristics that affect entrepreneurship, it has been observed through the research and analysis that some of these may in themselves be perceived as having an influence upon others.

As an example of the relationships highlighted in Figure 6, it was noted that the opportunity to develop an awareness of the external environment and fostering of external links was viewed as being a key factor in being able to be entrepreneurial. This however was in itself affected by having time, resources and support from management to facilitate the development of such external relationships. Likewise it was noted that leadership and management actions were important factors in supporting the recognition of opportunities and responding thereto. The matrix therefore highlights the interconnectedness of supportive organizational characteristics and perhaps suggests that these need to be coordinated to work in harmonious concert if entrepreneurial activity is to be optimised within a university context.

Research question 3 discussion

Which of the characteristics do they believe can be influenced / levered to become more supportive of entrepreneurship?

Nine of the twelve participants were very clear that the factors they had identified could be changed and leveraged over time so as to be more supportive of entrepreneurship. Of the other three participants none said that they could not – their answers were simply more indirect. Three of the participants were very emphatic in their responses and noted that, for example, ‘yes, definitely’ the characteristics could be influenced.

In providing their perceptions in response to this question, participants highlighted the key characteristics raised earlier such as time, resources, support systems, and leadership. None of the characteristics highlighted were identified explicitly as being perceived to be so intractable that they could not be amended over time.

The study did not elucidate in detail the actors' perceptions of how each of the factors identified should be influenced, as the notion of managing and undertaking the potential change (as identified by participants as being necessary) was not a focus of this research. The study did however seek perceptions on the timescales over which change would be possible, as the literature review identified how difficult it can be to amend factors quickly that are perceived to be associated with organizational culture. A range of views were expressed: one participant stated change would not take long (such as one month to get started); two participants suggested it could take between one and two years; whilst others suggested it could take up to five years.

Common in the responses was that leadership and management actions and support structures would play a key role in the success of any planned changes. These may have been anticipated from the literature review. Three issues that were emergent from the findings were that participants felt it important that the speed of decision making improve in the study organization (implying fleetness and responsive are key factors), that the importance of developing and maintaining external links was highlighted, and means of supporting the development of new intellectual property were seen as key factors to enhancing entrepreneurship in the HE context.

Research question 4 discussion

Do participants perceive that the characteristics identified could be described as part of an organizational culture; and if so why/why not?

Eight out of the twelve participants expressed very clearly the view that the characteristics they had identified could be considered to be factors of the university's organizational culture. Of the remaining four participants, one noted that the characteristics were 'probably' cultural. None of the remaining three participants expressed the view that the characteristics they had identified were

not part of the culture. This finding therefore appears to explicitly link the five themes (and the sub-themes therein) to show that the enablers and barriers to being entrepreneurial can be considered to be factors of organizational culture within a HE context.

In considering this issue further, the study participants tended to outline their perceptions of how this manifests itself rather than on why. Four of the participants identified strongly that the study university has a prevailing academic culture, that has developed and been focussed upon the teaching of students rather than the implementation and exploitation of entrepreneurial activity. An example of this is a statement by Participant One:

"We are set up as a university, I think, primarily to support the work of the Schools which is teaching students, recruitment, all that sort of thing"

[Participant One]

Another perception which was outlined, and which is perhaps related, was that some participants stated that their academic colleagues believe their role is to simply teach students and go home, with no requirement to participate in the actions associated with entrepreneurship. Participants reflected upon the tension therefore of seeking to exhibit the characteristics required to entrepreneurial whilst also focussing on the requirements of quality assurance, student support and the requirements of operating in the public sector.

In the specific context of the study organisation it was questioned whether the culture that the characteristics contribute towards could be considered to be supportive or otherwise of entrepreneurship. Few expressed a strong view however where it was noted the culture was supportive, this was usually qualified to state that it could however be more supportive. It was further noted that the presence of silos or organizational enclaves ascribed as a part of the culture affecting entrepreneurship directly.

Research question 5 discussion

Do participants perceive there to be a single organizational culture or a number of sub-cultures; and what relationship is this perceived to have with entrepreneurship?

Participants noted that the university is made up of very many local cultures. It was noted that the impacts of local cultures can be significant on the perceived ability of staff to act in an entrepreneurial manner. Important functions that were reported to be affected by local cultures include: authority for decision-making, availability and allocation of resources; leadership and its influence on other factors; and appetite for risk taking. It was further highlighted that different local cultures may lead to different types of people/characters being employed and that this may also be a factor of the characteristics of certain professional academic disciplines (e.g. it was suggested academic staff from nursing backgrounds are trained to be risk averse because to be otherwise way endanger lives).

An emerging view is that the smaller organizational units created to support entrepreneurship within the study organization have been successful to the extent of participants feeling they are more supportive of individuals, with less of a blame culture and more of a 'can do' culture than is perceived to be prevalent in the wider university culture. It was suggested that this could be because the smaller organizational units can be more informal and flexible than is possible with a large organizational unit, such as a School or Faculty, where a perception is that emphasis is placed on detailed management and control.

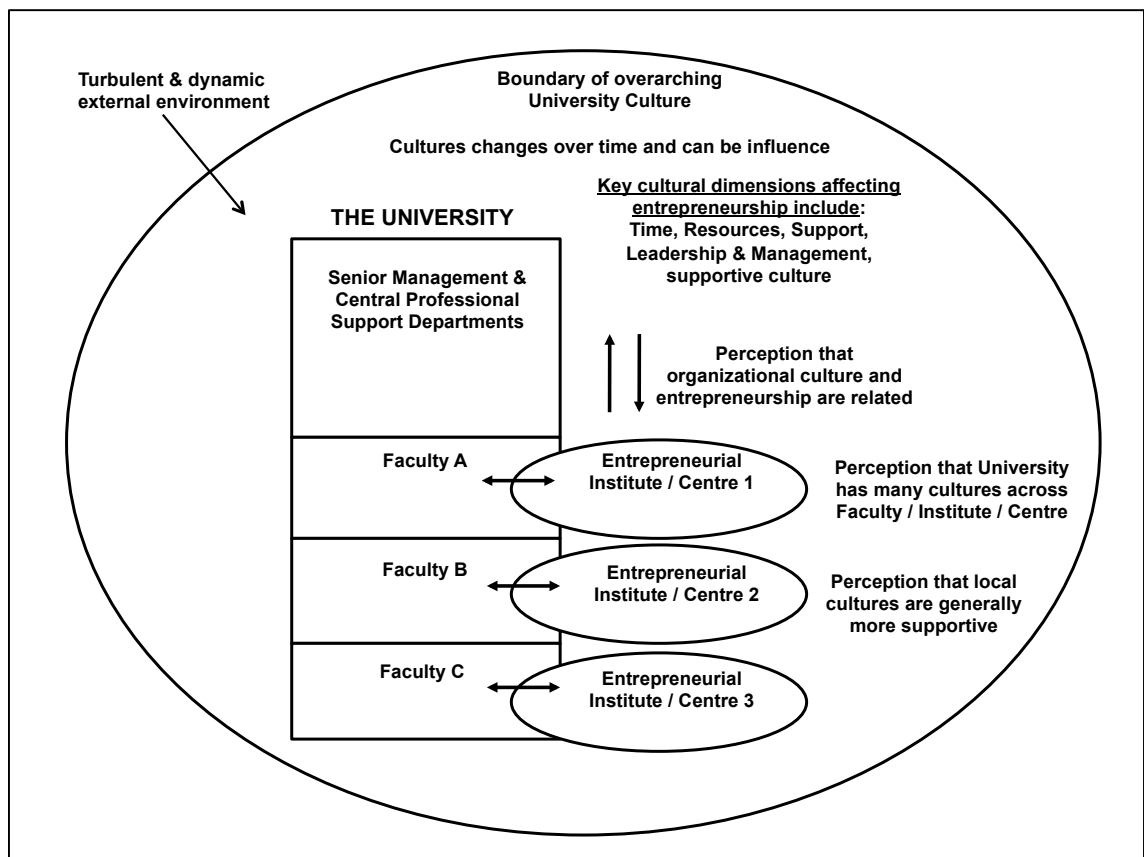
Recognizing the existence of multiple cultures it was questioned whether there is benefit in a university having a strong cultural core, around which sub-cultures may be allowed to develop. The considerable challenge for university central management in supporting the different cultures – with focuses on teaching & assessment and on entrepreneurial activities – was also highlighted.

6.10. Simple overview of the research study revisited

Within Chapter One a simple overview of the problematized research issue was provided in Figure 1. Following the research process and discussion outlined herein, the figure has been updated to demonstrate some of the findings of the

research (see Figure 7). The study has revealed participants perceive there to be a number of dimensions that affect their ability to be entrepreneurial within an HEI context, which may be clustered around the five themes of: time; resources; support; leadership & management; and a supportive culture. Participants have identified that they perceive these to all be a part of the organizational culture and describe these as affecting the way that things are undertaken within the study organization.

Figure 7: Simple overview of the research study revisited



It has been highlighted that the study university is thought to have many organizational cultures rather than a single culture. Furthermore participants have reported that many of the local cultures are seen to be more supportive of entrepreneurship than those associated with large organizational units. It has been reported that the organizational cultures change over time and it has been suggested that these can be influenced and deliberately changed over a period of time through management action. It has also been identified that the external environment and the HE sector context themselves affect the university's

internal organizational culture. This summary of key findings is now reflected in the figure.

6.11. Chapter conclusion

Within this Chapter discussion has been provided on the analysis and findings of the study undertaken. Reflection has been provided on the five key themes identified through the primary research: time issues; resourcing issues, support issues; leadership and management issues; and supportive culture issues. Furthermore consideration has been given to those issues that were anticipated through the literature review but which did not emerge through the research. A new matrix has been developed and presented which outlines relationships between some of the antecedents to entrepreneurship. The five research questions identified following the literature review in Chapter Three have been considered and there has been a reflection on the simple project overview provided in Chapter One. Having undertaken this discussion, consideration turns next in Chapter Seven to the conclusion and recommendations that may be drawn from the study.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATIONS

7.1 Chapter Introduction

In light of the dynamic and turbulent nature of the external/macro environment for the UK HE sector it has been highlighted that there is increasing pressure on universities to seek out new ways of broadening their income streams, developing new businesses and acting, as the government wishes, as engines of economic recovery (see Chapter Two). Within this context, this study has outlined the increasing requirement for staff within HEIs to act entrepreneurially, using innovation and creativity to respond quickly to find new ways of commercializing and exploiting their valuable knowledge and skills.

The aim of this research has been to explore entrepreneurship and organizational culture within a HE context. As outlined in Chapter One, four key objectives have guided the study and the research aim has therefore been delivered through the following:

1. Examine critically the existing literature regarding entrepreneurship and organizational culture.
2. Examine and consider critically the perceptions of Higher Education actors regarding entrepreneurship and organizational culture through conducting semi-structured interviews and collecting participant diagrams.
3. Identify key organizational characteristics and relationships through thematic analysis.
4. Generate recommendations that may be made to actors seeking to ensure organizational culture is an enabler for entrepreneurial activities within a Higher Education context.

Building upon the earlier chapters and in particular the discussion presented in Chapter Six, consideration is given within this final chapter to summarizing the main conclusion that may be drawn from the themes identified in the research undertaken (Section 7.2). In so doing, the implications for knowledge (Section 7.3) and practice (Section 7.4) are explored and recommendations are made for

consideration by the study organization as a result of this research (Section 7.5). The opportunities for further future research, including future research recommendations in this area, are outlined (Section 7.6) before concluding remarks are offered.

7.2 Research Objectives: Conclusion

In light of the material presented within this thesis, the following conclusion may be drawn regarding the four research objectives outlined earlier. It is also appropriate to reflect herein on how well each of the objectives supported the delivery of the overall research aim.

7.2.1 Research objective 1

The first research objective of this study was '*examine critically the existing literature regarding entrepreneurship and organizational culture*'. In order to address this objective the relevant literature were identified and examined critically within Chapter Three. The review commenced by considering the literature regarding entrepreneurship, highlighting in Figure 4 the very wide scope of the field of academic literature in this area. The antecedents for entrepreneurship were explored with Table 1 being developed to highlight eight key dimensions that have been proposed by earlier studies. The close links between entrepreneurship, innovation and creativity was explored, with Section 3.3 considering the related literature in more detail. Consideration was thereafter given to Organizational Culture, with the key elements thereof being summarized in Table 2. Throughout the review it was highlighted the factors were different when being considered within the public and HE sectors, with key issues arising for the study being drawn together in a series of research questions in Section 3.6. It may be concluded that this objective was essential in developing an understanding of the main dimensions of the study, and therefore important in establishing the foundations upon which the rest of the study could be built.

7.2.2 Research objective 2

The second research objective for this study was '*examine and consider critically the perceptions of Higher Education actors regarding entrepreneurship and organizational culture through conducting semi structured interviews and*

collecting participant diagrams'. Chapter Three (literature review) outlined the key research questions to be explored in delivering this objective. A full explication of the methodology and methods applied were outlined in detail in Chapter Four, including an overview of why the two complementary data collection methods were chosen for this study. A summary of the research methodology was provided in Table 4. It may be concluded that the methods chosen worked well in eliciting perceptions of participants on the dimensions of entrepreneurship and organizational culture, with a wealth of research data captured through interview transcripts and participants' diagrams. This data was sufficient and appropriate to inform the delivery of the third research objective.

7.2.3 Research objective 3

The third research objective for this study was to '*identify key organizational characteristics and relationships through thematic analysis*'. An overview of the approach to thematic analysis undertaken in this study was provided in Section 5.3, which reported upon a series of codes (Table 7) that had been identified through the literature review to inform the initial layer of analysis. Through the analysis undertaken, it was identified that five major clusters or themes could be revealed as outlined in Chapter Five and discussed in greater depth in Chapter Six. The themes were: Time Issues; Resourcing Issues; Support Issues; Leadership and Management Issues; and Support Culture(s) Issues. A number of sub-themes and relationships between themes were also revealed with a number of these being summarized in Nodes of Interaction diagram. It may be concluded that this objective and the thematic analysis undertaken in its delivery played a vital part in delivering the study's research aim.

7.2.4 Research objective 4

The fourth and final research objective for this study was '*generate recommendations that may be made to actors seeking to ensure organizational culture is an enabler for entrepreneurial activities within a Higher Education context*'. Key issues arising from the primary data collection and analysis undertaken thereon has been presented in Chapter Six (Discussion) with a range of contributions to academic knowledge and practice considered later in Chapter Seven. Recommendations have also been made to the study

organization. It may be concluded that delivery of this fourth research objective has been critical to ensuring that a contribution to practice may be demonstrated from the study (a key requirement of the DBA programme).

7.2.5 Reflection on research objectives

It may be reflected that the four research objectives outlined for this study have been appropriate, effective and successful in directing the delivery of this study's research aim to explore actors' perceptions of entrepreneurship and organizational culture within a HE context. Each objective is perceived by the researcher to have built upon the former, providing firm scaffolding for the completion of the overall study. It should also be noted that the objectives were kept under review throughout the period of the study and were adapted as and when it was deemed sensible and appropriate to do so.

7.3 Research questions answered

Within Section 6.9 each of the research questions outlined in Chapter Three were discussed in considerable detail. It is important however that within this Conclusion chapter, concise answers are given to each.

Research question 1 answered

Do participants perceive that their actions in the Higher Education context could be called entrepreneurial and if so what are the main functions thereof?

The majority of participants were comfortable with their activities being called entrepreneurial although it was felt the term was not used widely, with innovation and creativity being preferred. Participants identified 14 functions of entrepreneurship with clustering around the terms innovation, risk taking and opportunity recognition.

Research question 2 answered

What do participants perceive to be the key organizational characteristics that affect their ability to act entrepreneurially and which are perceived to be the main enablers or barriers to entrepreneurship?

The participants' responses aligned with five key organizational characteristics that affect their ability to be entrepreneurial, namely: time issues; resourcing issues; support issues; leadership and management issues; and supportive culture issues. It was observed that there is a perceived inter-connected

relationship between these key characteristics and others, such as developing external relationships.

Research question 3 answered

Which of the characteristics do they believe can be influenced / levered to become more supportive of entrepreneurship?

Participants perceived that all of the characteristics identified through the study could be influenced to become more supportive of entrepreneurship.

Furthermore it was perceived that they could be influenced positively in time periods ranging from a few months to up to five years.

Research question 4 answered

Do participants perceive that the characteristics identified could be described as part of an organizational culture; and if so why/why not?

Participants perceived that the characteristics could all be described as part of the organizational culture with the researched HE context, although many described how this manifested itself rather than reflecting upon why/why not.

Research question 5 answered

Do participants perceive there to be a single organizational culture or a number of sub-cultures; and what relationship is this perceived to have on entrepreneurship?

Participants noted that the university is made up of many local cultures and it was reported that these are perceived to have a relationship upon the ability of staff to act entrepreneurially. The view emerged that smaller organizational units were perceived to be more supportive than the wider university culture.

7.4 Implications for knowledge

As with any piece of doctoral level research, it is an important expectation that the implications for knowledge are considered and outlined clearly. The literature review in Chapter Three outlined a wide range of issues that are pertinent to supporting and developing entrepreneurship within large organizations (corporate entrepreneurship). Furthermore there has been reflection within this thesis on issues of how previous research has suggested

that may differ within the public sector and university sector, for example. Borins (2002) and Mulgan and Albury (2003). The primary data collected and analyzed within this research project has built upon those studies and reconfirms that many of the factors are indeed still pertinent within a UK HE context. New and emergent factors have however also arisen such as the identification that for the study university the notion of discretionary time is closely aligned with the operation of a formal workload allocation model.

As reported above, the study has identified a number of antecedents and barriers to entrepreneurship as perceived by participants within the HE sector and suggests relationships that may exist between some of the identified dimensions. Previous studies have, to date, not taken this approach to seeking to draw out an understanding of actors' perceptions from the methodological approach of this research and there is little evidence from the literature reviewed of participant diagrams being used as a primary data collection method within such research in the HE sector. The approach to this study may be somewhat novel and therefore add a new light to research in this field.

There is a wide body of published work that explores the nature of organizational culture and whether a single culture or multiple cultures exist. A selection of such works has been considered within Chapter Three. This study builds upon this and confirms perceptions that a university – like other large and complex organizations – has a number of cultures. Furthermore it has been established through data collection that within the organizational context explored, some of the subcultures are more supportive of entrepreneurship than others, with possible explanations therefor being reflected upon by participants.

7.5 Implications for practice

The research undertaken for this study has highlighted a number of implications for organizational practice. A key outcome of the primary research phase of this study has been the identification of a wide range of dimensions that are perceived by participants to be antecedents to entrepreneurship within HE. The study has also identified key factors that are considered to be barriers thereto when applied in ways that are considered unsupportive. The factors identified by the study participants covered a diverse set of dimensions, many of which

resonate with those identified in the literature outlined in Chapter Three. This analysis undertaken as part of this study has however clustered these dimensions into five areas of issues: time issues; resourcing issues; support issues; leadership and management issues; and issues associated with a supportive organizational culture. Through the identification of these dimensions within a HE context, a contribution is made in that a framework has been developed that signposts those characteristics that actors, working in the sector, may wish to foster within their own organizational context in order to enhance the conditions for supporting and enhancing entrepreneurial activities. It is recommended that actors interested in using the framework consider carefully the areas they consider to be most directly transferable and develop a customized action plan to ensure it is delivered (as is suggested for the study organization in Section 7.6.1).

The study has identified that whilst a wide range of dimensions may be considered to be antecedents the perception of actors' is that these do not operate in isolation or independently from one another. The study analysis has indicated that some dimensions would appear to be condition requirements for the development and delivery of others. This has been developed into the matrix shown in Figure 6, which highlights what have been identified herein as nodes of interaction. As an example, it may be shown that participants believed that the availability of discretionary time affected their ability to develop ideas and new network opportunities. For those seeking to enhance practice to foster entrepreneurship these relationships are important to understand, and the nodes of interaction matrix therefore provides, perhaps a route map of issues to consider.

Previous studies, as identified in Chapter 3, have identified that there is a relationship between innovation, creativity and organizational culture, with these dimensions also being associated with the conditions required for entrepreneurial activity in large organizations. Those in practice may therefore be aware that there is a requirement to foster elements of organizational culture if it is to support creativity. Through this study it has been revealed that within a UK HE context participants perceive a similar relationship exists explicitly between entrepreneurship and organizational culture.

Organizational culture has been a topic of study for a number of years, with many authors proposing the dimensions that may contribute towards its development and maintenance over time. These dimensions, as identified through the organizational culture literature have been highlighted in Chapter 3 Table 2. This research, however, makes a contribution to practice by indicating that these traditional models of dimensions for organizational culture may not alone be sufficient to explain the dimensions of culture that are perceived to affect entrepreneurship within HE. The research has suggested that the dimensions identified as being the antecedents to entrepreneurship are themselves all dimensions of organizational culture. Any actor in the sector wishing to take steps to ensure the culture is supportive of entrepreneurship would benefit from understanding this, such as those undertaking audits of their own internal organizational culture(s).

The literature on organizational culture indicates that cultures change and develop over time to reflect the way things get done within any given organizational context, whilst noting that attempts by management to deliberately change them can be slow and difficult to achieve. The research undertaken for this study highlights that whilst the antecedents to entrepreneurship are considered by participants to be cultural, they also believe that management actions can change them to be more supportive. Whilst views on the length of time such actions may take differed, a number of participants espoused the view that one to two years may be sufficient to make changes that could have a significant impact. Managers in the HE sector faced with changing practice to support entrepreneurship would find it helpful to understand this opportunity for change exists and the potential timescales that may be involved in a change process.

7.6 Recommendations to the study organization

Within section 7.5 a series of implications for practice have been identified as flowing from the study. Each of these is of pertinence to, and worthy of consideration by, the study organization. Given the study organization's espoused wish to be more entrepreneurial and to develop new income streams, six further direct recommendations are made for consideration by management.

7.6.1 Recommendation 1: ensure the organizational culture supports the antecedents to entrepreneurship

Throughout the data collection process there was considerable criticism of the study organization's overall culture and the support provided to facilitate staff to working entrepreneurially. Although participants could identify readily the antecedents to entrepreneurship, these were very often perceived to be acting as barriers within the study organization, rather than active enablers. As an example it was noted that the overall culture was perceived to be risk averse, slow to support the identification of opportunities, bureaucratic, with a primary focus on student related activities (reflecting perhaps the issues identified earlier as being prevalent in the broad public sector). It was reported that it is perceived management does not focus resources and support on entrepreneurship. It was further reported that the organizational culture appears to primarily support teaching, learning and assessment, rather than seeking to support entrepreneurship. To address these factors it is recommended that management address the issues identified against each of the key dimensions of entrepreneurship outlined in Figure 6 (Nodes of Interaction Matrix), or seek to understand and address why these are perceived by participants to be unsupportive. In particular the five key issues identified in Chapter Six should be addressed: time issues, resourcing issues; support issues; leadership and management issues; and supportive culture issues. The study participants believe these could be addressed and enhanced – in some instances quite quickly - so the study organization's leadership may wish to reflect up the opportunity to do so and the steps that would be necessary.

The following specific actions are highlighted in order to address this recommendation.

- With regards to *Time Issues* there was widespread condemnation of the current Workload Allocation Model, therefore a working group led by Human Resources & Development could seek to amend this model in liaison with academic colleagues and the recognized Trades Unions. The model was after all internally developed and governed so is within the power of leadership to amend.

- With regards to *Resource Issues* and their availability for entrepreneurial activities, the recent appointment of a new Director of Finance and Dean of Research and Innovation gives an excellent opportunity for the current resource allocation mechanisms to be reviewed and the university's risk appetite to be reconsidered in light of the findings herein.
- The findings have identified that *support issues* are deemed to be broadly unsupportive of entrepreneurship, therefore this could be brought into scope of the recently commenced review of key processes and procedures. Such a review would be timely given the creation of a new department (the Research and Innovation Office) specifically to support external opportunity recognition and development.
- The University is at the time of writing undertaking an academic restructuring and amending its senior leadership roles, such as through the creation of new Assistant Principals. This provides a unique opportunity to reconsider *leadership issues*, the priorities it gives to entrepreneurial activities and to restate their value to the organization.
- Finally, the study university is in the process of developing an Organization Development strategy, aimed at ensuring the organizational culture supports the university's strategy. Senior management has also been discussing the requirement for transformational change in the study university's culture. The results of this study should feed explicitly into such developments – in particular the notion that the traditional building blocks of culture may not alone be sufficient to highlight elements supportive of entrepreneurship

7.6.2 Recommendation 2: build upon the local cultures that are perceived to be supportive of entrepreneurship

Although not agreed upon fully by all of the participants an overall perception was revealed that the organizational cultures in the smaller, locally focused organizational structures (the Institutes), which have been established to support entrepreneurship, are more supportive than the overall core university culture. For example it was observed local leadership was more supportive, support systems more responsive, risk managed more sensitively and resources targeted more directly. It is recommended therefore that leadership

of the study organization consider how to build upon and support further the local cultures that are perceived to be supporting staff in being entrepreneurial. Lessons may also be learned on how such support may be brought more fully into the cultural core of the study university. The recent appointment of a Dean of Research and Innovation provides a clear potential locus for leadership of such a review of local cultures supportive of entrepreneurship. It is recommended that such a review be undertaken alongside, and in close relation to, the actions outlined in recommendation 1.

7.6.3 Recommendation 3: reflect and be clear about who should undertake entrepreneurial activities

It was reported by participants that many staff within the study organization are not, nor ever will be, interested in entrepreneurship due to their primary focus being on supporting students and their learning, teaching and assessment. Participants also noted that not everyone is good at entrepreneurial activities and even with appropriate training would not be able to excel in this endeavour. It is recommended that leadership of the study organization reflect upon these observations and consider whether it wishes to challenge the implied staff assumption that entrepreneurship is for the few, or perhaps embrace this view and ensure that sufficient support is put in place to identify the 'stars' who will lead the university's entrepreneurial activities. In order to deliver this recommendation the study university may wish to seek the opinions of the six Deans' of Schools who are charged with delivering the university's strategy, to obtain a view about whether a carefully selected or more holistic approach would lead to successful entrepreneurial activities; similar to the discussions underway at present regarding REF2020 and the likely staffing profile approach that will lead to success therein.

7.6.4 Recommendation 4: consider focusing some entrepreneurial activities inwards within the organization

It was noteworthy that all of the participants considered entrepreneurship as an activity related to an external income generation focus, with none verbalizing that the dimensions of entrepreneurship could also be focused internally to support the delivery and development of the organization in other ways. It is recommended therefore that consideration be given to how management could support the direction of entrepreneurial endeavour on other important internal

strategic priorities. The notion of and enhanced inward focusing of entrepreneurship – for example through the use of opportunity recognition and innovation and creativity – should be included as a strand of the Organizational Development Strategy currently under development. This should also be linked explicitly to the ongoing internal review of processes and procedures.

7.6.5 Recommendation 5: ensure leadership aligns rhetoric with practice/actions

It was observed by participants that leaders have the opportunity to focus activities and promote issues by the way they prioritize time, resources and support. It was perceived that within the study organization although staff are encouraged by leaders to be ‘fleet of foot’ and responsive to opportunities this rhetoric is not in the main supported in practice. It is therefore recommended that the leadership team reflect upon the steps they could take to ensure that rhetoric and practice regarding entrepreneurship are aligned. Visibly addressing the organizational culture issues associated with the antecedents to entrepreneurship would perhaps be one way of doing so.

7.6.6 Recommendation 6: encourage positive stories and celebrate success

It was observed that many of the examples given during the data collection phases were negative and in some ways disparaging about the study organization’s ability to support entrepreneurship. When asked, however, if the culture was supportive of entrepreneurship half of participants (six out of twelve) reported that they perceived it to be so. Two participants also reported that they didn’t want to be too negative, as some things in their perception work well. The literature about organizational culture identifies the importance of stories, legends and myths and it is recommended that the study organization takes steps to ensure that it is the successful, entrepreneurship affirming stories that are consciously propagated within the organization, with successes being celebrated. It is suggested that this may have a positive impact upon perceptions and performance of entrepreneurial performance. In order to deliver on this recommendation it is advised that consideration be given as to how success stories are used through the study university’s formal communications strategy. It is observed that the university is in the process of enhancing its intranet – aimed at communicating with staff – and this would also

seem to be an excellent opportunity to more firmly embed the sharing of good news stories regarding successful entrepreneurial initiatives.

7.7 Limitations of study / recommendations for future research

Sections 1.5 and 7.4 have highlighted contributions to knowledge and theory that may be made in relation to this study. It is however recognized that the study had limitations both methodologically and due to the research focus. These limitations are now considered and recommendations are therefore made for further suggested future research.

7.7.1 Methodological recommendations

Chapter Four outlined the methodological approach adopted for this study, with a summary being provided in Table 4. Post-study reflection on the methodology highlights that, whilst there is no right or wrong way to have conducted the research, it was an appropriate means of drawing out a deeper understanding of the issues being considered and acted as a golden thread running through the research choices made. The stated philosophical stance informed clearly the qualitative data collection methods chosen. Furthermore the complementary use of semi-structured interviews and participants' diagrams is observed to have worked extremely well as a means of eliciting participants' perceptions. Participant diagramming was in particular noted as being a means by which additional information was drawn from the actors, which would not have been revealed by semi-structured interviews alone. A recommendation is therefore made that any future study of this subject matter could be undertaken successfully using the same philosophical stance and combined data collection methods.

In choosing to undertake a study within a HE context, careful consideration was required regarding how many organizational contexts would be appropriate to deliver the research aim and objectives. As outlined in Chapter Four a single case was selected as being sufficient and appropriate for this DBA study, although it was explicitly acknowledged this would perhaps limit claims for generalizability. In order to explore further the findings of this research, it is recommended that this study could be repeated in other single HEI organizations, or perhaps more effectively as a larger multi-case study. In

undertaking such further study, it would be possible for researchers to take account of the heterogeneity of the sector, with HEIs being selected to reflect the diversity of UK HEI types; their sizes, missions and traditions. In order to broaden the research yet further, it may also be appropriate to undertake similar studies across multi-national boundaries although this could change the research context (as outlined in Chapter Two) significantly as well as introducing national cultural issues into the study.

7.7.2 Research focus recommendations

As highlighted the research conducted has raised a number of contributions to theory and practice, all of which may be worthy of further consideration. Based on the work undertaken however, the researcher would prioritize the following as recommendations for further research.

Two important findings of this study have been the identification of five themes of antecedents to entrepreneurial activity in HE and the subsequent development of the nodes of interaction matrix (Figure 6) in which it is proposed that some of the perceived antecedents to entrepreneurship are themselves dependent upon others. The clustered themes and the relationships between antecedents have been revealed through the data analysis process and has not therefore been a topic discussed explicitly with participants through the primary data collection process. There would be merit in exploring these findings further through future primary research. Such research could make a valuable contribution to practice and knowledge by identifying if there are perceived to be an ranking of importance of the five themes and/or the various dimensions in the matrix, i.e. are some perceived to have a greater strength in influencing entrepreneurship than others.

The study has identified clearly that participants perceive the antecedents to entrepreneurship to be parts of the organizational culture (or cultures) of the university. To underpin this study's findings there would be merit in undertaking future study which builds upon this finding and explores this single issue to establish if there are other elements of organizational culture which also have a significant impact upon the ability of staff within HE to be entrepreneurial.

Finally, it was noted in Section 5.2 that further interesting analysis would have been possible if details of the participant's age, gender and nationality had been captured. It is recommended therefore that future study take account of these additional dimensions, so that findings may be drawn upon whether these have any impact upon the conclusions of the study and if so, what implications for practice may be drawn therefrom. As an example, it would be of interest to note if participants of different ages and/or different genders expressed stronger views on any of the findings revealed through the enquiry, and if so what actors working in this area should do with this new insight.

7.8 Concluding remarks

This thesis has been prepared in partial fulfillment of the requirements of a Doctorate of Business Administration (DBA) programme. The motivations of the researcher however go beyond the technical fulfillment of the programme, and the very essence of a DBA is that it should make a contribution to both practice and knowledge, as has been outlined in Section 1.5 and Chapter 7. For such a contribution to be realized the conclusion and findings highlighted herein must be communicated and disseminated effectively. As is observed in the Deuteronomy Rabbah '*In vain have you acquired knowledge if you have not imparted it to others*'. A communication and dissemination plan is therefore being developed which will ensure the recommendations for the study organization (Section 7.6) are shared with appropriate university management team members. It is the intention to submit an article for consideration to the Journal of Higher Education Policy and Management and the contents of this research may be proposed as a session on 'entrepreneurship and organizational culture in higher education' at a future Association of University Administrators (AUA) Conference.

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APPENDIX ONE: Research Questions Used in Primary Data Collection

The following are the final interview questions used to undertake the semi-structured interviews in the primary data collection.

Introductory Questions

1. Please state how long you have been working for Edinburgh Napier University and how long have you have been in your current role?
2. Please briefly describe your current role within University?

Theme: Entrepreneurship

3. Please outline your understanding of '*entrepreneurial*' in the context of working here in higher education; what would you say are the key features from your perspective?
4. How comfortable do you feel with me describing your role being entrepreneurial (linked terms may be innovative, creative or enterprising)?

Theme: Enablers and Barriers to entrepreneurship

5. When you think of being entrepreneurial, what are the characteristics or aspects of working here within Edinburgh Napier that have an affect on your ability to act in that way?
6. Do any of these characteristics stand out to you as being most important and if so why do you perceive that as being so?
7. Reflecting on the issues you've raised can you outline a specific example of a time when you've felt particularly helped or hindered by these aspects of Edinburgh Napier?

Theme: Leveraging Enablers and reducing barriers

8. Please give your thoughts on whether any of the key factors you've outlined could be managed or amended to better support your activities here at Edinburgh Napier?
9. How difficult do you perceive it to be to change these sorts of factors and what sort of timescale do you think is required?

Theme: Organizational Culture

10. Would you consider that any of these factors we've discussed could be considered 'cultural', in the sense that they may be part of the organizational culture of the University?
11. How would you describe the organizational culture here at the University and would you say it's supportive or not to your work and ability to be entrepreneurial?

Theme: Sub-cultures

12. Do you think the University has one culture, or do you think the various campuses, Faculties, Institutes, etc. have different local cultures?
13. What impact if any do you think the local cultures have on Edinburgh Napier, and of the ability of staff to be entrepreneurial?

To Close the Interview

14. Ahead of the interview you were invited to do a drawing or diagram: could you talk me through it to explain your thinking.
15. Following our discussion today, is there anything you'd add or change in the diagram you prepared.
16. Would you like to add anything further, which you don't feel you've had an opportunity to say thus far that's relevant to this study?

APPENDIX TWO: Pre-Interview Instructions and Informed consent form

INFORMATION SHEET & CONSENT FORM FOR POTENTIAL PARTICIPANTS

An exploration of the relationship between organizational culture and entrepreneurial activities within a Higher Education context: a case study.

1. I would like to invite you to participate in a research study I am undertaking within the Doctor of Business Administration (DBA) programme at Edinburgh Napier University. The aims of the research study are to:
 - Examine critically the existing literature regarding organizational culture and entrepreneurship within a Higher Education context.
 - Explore and consider critically the perceptions of key actors regarding the relationship between organizational culture and entrepreneurship within a Higher Education context.
 - Identify the key organizational characteristics that may be considered by those seeking to ensure organizational culture is an enabler for entrepreneurial activities within a Higher Education context.
2. You have been invited to participate in the study because you may be able to provide helpful insights from your role as [role title] based within Edinburgh Napier Business School / Edinburgh Institute.
3. Please note you may not benefit directly from participation in this research study. If you agree to participate in the study, you will be asked to take part in a face to face interview which it is anticipated will last approximately 1 hour. Interviews will be held at a location, date and time of convenience for yourself. Your interview will be digitally recorded and data transcribed to hard copy. As a participant you will receive a copy of the transcript of your interview and will be able to provide written comments on this. The data will be analysed by the researcher alone. You will be able to receive a summary of the key themes of the research, upon request.
4. If you agree to participate, you will also be asked to prepare in advance of the interview a diagram / mind-map / rich picture (any drawing style you feel most comfortable with) on a sheet of A4, which provides a representation of your view of the relationship between organizational culture and the ability to be entrepreneurial at Edinburgh Napier. You will be asked to discuss this at the end of the planned interview.
5. You have the option to decline to take part and are free to withdraw from the study at any stage. If you decide to withdraw you would not have to give any reason. All data will be anonymized as far as possible, your name and role will be replaced with a participant cipher and it should not be possible for you to be identified in any reporting of the data gathered.

Specific roles will not be identified, though it is likely that broad categories such as “manager” will be used. All data collected will be kept in a secure place (stored on an encrypted remote storage device) to which only the nominated researcher has access. The results may be published in a journal or presented at a conference.

6. If you would like to contact an independent person who knows about this project but is not involved in it, you are welcome to contact Dr Janice Macmillan (j.mcmillan@napier.ac.uk / 0131 455 4340) or Dr Jackie Brodie (j.brodie@napier.ac.uk / 0131 455 4470).
7. If you have read and understood this Information Sheet and you would like to be a participant in the study, please complete the Consent Form below which will be collected from you at interview. At interview you will be given another opportunity to ask any questions you may have regarding the study.

Consent Form

An exploration of the relationship between organizational culture and entrepreneurial activities within a Higher Education context: a case study.

- I have read and understood the Information Sheet and this Consent Form.
- I have had an opportunity to ask questions about my participation.
- I understand that I am under no obligation to take part in this study.
- I understand that I have the right to withdraw from this study at any stage without giving any reason.
- I agree to participate in this study.
- I agree to the information obtained from my participation being used by the researcher for the purposes of this study and agree to the data being used for any subsequent publications or conference presentations.

Name of Participant:

Signature of Participant:

Date: _____

Researcher Contact Details

Name of Researcher: Steven Logie
Address: Edinburgh Napier University

APPENDIX THREE: Ethical Approval Form for Study

The form used to obtain ethical approval from the University was as follows. It may be noted elements of the study were still in development at the time of submission. Elements of this form that would indicate the study organization have been redacted and the three Appendices are removed as they are not required herein.

RESEARCH INTEGRITY APPROVAL FORM
Section 1 – Research details
Name/s of researcher/s: Steven Logie Date: February 2013 Staff : YES Student - Matriculation number: 40073910 Undergraduate <input type="checkbox"/> Masters <input checked="" type="checkbox"/> Doctoral
Title of project: An exploration of the relationship between organizational culture and entrepreneurial activities within a Higher Education context
Aim of Research The objectives of the overall DBA research project are as follows: <ol style="list-style-type: none">1. Examine critically the existing literature regarding organizational culture and entrepreneurship within a Higher Education context.2. Explore and consider critically the perceptions of key actors regarding the relationship between organizational culture and entrepreneurship within a Higher Education context.3. Identify the key organizational characteristics that may be considered by those seeking to ensure organizational culture is an enabler for entrepreneurial activities within a Higher Education context. <p>A pilot study will be conducted in order to trial the data collection methods used to achieve the research aims. Ethical approval is requested at this time for both the pilot AND the main study.</p>
Details of the research methods to be used, please consider all of the following in your response: <i>a. how the data will be collected (please outline all methods e.g. questionnaires/focus groups/internet searches/literature searches/interviews/observation)</i> Data will be collected by the researcher in two ways:

- using semi-structured interviews - a copy of the draft questions are included in Appendix A to this ethics approval form
- actors who participate in the study will also be asked to draw a diagram / mind-map / rich picture to provide a representation of their view of the relationship between organizational culture and entrepreneurship.

b. *data collection tools to be used (e.g. SurveyMonkey)*

All of the semi-structured interviews will be recorded for transcription purposes. At present it is anticipated that the analysis of data will be undertaken manually, however the use of Nvivo is still being considered and may be used depending on the final sample and complexity of data collected.

c. *where the data will be gathered (e.g. in the classroom/on the street/telephone/on-line)*

Data will be gathered within the work environment in locations that are agreed with each actor who participates. In some instances this will be within their own single-person offices and if this is not possible it would be the preference to book small meeting room. All interviews will be undertaken face-to-face and it is not anticipated that telephone/online interviews will be required.

d. *who will undertake the data collection if not the lead researcher detailed in section 1 (list all involved)*

All interviews will be undertaken in person by the lead researcher.

e. *how the data sample will be selected (e.g. random/cluster/sequential/network sampling) AND*

f. *the criterion for an entity to be included in the sample*

A purposive sampling approach will be used to allow the researcher to select cases best allowing the objectives of the research to be met. The aim will be to undertake in-depth research with a limited number of participants.

Appendix B shows research will be undertaken across three Institutes and in a fourth group of University and Faculty management. The three Institutes have been chosen from a sample of nine, with one being chosen from each Faculty. Each of the three Institutes (or nine) has a slightly different focus on the type of entrepreneurship it follows, which it is anticipated will provide a richness of data.

Once research commences it may be necessary to increase (or decrease) the planned sample of the full study until no new perspectives are emerging from the data. The proposed sample grid is therefore not definitive. It may also be appropriate to use a snowballing technique following up recommendations that arise from participants of other roles/individuals who can provide data relevant to the study. Each such recommendation will be considered.

g. *how research subjects will be invited to take part (e.g.*

letter/email/asked in lecture)

Consent to undertaken research in the University and relevant areas has so far been obtained from Vice-Principal (John Duffield), the three Deans (George Stonehouse, Iain McIntosh, Sandra Cairncross) and three Institute Directors (Graham Birse, Fran Alston, Jessie Kennedy). All have confirmed they are content for the research to be undertaken subject to this ethical approval being granted.

The roles that are required are identified in the Appendices. The intention is to email staff in each of the three Institutes to invite actors to volunteer to participate in the study. For the pilot study however, where timescales for completion are very short and availability may be limited it is intended that the researcher approach individuals directly and invite them to participate.

h. how the validity and reliability of the findings will be tested

The study is being undertaken from a social constructionist ontology and interpretivist epistemology, therefore the traditional view of testing validity and reliability is perhaps inappropriate for this study.

The researcher will however be interested in ensuring repeatability and rigour, therefore all stages of the research will be recorded/documented. There will also be a requirement to demonstrate trustworthiness and soundness of the analysis, so again the assumptions, steps and conclusions will all be documented and available for scrutiny.

i. if applicable, please attach a copy of the questionnaire/interview questions (for student researchers, please include notification of approval of the questionnaire from your supervisor)

A copy of the interview questions is included within the appendices

Who/what will be the research subjects in the research?

a. Staff/Students of Edinburgh Napier (please give details)

For the pilot phase semi-structured interviews will be undertaken with between three and five staff at Edinburgh Napier University.

For the full research it is anticipated that semi-structured interviews will be undertaken with no more than 20 (twenty) University staff.

No research will be undertaken with University students.

b. Vulnerable individuals (please give details e.g. school children, elderly, disabled etc.)

No research will be undertaken with vulnerable individuals

c. All other research subjects (please give details)

None

Section 2 – research subject details
<p>Will participants be free NOT to take part if they choose? Participants will do so voluntarily and will offered the opportunity to withdraw at any time.</p>
<p>Explain how informed consent will be achieved. Consent will be obtained in advance of research being undertaken using an Informed consent form. The contents of the informed consent form will be explained in person at the start of each interview. A copy of the draft form is included the appendices to this form.</p>
<p>Will any individual be identifiable in the findings? Every endeavour will be made to ensure that individuals are not identifiable. It will however be made clear to participants that there is a possibility that they may be identified by their roles, given that for some roles there will be a limited pool from which the participants can be drawn. In all instances the informed consent form will check individuals views on identifiability ahead of interviews being undertaken.</p>
<p>How will the findings be disseminated? The semi-structured interviews will be transcribed and copies of the transcriptions will be shared with participants for information. The findings of the research will be shared in draft form with the supervisory team and as necessary with other members of the Faculty if their assistance is deemed necessary and appropriate. The findings in the form of a DBA dissertation will be shared with the viva team and once finalized will be published. It is possible that journal articles may be derived from the research findings and this consent will be sought from participants to the study for such publication.</p>
<p>Is there any possibility of any harm (social, psychological, professional, economic etc) to participants who take part or do not take part? Give details. It is deemed very unlikely that there is a possibility of harm to participants involved in the study when the steps outlined in this ethics approval form are followed.</p>
<p>How / where will data be stored? Who will have access to it? Will it be secure? How long will the data be kept? What will be done with the data at the end of the project? Data will be held securely electronically and in paper copy in the researchers home. Care will be taken to ensure that personal identifiers are not included on interview transcripts or analysis, instead reference numbers will be used for all participants and the details of these will be held in a password protected spreadsheet available only to the researcher. Data will be held until seven years after the successful completion of the doctoral studies and will then be disposed off confidentially using the confidential paper disposal service available via the University.</p>

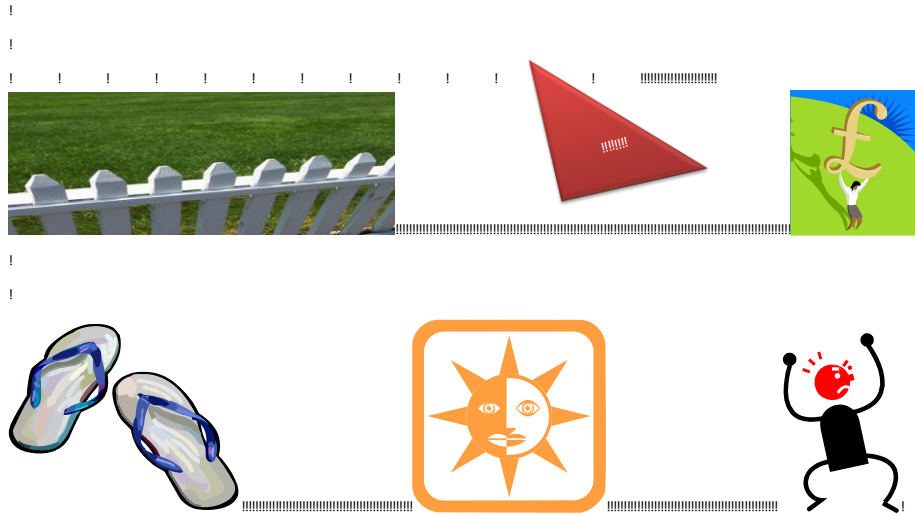
<p>Any other information in support of your application</p> <p>None</p>
<p>Continue to section 3</p> <p><i>Delete as appropriate:</i></p> <p>I approve this research / I refer this research to the FRIC (give reason for referral)</p>
<p>Name of RI Advisor</p> <p>Signature of RI Advisor</p> <p>Date</p>
<p>Signature of researcher/s to confirm understanding and acceptance of RI Advisor's decision</p> <p>Date</p>
<p>Section 4 – FRIC (Faculty Research Integrity Committee) Approval</p>
<p>FRIC decision</p>
<p>Does this issue need to be referred to the URIC (University Research Integrity Committee)?</p> <p>If YES Secretary to forward to URIC Secretary for referral with any appropriate paperwork</p> <p>Date actioned</p>
<p>Reason for referral</p>
<p>Signature of Convener of FRIC</p> <p>Date</p>
<p>Date researcher/s informed of FRIC decision – include copy of email to researcher/s</p>

APPENDIX FOUR: Representative Examples of Participant Diagrams

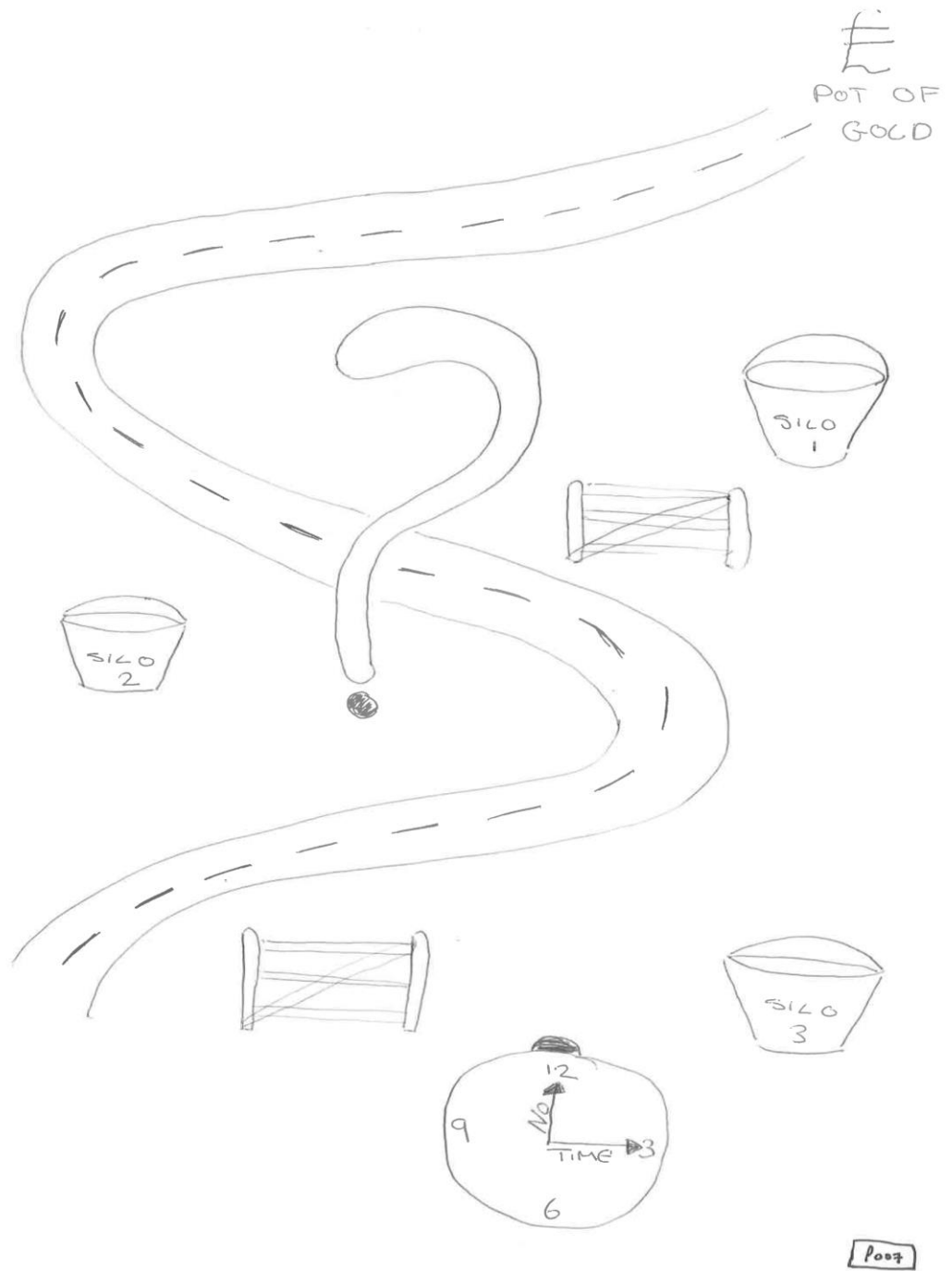
The following are examples of the types of diagrams prepared by participants to the study.

Example A

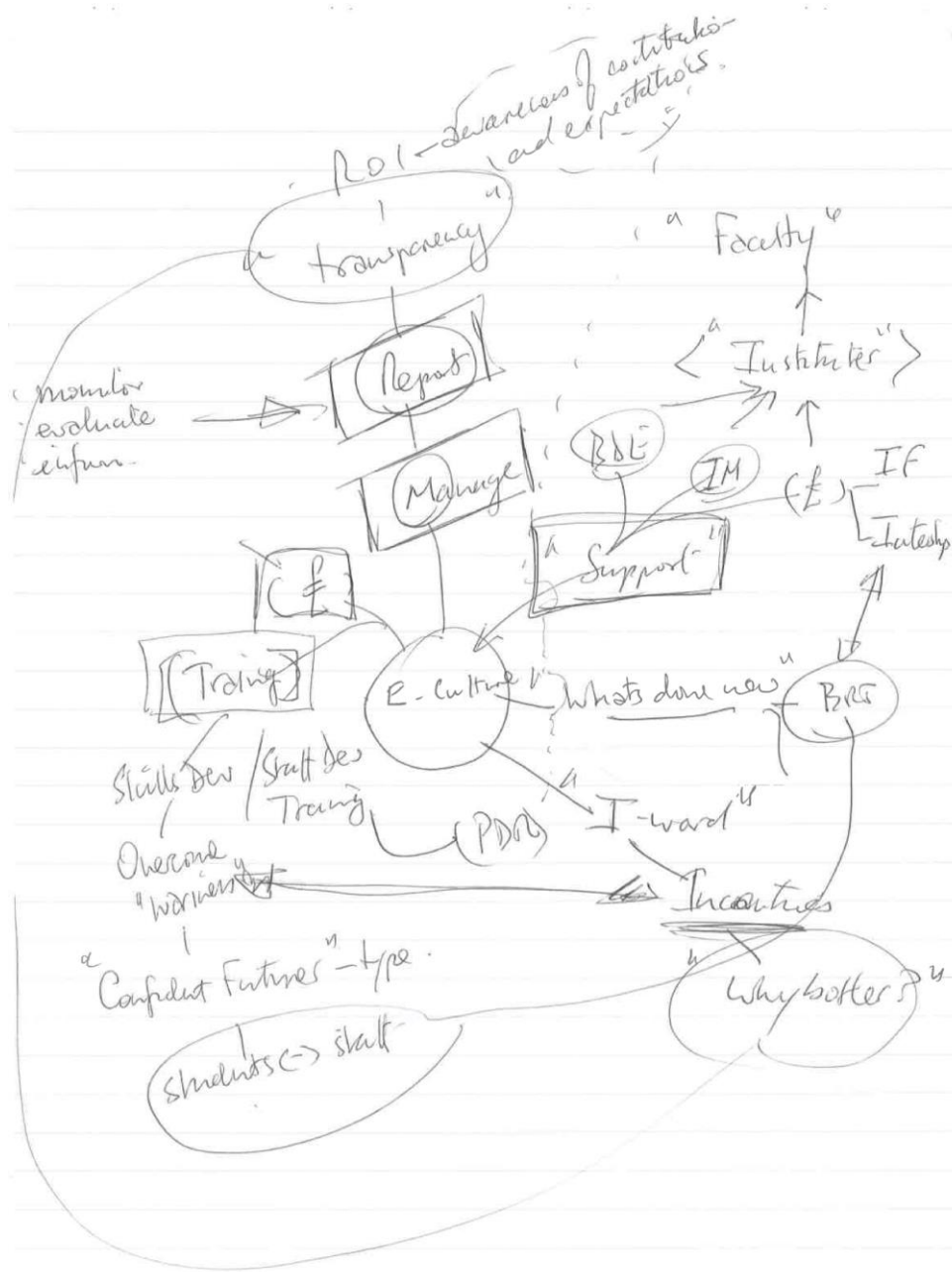
Entrepreneurial ~~undertaking~~ ~~a business or venture with the chance of profit or loss (particularly in an innovative or creative way + ... risk).~~



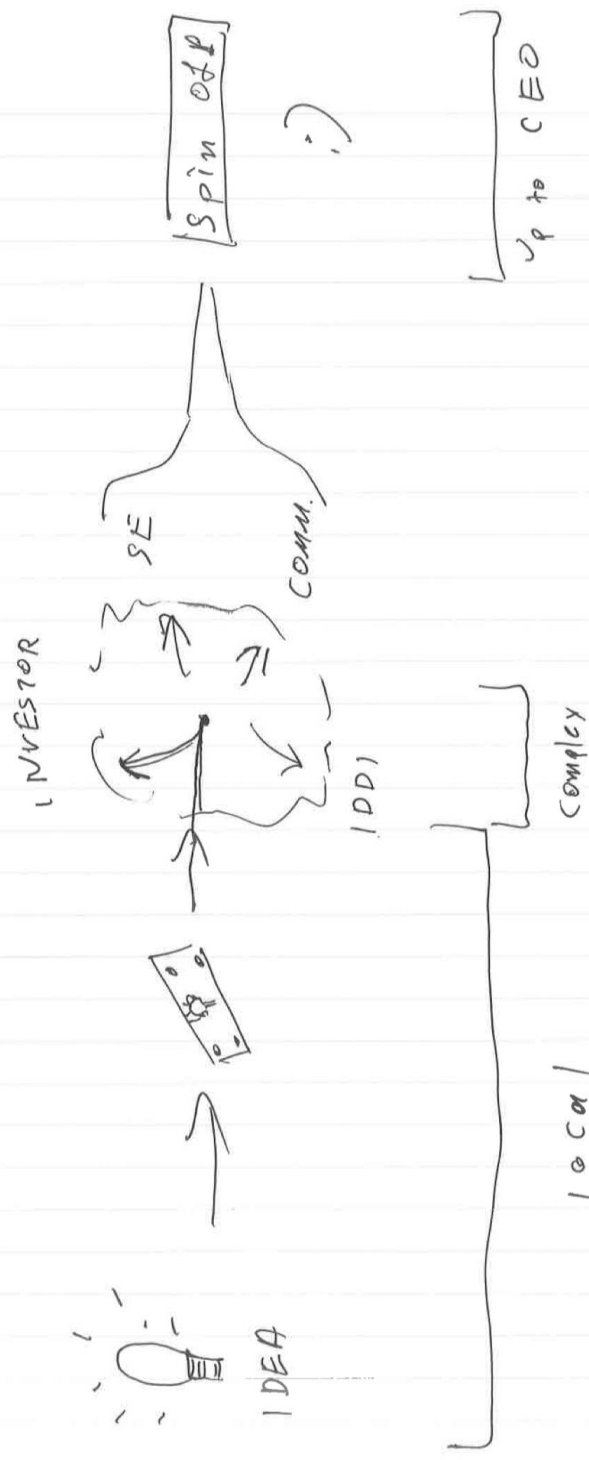
Example B



Example C



Example D



[THESIS ENDS]