

An exploration of the role and contribution of Entrepreneurship Centres in UK higher education institutions

Abstract

Purpose

This study evaluates current and future roles of UK entrepreneurship centres (ECs) within Higher Education institutions. Literature suggests current activity in entrepreneurship education is strongly associated with the contribution of ECs. However, ECs experience resource limitations and high stakeholder's expectations, leading to a proliferation of aims, roles and identity issues.

Design/methodology/approach

The study evaluates five UK EC using evidence from a range of stakeholders within each centre. The study considers the strategic direction of ECs, their aim and roles, resourcing and the leadership role they adopt.

Findings

The study proposes a definition of ECs and assesses the role ECs are fulfilling in the promotion of entrepreneurship and the resource constraints limiting future development. The need for EC identity and community contributions are identified as a determinant of success.

Originality/value

This study offers novel insight into factors influencing their behaviour and future strategy, which will be of value for UK HEI and Entrepreneurship educators.

Introduction

The business environment continues to evolve driven by globalisation, technological evolution and cultural and societal change (Botha et al., 2008). Consequently, higher education institutions (HEI) face significant challenges of transforming their business models to remain relevant and competitive (Ferreira et al., 2018). These challenges include pedagogical evolution, rising student fees, perceived value of the educational experience and graduate unemployment (Bok, 2003; Kitson et al., 2009). Furthermore, UK universities have increased pressure and accountability with the introduction of the Research Evaluation Framework (REF), Teaching Evaluation Framework (TEF) and potential introduction of the Knowledge Exchange Framework (KEF) (Johnston, 2020). Funding for Entrepreneurial activity within the UK University sector has seen significant change in recent years with Higher Education Investment funding (HEIF) moving away from student enterprise and entrepreneurship education types initiatives to more small business specific funding (Fuller et al., 2017)

in the UK government have encouraged HEIs to undertake entrepreneurial activities and business collaboration (Lord Young, 2014; Wilson, 2012; Witty, 2013). The UK has also provided clarity in this regard by clearly defining the terms Enterprise and Entrepreneurship (QAA, 2018). QAA (2018: 7) define enterprise as the generation and application of ideas, which are set within practical situations during a project or undertaking. Whilst Entrepreneurship Education is defined as the application of enterprise behaviours, attributes and competencies into the creation of cultural, social or economic value which can lead to business start-up (QAA 2018: 7). Both these definitions are applied in this study.

These activities include greater emphasis on the promotion of enterprise skills, encouraging new graduate start-ups and increasing collaboration between academia and business. HEIs must also engage with the communities they serve and support them to create effective and sustainable socio-economic development (Gibb and Haskins, 2013; MacKenzie and Zhang, 2014; NCUB Report, 2014).

As part of this transformation, HEIs globally have created Entrepreneurial Centres (ECs). The literature lacks a recognised definition of the EC. In an attempt to overcome this deficit this study proposes the following. Previously, Zhou and Peng (2008: 638) defined an entrepreneurial university as ‘the university that strongly influences the regional development of industries as well as economic growth through high-tech entrepreneurship based on strong research, technology transfer and entrepreneurship capability’ The EC operates within the Entrepreneurial University as an entity tasked with enabling this change in entrepreneurial activity. Thus we define an Entrepreneurship Centre is an entity that facilitates Entrepreneurial activity through enabling and supporting business start-up, encouraging entrepreneurial mind sets through the provision of curriculum across the University, undertakes research into entrepreneurial behaviour and small business management and supports third mission activity. Third mission activities is a broad term which again lacks a formal definition which describes any interactions between the University and society to create social and economic development (Thorn and Soo, 2006; Secundo et al., 2017). This activity supports entrepreneurial activity including funded project activity, intellectual property development, community engagement and spin off activities (Montesinos et al., 2008). It must be noted that EC activities will vary depending on their focus and the capabilities of the staff therein.

The extant literature recognises that ECs will play an important role in stimulating enterprise and entrepreneurship activities within HEIs (Finkle et al, 2013; Nelles and Vorley, 2011). However, the existing EC literature evaluating their effectiveness and impact is limited. Further research is required to supplement this literature and establish the contribution and role of ECs within the current environment. Thus this study will evaluate in a UK context, HEI ECs and how they contribute to enterprise and entrepreneurship activity.

Literature

Following the global economic recession, the Entrepreneurship 2020 Action Plan (European Commission 2012) acknowledges that Europe faces significant structural challenges, which negatively impact on socio-economic growth. European Commission (2012) member countries are struggling to create employment opportunities, develop relevant new skills, and promote self-employment. Self-employment has declined in 23 of the 27 European Union (EU) member states whilst a positive trend is apparent in China and the United States of America (USA). One of the challenges for the EU is unemployment especially in the youth category. Europe has 100 million youths of which 23.5 percent are unemployed despite the availability of two million job opportunities (European Commission 2014). To alleviate high youth unemployment, which can impact positively on socio-economic growth, the Entrepreneurship 2020 Action Plan (European Commission, 2012) focuses on three main pillars namely developing entrepreneurial education and training, creation of the correct business environment, and promoting role models for entrepreneurship. Within this EU regulatory environment, the UK Government has driven the promotion of entrepreneurship over recent decades through various initiatives such as the Enterprise Allowance Scheme, Training and Enterprise Councils, Business Link, and Local Enterprise Growth (Huggins and Williams, 2009). Huggins and Williams (2009) suggest these initiatives were driven by institutions such as the Department of Business Innovation and Skills, Chambers of Commerce, Local Enterprise Partnerships and HEIs. Although these initiatives supports an environment where UK entrepreneurship measures remain above the longer term trend as determined by the Global Entrepreneurship Monitor (Hart et al., 2014) the same structural challenges (e.g. youth unemployment and low growth) faced by EU member countries occurs. The European Commission (2012), Witty (2013) and Young (2014) state that HEIs should play an active role in the promotion of socio-economic growth

The HEI Environment

The current external and internal challenges facing HEIs (e.g. financial changes from governments, accelerated innovation, changes in educational policies, youth unemployment, experts

mobility) are not new phenomena but ongoing issues researchers and policy makers seek solutions towards (Gibb and Haskins, 2013; Kitson et al., 2009; Mitra, 2012). There is an emerging consensus that HEIs will make a contribution to the knowledge economy (Leydesdorff and Etzkowitz, 1998; Pinheiro et al., 2012). Whilst Nelles and Vorley (2011) suggest that HEIs have become engines of the knowledge economy, acting as drivers of both national and regional economic growth and competitiveness. Audretsch and Link (2017) supports this notion suggesting that entrepreneurship is viewed as the mechanism to developing ideas from the laboratory, factory, and classroom and implementing them in the market. Within this context, a holistic approach (wider than teaching and research) is required by HEIs to address the building of innovation networks, create collaboration among HEI staff, students and businesses, and measuring their success.

The Entrepreneurial University

To address the challenges of how HEIs operate in a rapidly evolving environment, the concept of the entrepreneurial university emerged (Clark, 1998; Clark, 2004; Gibb et al., 2009; Philpott et al., 2011; Thorp and Goldstein, 2010) and gained prominence in the recent literature (Maas and Jones, 2017; Ferreira et al., 2018). The NCEE (2010: p3) explains that the entrepreneurial university demonstrates:

“how institutional leadership and a strong entrepreneurial culture can create the policies and practices that are conducive to the development of enterprising and entrepreneurial mind-sets and behaviours throughout the organisation – in management and administration, in teaching and research staff and in students and graduates”.

Philpott et al. (2011) notes that an entrepreneurial university is a HEI embracing its role within the triple helix model with a mission of contributing to both regional and national development. Isenberg (2010) and Mason and Brown (2014) posit the creation of entrepreneurial ecosystems to encourage entrepreneurial activity within a region which involves the university as a key participant. Goddard et al (2016) describes this as University’s residing at the heart of regional and national ecosystems described as a triple helix combining higher education, government and business.

Kitson et al. (2009) equates the entrepreneurial university to that of a connected institution contributing to socio-economic growth through continuous involvement in the building of innovation networks and development of new skills for current and future conditions. Gibb and Haskins (2013) suggesting HEIs require a model of wider stakeholder and societal cultural engagement. Lundqvist and Williams-Middleton (2013), Philpott et al. (2011) and Thorp and Goldstein (2010) posit that entrepreneurship within HEIs has too narrow a perspective on the commercialisation of ideas or business start-ups and should adopt a broader perspective promoting entrepreneurship. This approach is reflected in guidelines (EC and OECD Report, 2012; Gibb and Haskins, 2013; Maas et al., 2004) that entrepreneurship should be part of the institution strategy, that entrepreneurial support should be regionally and globally relevant, entrepreneurship as a philosophy should underpin teaching strategies, infrastructure should exist that supports student entrepreneurs, and impact of the entrepreneurial university should be evaluated.

Entrepreneurship Education

Maas et al. (2004) and Jones et al., (2015) acknowledge that entrepreneurship education is not suitable for all students but they should be exposed to enterprising skills during their HEI programme. Morris et al., (2013) maintains that while students have the potential, most lack the required knowledge, attributes, skills that define entrepreneurial competence. Thus entrepreneurial action requires training, time and investment with ongoing reinforcement and reinvestment. This exposure can be through specific modules in entrepreneurship or activities within the extra-curriculum domain (participating in entrepreneurship society events) (Preedy and Jones, 2015). Fretschner and Weber (2013) agree adding the goal of entrepreneurship education is to develop an individual's intention to act entrepreneurially. Here, enterprising is defined "*as the application of creative ideas and innovations to practical situations*" and entrepreneurship "*as the application of enterprise skills specifically to creating and growing organisations in order to identify and build on opportunities*" (QAA, 2018: p8). These definitions are supported by Gibb and Haskins (2013: p17) indicating that the "*The Enterprise Concept focuses upon the development of the 'Enterprising Person and Entrepreneurial Mindset. The*

Entrepreneurship Concept focuses upon the application of these skills etc to the setting up a new venture and designing an entrepreneurial organisation". Here, both concepts are accommodated within the definition of an enterprise or EC as they are often used interchangeably. Therefore, enterprise and ECs are defined as any specific identifiable entity within a HEI with the responsibility of promoting enterprise and entrepreneurship.

Although the rationale for enterprising/entrepreneurial HEIs is generally accepted and included as a third mission on an equal basis to teaching and research activity (Nelles and Vorley, 2011; Philpott et al., 2011; Van Looy et al., 2011) the question remains regarding how to transform and encourage enterprising and entrepreneurial behaviour? ECs are deliver both curricular (e.g. short programmes, full degrees) and co-curricular activities (Entrepreneurship competitions, Entrepreneurship week) to enable and encourage further entrepreneurial activity. Finkle et al. (2013) noted the growth of university entrepreneurship education and research can be linked to the existence of an EC. However, despite this positive evidence, ECs still experience limited resources and high expectations from a diverse set of internal and external constituencies (Finkle et al., 2013). Menzies (2000) noted that some ECs have impressive records of contributing to job creation, while others are uncertain of their contribution. Within this context, the goals of ECs varies significantly between business start-up, researching market opportunities, developing enterprising and entrepreneurship skills among students and staff, and contributing to knowledge capitalisation (Del-Palacio et al., 2008). Finkle et al. (2006) identified problems ECs directors experienced. Within newly established ECs, there was limited time due to the multiple constituencies they service, obtaining sufficient funding to fulfil its obligations, appointing suitable staff, developing legitimacy within the political-institutional framework and ill feeling from other staff members towards the centre and its activities. University staff can question the financial investment made in the centre suggesting the monies could be more effectively invested elsewhere. Within established ECs, faculty jealousy is substituted by effectively measuring success (Finkle et al., 2006).

The positioning of ECs within the HEI's structure varies significantly. One might expect the enterprise and entrepreneurship agenda to be an integral part of the HEI culture and that in such an

environment academic silos (e.g. EC) are not required. Thorp and Goldstein (2010: p31) maintain that *“a culture that accepts and promotes interdisciplinary work within the traditional disciplines and across traditional barriers will have a greater impact”* than free standing units promoting interdisciplinary activities. The study authors agree in principle with this statement but note the current culture within UK HEIs is not conducive to an integrated approach and requires ECs to lead the development of enterprise and entrepreneurship agendas. Examples exist where ECs are situated within Business Schools (Menzies, 2000), some function independently from faculties whilst others report through their careers advice services (Maas and Jones, 2015). Maas and Jones (2015) argue the location of ECs influences the goals they pursue e.g. ECs in Business Schools might focus on that faculty’s strategic objectives through teaching, projects and research activities. However, in the same HEI, other faculties might possess a silo mentality and be reluctant to collaborate with a Business School based EC.

Entrepreneurial Eco-systems

Finkle et al. (2006) noted that ECs have multiple stakeholders and as such cannot act in isolation. They should form part of a well-structured entrepreneurial eco-system defined by the OECD (2013: p1) as *“a set of interconnected entrepreneurial actors, organisations, institutions and processes which formally and informally coalesce to connect, mediate, and grow the performance within the local entrepreneurial environment”*. Within HEIs, the research authors interprets an entrepreneurial eco-system as collaborative and holistic activities focusing on the promotion of entrepreneurial behaviour, which is guided by a transparent institutional strategy. Audretsch and Link (2017) noted economic growth requires a balanced approach between research and entrepreneurial activity. The formalised HEI entrepreneurial eco-system guided by a institutional strategy can address the acceptance and legitimacy of enterprise and entrepreneurship (Maas and Jones, 2015). The institutional strategy must embrace entrepreneurship across the University. The EC represents a key part of the institutional eco-system and should enact the University strategy to achieve its aims. Thus it is important to understand the focus and effectiveness of EC strategy implementation. Maas and Jones (2015) suggest the

existence of entrepreneurial eco-systems is not a guarantee that socio-economic development will be stimulated. Eco-systems can create a positive environment for entrepreneurship to prosper but equally be an obstacle when policies are restricting creativity by not embracing the change. Carefully formulated policies should guide the implementation of a HEI specific entrepreneurial eco-system.

Maintaining a successful EC within an entrepreneurial eco-system is potentially influenced by staff availability (Finkle et al. (2006). Clarysse et al., (2011) concluded that academics with high levels of entrepreneurial capability are required. Namely, entrepreneurial individuals with experience of business start-up. They identify tenured staff are more likely to be involved in entrepreneurial activities. In terms of required employment roles and behaviour of employees within EC they include business start-up, market research, skills development, motivating entrepreneurial behaviour, entrepreneurship knowledge creation and improving social welfare of the community in which HEI operate (Del-Palacio et al., 2008; Maas and Jones, 2015; Van Looy et al., 2011).

The extant literature focuses on ECs activity with minimal attention to considering their future contribution. This study evaluates the current and future role of the HEI EC. There is a view that although a plethora of entrepreneurial support activities exist they struggle to create the future desired state of socio-economic growth. Maas and Jones (2015) argue for a systemic approach in the promotion of entrepreneurship, a process that is more heuristic and holistic in nature to accommodate both individualistic and societal approaches.

Duval-Couetil (2013) agrees that a more innovative approach is essential to prepare students for future workplaces. This might include allowing students to enact business start-up, idea creation and evaluation. Similarly, Knickel et al., (2009) and Sautet (2013) argued for a more innovative approach stimulating entrepreneurship and maintained that a focus on local entrepreneurship does not lead to economies of scale and scope. The EC must lead this process across the University through innovative curriculum, entrepreneurial incentives. Sautet (2013: p393) suggests a systemic approach stimulating entrepreneurship and *“refers to socially productive entrepreneurial activities that go beyond the local level”* and that *“it is not about the size of entrepreneurial opportunities per se, but rather about the scope of the opportunities exploited”*. Ács et al., (2014) argues the term ‘system’ constitutes multiple

components that combines to produce system performance. Rosenberg and Nelson (1994) illustrates that it is not implicit that the sub-components of a system are in harmony with each other. There might be system weaknesses which requires attention to restore the balance of the total system. Here 'systemic entrepreneurship' refers to a broader orientation in terms of entrepreneurship promotion and combines the individual and other sub-systems such as society and institutions interacting and collaborating to create a framework in which opportunities are exploited (Maas et al., 2016).

Sautet (2013) maintains that a systemic approach emphasises the requirement for holistic thinking and moves the concept of the entrepreneur from the individual to the context in which the individual is situated, that is to society more generally. This approach is not arguing against the existence of locally focused entrepreneurial activities, micro-enterprises or subsistence enterprises; to the contrary, they are important for society. However, if insufficient focus is placed on systemic entrepreneurial activities (activities that go beyond local levels) socio-economic growth can be pressurised to create sufficient wealth. Re-thinking the way entrepreneurship is promoted is required and the focus of this drive is systemic that can lead to socio-economic transformational results (Maas et al., 2016). Miller and Collier (2010: p85) defines transformational entrepreneurship:

“as the creation of an innovative virtue-based organization for the purpose of shifting resources out of an area of lower value and into an area of higher purpose and greater value under conditions requiring an holistic perspective. Transformational Entrepreneurship transcends economic terms and emphasizes the centrality and value of people, their vocations, and the levels of relationality involved in entrepreneurship, in addition to the technical aspects of the business”.

Marmer (2012) agrees with this definition stating a combination between technology entrepreneurship and social entrepreneurship is desired to address the stalemate of global socio-economic growth. Within the systemic and transformational entrepreneurship domains, the focus is on identifying effective methods to address current global issues and to create a holistic and heuristic approach, which forms a basis for future socio-economic growth. To enable effective transformation, it is important to evaluate and challenge, when necessary, the heuristics upon which decisions are

constructed. The danger of existing solutions (default heuristic) is that they can be short-term and policy driven (Maas and Jones, 2015). Novel approaches are required that challenge default reactions which create new frameworks for adaptive thinking. Novel methods should inform policies that guide current and future socio-economic development. Within an environment that is characterised by short-termism, policies are often operationally driven and lack alignment with current trends (Maas et al., 2016). Therefore, ECs must re-consider their roles and whether they are proactive and leading entrepreneurship development or reactively following a trend, which led to the research aim to identify the future role of ECs within UK HEIs

Thus it is apparent that ECs roles are important and ECs are influenced by various stakeholders (internally and external) and challenges (e.g. resourcing). Combining these factors with the research aim of this study (i.e. to evaluate in a UK context, HEI ECs and how they contribute to enterprise and entrepreneurship activity), the following research questions (RQs) are considered:

RQ1: Evaluate Factors influencing the strategic direction of ECs in the UK?

RQ2: Identify the aims and roles of ECs in the UK?

RQ3: Identify how resourcing ECs can ensure sustainability of support to the enterprise/entrepreneurship agenda within HEIs?

RQ4: Evaluate how ECs play a leadership role in supporting enterprise and entrepreneurial activity?

Research method

This study evaluates how UK HEI ECs contribute to enterprise and entrepreneurship activity. From the literature, it is apparent that ECs are a complex phenomenon with significant variation in activities. This study represents a first attempt to map and contrast their strategy and philosophy, provision and activities and is therefore exploratory in nature. Corbin (1990) proposed the use of qualitative research methods, as opposed to quantitative, to create improved understanding of a phenomena. A multiple case study approach was selected here to explore and contrast the rich

contextual data within each EC (Jones et al., 2014). A qualitative approach was adopted to allow Case studies are used to conduct a detailed analysis of a single or limited number of cases (Bryman, 2008). Here, the unit of analysis was the HEI EC. This study considers UK HEI ECs to enable a valid comparable analysis against equivalent educational legislation and regulations. The study uses a cross-sectional design due to the need to compare and contrast multiple ECs (Yin, 2014).

Data collection

Case studies typically employ multiple data collection methods, using both qualitative and quantitative evidence sources (Eisenhardt, 1989). The principal benefit of multiple data collection is that data triangulation is possible, improving the credibility of research findings (Eisenhardt, 1989). In this study, the data collection method was semi-structured interviews with key individuals within each EC (Jones et al., 2014) (See Table 1). Alternative information sources included the EC website, research and promotional material were collected and analysed as supplemental data regarding the performance of the EC. The interview questions were framed around the four RQs derived from the literature. A semi-structured interview instrument was developed using a set of open-ended questions (Gundry et al., 2014), enabling respondents to discourse widely on the topics and collect “rich” data (Johannessen et al., 1999). Related questions were utilised as prompts, ensuring a consistent link to the research themes (Jones et al., 2014).

Case selection

The literature provides minimal guidelines regarding the optimum number of cases to select (Yin, 2014). The aim was to select ‘information rich’ cases in relation to the research aim – that is, those worthy of in-depth study (Ghauri and Gronhaug, 2005; Yin, 2014). Here, the selection of the cases is based on theoretical sampling, where the cases are chosen based on a theory (Eisenhardt, 1989). Saunders (2000) describes this technique as ‘purposive sampling’, and states several sub-choices of cases, including extreme, heterogeneous, homogeneous, critical and typical. The sampling here was non-random, but based on a purposive sampling technique. In the UK, there is no list of ECs and the

researchers compiled a list of possible ECs through desk research and a social media campaign. An initial list of 50 ECs were identified. From this, the researchers selected five cases to ensure variation between cases, allowing the researchers to identify the spectrum of practice in ECs, and enabling between-case contrasts (Perry, 1998). Five case studies were deemed appropriate based on methodological precedent namely Rowley (2002) and Eisenhardt (1989), proposed between four and 10 cases.

Selected ECs met the following criteria:

- Based in a UK HEI.
- Focus of the EC was engagement with entrepreneurial or enterprising activities.

Five cases were selected (Ghuri and Gronhaug, 2005) based on their unique characteristics to illustrate the spectrum of practice and a summary of characteristics is illustrated in Table 1.

Table 1: EC Sample Characteristics

Case	Year Created	Job title of ECs line manager	HEI Location	Full time staff employment
1	2008	Deputy Vice Chancellor	Central	10
2	2013	Director Business School	Faculty	14.2
3	2010	Dean	Faculty	2.5
4	2000	Vice Provost	Central	15
5	2001	Dean	Faculty	31

EC Directors were targeted as they possessed strategic and operational knowledge and were optimally placed to provide comprehensive responses. The research instrument was sent in advance of the visit to the EC and on site face-to-face interviews conducted and inter (Packham et al., 2004) see Table 1.

Research Themes

Based on the RQs and literature, the following themes emerged during the data collection and analysis and were selected for analysis and possible identification of cross-case patterns (Eisenhardt, 1989):

- Strategy: what was the EC strategy and contribution (RQ1, RQ4).
- Philosophy: what were the underlying principles underpinning the EC (RQ1, RQ2).
- Goals: objectives of the EC both currently, in the future (RQ2, RQ4).
- Provision: what geographical regions does the EC service (region, national, international) (RQ1, RQ2, RQ3, RQ4).
- Resources: identify EC funding (internal, external) (RQ3).
- Curriculum: Role does EC play in the provision of curriculum (core-curriculum, co-curricular, extra-curricular) (RQ2, RQ4).
- Organisation: e.g. cross HEI entity, within faculty (RQ1, RQ3).
- Key inhibitors: key problems experienced (funding, staffing) (RQ1, RQ3).

Data analysis

The data was analysed using NVivo software and organised by coding examples in which aspects of EC were explored. To provide structure to the analysis, a coding system was utilised to categorise the data (Jones et al., 2014). This involved a process of data reduction, display and conclusion drawing and verification (Miles and Huberman, 1994). Thereafter, the data was sorted into categories relating to the four RQs following methodological precedent. (Smith, 1991). These categories were then coded using relevant terms that emerged from the data (Strauss and Corbin, 1998). For example,

amongst the barriers to EC creation, a category referring to “insufficient funding” emerged. In this category, two sub-codes were derived and identified as “limited finance”, “financial sustainability”. This axial coding narrative text approach was adopted to enable an accurate description of data related to ECs (Strauss and Corbin 1998). This interpretation process involved multiple author reviews to explicate and refine understanding (Baskerville and Pries-Heje, 2001). Thereafter, illustrative quotes were selected from the evidence to highlight meaning across the research themes. These were selected based on their perceived value and relevance to the research themes (Jones et al., 2014). Although time consuming, this was identified as the only viable method to elucidate agreed meaning from the transcripts across the case studies. Initial interview transcripts and documentary analysis was guided by the research questions. To assist this process, domain analysis was employed to complement and extend the initial data analysis, distinguishing the semantic nature and meaning of the relationships between the ECs and supplying enhanced insight into the phenomena. Domain analysis provided a method for collective comparison of the case studies, while retaining a degree of richness and meaning associated with the RQs.

Validity and reliability

Although the interpretivist approach is linked to ontology of subjectivism validity and reliability of this research were addressed through objectivity, construct validity, internal validity, and reliability (Denzin and Lincoln, 2011; Meyer, 2001). Objectivity was achieved by the authors setting aside their presuppositions to consider potential alternative conclusions. Construct validity was ensured through applying a structured interview followed by a multi-case study approach. Internal validity was ensured through collecting data from several data sources and cross-checking during the analysis phase. Reliability was achieved through rigorously reporting on the research process e.g. sampling, data collection and analysis (Yin, 2014).

Analysis of findings

The analysis of the data is presented in line with the research themes listed previously. Following this discussion findings will be related to the research questions.

EC Strategy and Philosophy

Three key questions were asked determining the ECs strategy namely:

- What is the EC strategy?
- How does the EC strategy fit the HEI mission?
- Is there a coordinated enterprise/entrepreneurship strategy within the HEI?

With regard to EC strategy, six codes were identified namely business support, education, new tools for business, research, student support and survival (Annexure A). EC strategy related to creating an entrepreneurial culture and identity for the HEI. Entrepreneurial culture is enabled through business support, education, and research. Education provision involved both undergraduate, postgraduate (Masters/Doctoral) curriculum, co-curriculum provision, and extra curricula programmes to inform entrepreneurial attitudes and encourage consideration of entrepreneurial career opportunities. Research activity involved production of high calibre academic journals papers, books and other outputs to validate and report activity and create an identity for the EC. ECs were expected to bid for external funds and consultancy projects. Business support activities included supporting graduate business start-up and incubation. However, two cases also indicated that the ECs initial strategy focuses on its survival with emphasis on income generation. This survival orientation led to short-term activities with a primary focus on financial gain rather than creating positive mind-sets and capabilities.

In terms of the ECs strategy fit with the HEI mission, six codes were identified namely creating spin-out projects, improved engagement with the business community, innovation, links/no links with corporate strategy and student support (Annexure A). Four case studies agreed that ECs activities associated with the corporate strategy and one disagreed. Four ECs indicated their EC were created as a direct consequence of their HEIs intention to engage with an entrepreneurial agenda whilst the other was non-committal. Considering the third question, regarding whether there was a coordinated

enterprise and entrepreneurship strategy within the HEI, three codes were identified, namely the future will be improved, no enterprise and entrepreneurship strategy exists, and a strategy exists (Annexure A). Four cases agreed that activities can be linked to corporate strategy. However, four cases noted that a specific operational strategy guiding enterprise and entrepreneurship activity did not exist in their HEIs. It was therefore apparent that a gap exists between what the institution expects of an EC and guidance on how that should be addressed.

The relationship between education, research and business engagement is a central theme from all cases and effectively summarised by Case 3 stating: *“The focus of the centre is to achieve this by blending theory and practice in a meaningful way.”* In terms of EC stability, the importance of financial viability and availability of resources were identified as critical issues. Case 1 stated that the ECs strategy focuses on: *“To get over the valley of death regarding resources”*.

Respondents indicated that there is no clear enterprise and entrepreneurship strategy in the HEI which should guide the ECs strategy. Case 1 noted: *“A single brand for enterprise and entrepreneurship activity does not exist”*. Case 2 suggested: *“A select number of strategies exist that combine under the umbrella of enterprise and entrepreneurship. They do not form one integrated institutional strategy for enterprise and entrepreneurship”*.

Case 3 stated: *“although entrepreneurship is part of the corporate strategy, support has been patchy in the past, largely responding to immediate political pressures”*.

Thus in conclusion, the ECs had limited connection to the overall HEI strategy and mission with key concerns regarding sector funding and resourcing. Such issues can negatively impact upon how ECs construct their identity, build reputation and address challenges in a sustainable manner.

Related to strategy, ECs were asked to identify the principles underpinning the ECs strategy. Development of best practices, entrepreneurial mind-set, entrepreneurialism, ethical actions, global involvement, innovation, regional development, sustainability and HEI-business links were key themes (Annexure A). The number of themes identified suggest a generalist philosophical approach. All ECs indicated that their philosophy focused on addressing the requirements of specific individuals

and groups. Indicative quotes included: “*We seek to put knowledge to work to support business, communities and individuals*”.

The importance of policy formulation was highlighted: “*research informing policy and practice in entrepreneurship*” (Case 5) and “*The underlying philosophy is one of connectedness with business and students to create synergy between businesses and students*” (Case 4).

Case 1 stressed the requirement for connectivity between education and industry: “*supporting the enterprise development strategy for the region*”.

Thus, the three main EC philosophy themes were business engagement, entrepreneurialism and research. ECs stressed the importance of business community engagement. ECs identified the importance of interacting with internal HEI stakeholders including student, staff and faculty as representing a focus of their philosophy. Finally, ECs stressed the importance of enabling increased connectivity and networks between internal and external stakeholders.

EC Goals

Here, questions focused on determining current and future objectives of ECs. Six codes were identified related to the current objectives of ECs namely business engagement, education, networking, reorganisation, research and student support (Annexure A). Networking, research and reorganisation received the least support. There was concern whether the objectives of ECs would change in future due to uncertainty regarding the institution’s strategy (specifically the operational strategy) vis-à-vis enterprise/entrepreneurship. A third question queried the measurement of success in ECs. Six codes were identified namely academic feedback, engagement targets, financial targets, impact, reputation improvement of HEI and research output (Annexure A). The ECs objectives typically focused on the same sub-themes with some content variation. Case 3 indicated: “*The objectives have stayed the same, although the approach in terms of size and growth of each of the areas have changed*” (Case 3).

Case 4 noted: “*there is currently a debate between power of the Centre and the Faculties*” which influences future objectives . Measurement of success from all ECs indicates a focus on number of engagements, financial viability and impact as the major indicators of success. Case 1 indicated that

the ECs should play a key role in research and “*Focus on impact because of REF and ultimately impact gives worth to the activity*”.

Whilst Case 3 expressed an uncertainty identified by all cases as follows: “*Objectives still the same but see what new director is going to do*”.

In conclusion, the most important sub-themes focusing on goals are education, business support and research whilst achieving impact is the premium measurement of success. ECs stated that there is an expectation that they should positively impact upon the HEIs reputation and contribute to the measurement of performance in areas such as league tables, research activity and teaching reputation. EC strategy has to be sufficiently flexible to ensure immediate operational targets are achieved whilst seeking to develop its longer-term strategic impact. That affects the specific goals of the EC, which can change at short notice with subsequent uncertainty on how success is measured.

EC Provision

The geographical regions in which the ECs operate were determined in this theme. Five codes were identified namely a contributor to local eco-systems, international, local, regional and transnational activity (Annexure A). All cases indicated the same category of regions although there were country differences in the specific location of operation, e.g. Case 3 indicated Brazil, Romania and Uruguay as international areas whilst Case 4 Jordan, Kenya and Thailand.

In conclusion, the themes identified in terms of provision include HEI wide delivery and external delivery according to demand. The international nature of ECs is evidenced by the global list of countries identified. These partnerships are often driven by the research activity, expertise and networks of the senior academic staff within ECs together with expectations of the HEI. The latter is determined to a degree by the strategic direction of the HEI. The provision of ECs differs with some focusing only on research and income generation, others on curriculum delivery, whilst a minority are hybrid ECs offering both. In the majority of the ECs, the individual expertise of expert staff enabled the development of a specific focus in certain areas of entrepreneurial activity e.g. female and social entrepreneurship.

EC Resources

In terms of how ECs are resourced six codes were identified, namely externally funded, grants, industry contracts, internally funding, research income and teaching income (Annexure A). A combination of sources is sought to ensure their economic sustainability. In terms of how ECs should be resourced, two additional codes were identified, namely commercial income and emphasis on research projects (Annexure A). It was apparent that ECs obtain their resources from diverse sources whilst highlighting financial contributions to the HEI. Case 3 indicated that their EC “*covers all its pay costs, all non-pay costs, provides the School with a full overhead contribution and achieves a surplus*”.

The expansion of activities within the current method of funding ECs is perceived as a significant challenge. Case 4 indicated: “*The model works but the pressure is with regard to scale-ability getting the balance right between intra and extra-curricular activity*”.

The struggle for resources is highlighted by all cases and summarised by Case 5 as: “*I am currently fighting for three roles to be made permanent given their long service on short term contracts*”.

In conclusion, the resource themes identified are HEI core funding and obtaining project related income. It is highlighted that expectations of HEI management regarding the financial performance of ECs are unrealistic and challenging. The necessity to build an EC and acquire suitable staff, resources, expertise and reputation are challenging in a competitive discipline. Acquiring external income grants is highly competitive with additional pressure and uncertainty arising from the UKs exit from the EU. ECs also provided evidence of additional internal pressures such as reductions in funding within academic years. The importance of finding a resource model that will fit an EC is therefore essential specifically if it is accepted that ECs have diverse goals ranging from income generating to reputational building activities which might not be income generating.

EC Curriculum, Research and Extra-curricular activities

The role ECs plays in curriculum provision, research and extra-curricular activities was examined. In terms of the current role of ECs in the provision of curriculum four codes were identified namely to improve accessibility of education, leading curriculum design, presenting specific programmes and supporting curriculum delivery (Annexure A). When analysing the future role of ECs in the provision of curriculum, the following codes were identified namely a champion's role, curriculum development and supporting implementation of curriculum (Annexure A). In terms of the current role of ECs in the provision of co-curricular/extra-curricular activities only one code was identified, namely student support (Annexure A). When analysing the future role of ECs in the provision of co-curricular/extra-curricular activities three codes were identified, namely improved engagement with community, maintaining the existing role with students, and providing HEI services (Annexure A). Thus it is apparent that ECs are regarded as a vehicle to champion entrepreneurship education to both internal and external HEI stakeholders. This provision embraces the latest pedagogical thinking for the discipline in terms of effective and innovative curriculum design and delivery strategies. The optimum delivery was regarded as provision of HEI wide curriculum, so entrepreneurship education was available to all. A spectrum of provision was required from extracurricular awareness raising modules to dedicated venture creation degrees.

Regarding the current role of ECs in the provision of research activities five codes were identified, namely conducting research, creating impact case studies, general support, limited role and no research activity (Annexure A). When analysing the future role of ECs in the provision of research activities five codes were identified namely higher level entrepreneurship research, identifying research themes, impactful research, increased involvement and the same as current role (Annexure A). However, the future roles in research reflect a more dynamic involvement leading to high impact research results. This analysis revealed the high expectations that ECs were expected to achieve in terms of research contribution. For example, there were expectations regarding the production of high quality journal articles and related impact case studies. In both instances, there was an expectation of immediate

contribution to the Research Excellence Framework (REF). However, there was recognition of conflict and frustration within ECs with a lack of significant resource, time and expertise to enable this process.

The leadership role ECs should be playing in curriculum design, research and extra-curricular activities were supported by various cases. Case 1 indicated that ECs *“should be the champion of entrepreneurship across the Group and drive new thinking around entrepreneurship and its impact”*.

Case 3 noted: *“Research should focus on higher level entrepreneurship and use data from other research projects to inform new thinking and improve future impact of projects”*.

Leadership in enterprise and entrepreneurship education, research and extra-curricular activities were identified as the most important themes and leadership should be applied across the HEI. The importance of uniformity in decision-making and agreement in strategic priorities between the EC and the HEI directorate were identified as a critical process in achieving this leadership position and to create long-term success and viability.

EC Organisation

In this theme, the organisation of the EC was evaluated. Various codes were identified namely existence of an Advisory Board, EC functioning independent from faculties, development of a Management Board, the EC operating within Faculty and appointment of students within the EC, EC as part of a business enterprise group, and space availability (Annexure A). It was apparent that there was uncertainty regarding how ECs should be organised and located. Case 1 indicated: *“Currently location is not making sense. There is no identity for enterprise and entrepreneurship in the university and location is problematic”*.

However, Case 2 indicated that although they are satisfied with their location within a faculty because of the support they receive, *“the physical location does have a bearing on the success of the Centre”*.

Case 5 reported the EC is *“Faculty based, due to a random decision by the Dean but ideally it would be centrally based as it works across other faculties”*.

Costs and availability of space are two factors identified by the cases as primary reasons for their location. Case 4 supported this stating: “*Unlikely to put everyone in one building because of real estate costs*”.

Some of the ECs are supported by a Management Board others by an Advisory Board although they also indicated that there are mixed results in terms of the involvement of these boards. Analysis of the organisation of the EC revealed no common model. Four out the five ECs operated within a Business faculty which offered some advantages of how entrepreneurship was embedded within faculty programmes. It offered several disadvantages in achieving buy-in from other faculties to adopt Business faculty modules and programmes. HEI faculties suffered from a “silo mentality” with a desire to maintain their own module credits and not to accept other faculty’s modules. When an EC is a cross HEI entity and entrepreneurial activity is a strategic objective of the HEI a neutral location outside faculties seems to be more acceptable. However, the disadvantage here is that the identity and visibility of the EC takes time to establish. The issue of a ECs requirement for a management board is dependent on its focus. If an EC has a focus on its local community then engagement with key members of the business community represents a useful process. However, if the EC has an international focus then such a board offers less value and viability. The missing dimension in deciding on a clear location seems to be again the lack of a clear operational strategy for ECs.

EC Key inhibitors

Key problems experienced by ECs were identified through the following codes: balance between curriculum and extra-curricular activities, distance between academia and business, financial sustainability, focus on income, measurement of success, physical space, low student numbers, shifting national agendas, staffing, succession planning for director and HEI regulations (Annexure A). The EC Director role was highlighted and concerns expressed that too much was built around that person’s profile. Case 1 noted: “*succession planning for centre needed as a critical point.*”

Case 3 indicated: “*The success of the EC is due to the determination of the Director and his willingness to take on the system and pursue the enterprise agenda*”.

Case 1 noted: *“measurement is wrong – too much academic orientated”*.

Case 4 suggests: *“Too much emphasis on end of funnel. A lot more could be done on entrepreneurial mind-set and commercial awareness”*.

The problem of EC resources is key and highlighted by three cases highlighting a range of income resources is required. However, Case 2 noted: *“Working out of step with rest of university – the need to be quick and responsive is sometimes adversely affected by University policy and procedures”*.

From the above analysis, three themes were identified namely resources, HEI support and ability to react to changes. Typical inhibitors to EC activity relate to resources and funding. That necessitates the requirement for a comprehensive and sustainable EC resource plan, alignment of strategies in the HEI in terms of enterprise and entrepreneurship, and ability of the EC to react effectively to external and internal changes.

Discussion

The emergence of ECs in the UK is a recognition by the HEI sector to adopt a more entrepreneurial orientation in terms of curriculum provision, graduate start-up, research and third mission activity. The EC represents the enabling mechanism to this endeavour. The research themes provide answers to the main research question i.e. to identify the future role of UK based ECs within HEIs. In terms of the ECs strategies, all cases referred to the requirement for economic sustainability to deliver knowledge, research, and support to students, staff and business community. This is based on an overriding philosophy to create entrepreneurial mind-sets and enhanced business engagement. The goals of the EC are linked to their strategies but the absence of an overall institutional enterprise and entrepreneurship strategy creates uncertainty regarding their effective measurement. This disconnect between the EC and institutional strategy is a concern and confirms issues raised by Audretsch and Link (2017), Lundqvist and Williams-Middleton (2013), Morris et al. (2013), Philpott et al. (2011), and Thorp and Goldstein (2010). All ECs indicated that they were delivering their services both locally and internationally which, given the resource problems they experience, can lead

to an overstretching of activities. All cases suggest that the ECs should play a leading role in the enterprise and entrepreneurship agenda within their universities and regions specifically focusing on providing new insights in terms of policies and practices. However, there are significant challenges such as resourcing of the EC, staffing, ability to scale-up activities and attracting a wider audience, reporting lines which are not apparent and the physical location of ECs making accessibility to their target groups difficult. In order to answer the four research questions each research theme was considered in the following sections:

Factors influencing strategic direction of UK ECs

Various factors influencing the ECs strategy were identified such as a focus on stability, resource availability, corporate strategy and centre location. After evaluation, they were grouped into three themes namely HEI related factors, service delivery and HEI-community engagement related factors (Table 2). These three themes are influencing the current strategies of ECs but are also deemed important factors influencing their future strategy. It is assumed that a HEI will strive to balance their corporate strategy with external considerations such as changes in government policies and technological evolution. From the corporate strategy perspective, a transparent enterprise and entrepreneurship strategy should assist finding an optimum balance in terms of the triple helix model for entrepreneurial HEIs (Nelles and Vorley, 2011; Philpott et al., 2011; Van Looy et al., 2011). Clear aspirations for ECs can then be formulated making it a significant contributor to the HEI enterprise and entrepreneurship agenda. Unfortunately, the findings suggests that ECs represent “a grand plan” with insufficient HEI resourcing and support to enable an effective transition to occur (Finkle et al., 2013; Morris et al., 2013). However, despite these setbacks, UK ECs have achieved a considerable amount of positive activity which must be further capitalised upon.

Table 2: Factors influencing strategic direction of UK ECs

Combined theme	Examples of specific underlying factors
HEI related factors	Availability of resources; corporate strategy; inclusivity of services; reporting agendas.
Service delivery	Education provision; research activities; translate theory to practice; policy and practice.
HEI-Community engagement	Theory with practice; policy and practice; academia and business interconnectedness.

Aims and roles of UK ECs

Similarities in terms of current objectives of ECs were observed such as providing enterprise and entrepreneurship education, conducting research and support with graduate venture creation. Various uncertainties regarding resourcing, changes in line management, absence of an overarching enterprise strategy, and uncertainty regarding future aims and objectives exist. Within Table 3, current objectives are highlighted and contrasted with potential future aims and objectives. Finkle et al. (2013) acknowledged that ECs are playing a critical role in HEIs managing the enterprise and entrepreneurship agenda. With the global challenge of how to stimulate socio-economic growth in a sustainable manner and the acceptance that a systemic manner of improving entrepreneurship is required leading to transformation within communities and countries (Maas et al., 2016), the role ECs play can be argued to have grown in importance.

Although the generic aims of ECs (e.g. knowledge transfer, research, curriculum provision, student and business support) would remain as central pillars, it can be argued that these activities will evolve to provide a leadership role in the enterprise and entrepreneurship HEI agenda. These activities include overseeing the entrepreneurial eco-system of a HEI, development and implementation of curriculum and support of regional socio-economic strategies. That would necessitate a movement away from a narrow operational focus to a more strategic role focusing on the promotion of HEI wide multi-disciplinary and inter-disciplinary solutions.

Table 3: Aims and roles of UK ECs

Combined theme	Current aims and roles	Potential future aims and roles
HEI focused	Creating a sustainable EC	Leadership role in fostering an integrated enterprise and entrepreneurship eco-system which would include focusing on cascading corporate strategy into a HEI wide enterprise and entrepreneurship strategy.
Service delivery	Providing education, research and extra-curricular activities	Leadership role in educational programmes, research projects and extra-curricular activities in enterprise and entrepreneurship.
HEI-Community engagement	Translating research into best practices for potential and existing entrepreneurs Academia-Business engagement	Support regional strategies for socio-economic growth through educational and research activities.

Effective EC Resourcing

Various inhibitors were identified that are influencing ECs including the way they are resourced. Therefore, it is as much a case of providing resources as it is for the removing of inhibitors when it comes down to resourcing ECs. The common inhibitors identified included insufficient funding, no core funding and lack of appropriate staffing. Other factors included location (physical location and reporting level), over-dependency on EC director (e.g. lack of succession), absence of an enterprise and entrepreneurship HEI strategy. If ECs are to play a more active role in the HEI enterprise and

entrepreneurship agenda to stimulate socio-economic development, then their resourcing requires restructuring. Various options can be considered depending on the specific role these ECs will be playing such as core funding for the strategic role, income from service delivery such as educational modules and programmes, income from focused research projects, and commercial delivery of projects. However, these resources should be made available to ensure that detailed operational activities do not overshadow the more strategic role these ECs are required to play.

Conclusions

This study responds Finkle et al. (2006), Audretsch and Link (2017) and Morris et al., (2013) call for further research on ECs highlighting their importance within an enterprise and entrepreneurship agenda. There is lack of studies considering ECs and a requirement for contextualised information addressing the roles ECs play. A wide spectrum of practice was provided by the evaluated UK case studies. All cases believed they offered a crucial role in the promotion of the enterprise and entrepreneurship agenda in the HEIs they served and robust future strategies are essential. The case studies highlighted the inhibitors and uncertainties impacting ECs and the requirement to more effectively resource key activities to enable them to fulfil their objectives. The evidence presented suggests that UK ECs are opportunist in seeking new sources of resources to survive financially but that can have a detrimental impact on the focus of their activities. Thus, UK ECs are forced to adopt short-term survivalist strategies as opposed to strategic long-term goals. Thus EC resources are focused on income generation as opposed to greater value added activities to enhance reputation and contribution to the communities they serve.

In conclusion, it is apparent that ECs are important instruments within the entrepreneurial ecosystem of a region potentially contributing to socio-economic growth. There were several differences between UK ECs in terms of focus and construction. As Menzies (2000) suggested, homogeneity is not an attribute amongst ECs and thus comparisons are both problematic and questionable. Therefore, it will be difficult to generalise guidelines and policies for the successful operation of ECs in future. However, based on the analysis undertaken, the following observations can be drawn. Firstly, it is

important that focused approaches (within the context of contextual differences) by ECs can create improved identity for their activities and should benefit the support of entrepreneurial eco-systems and socio-economic growth more effectively. For example, ECs with specific focus on industrial sectors (e.g. tourism), geographical areas or forms of entrepreneurial activity (e.g. social entrepreneurship) will stand out more than a generalist approach and as a result attract more resources. This necessitates a top-down approach and greater awareness by HEIs and national and local government to identify their strategic focus and contribution. It may be that a regional approach should be adopted with certain ECs focusing on benefitting the communities (e.g. alleviating unemployment and creating social enterprises to alleviate specific societal issues) that they serve. Achieving this would enable ECs to differentiate themselves from competitors and create a meaningful identity. Failure to assume this could mean ECs would offer similar activities with minimal individual identity or focus. Secondly, the effectiveness of UK ECs is questionable because of the lack of strategies linking ECs with their host HEI, local businesses and regional/national government. The HEIs in question must embrace the EC and make it a core focus of their strategic mission with appropriate resourcing and cross HEI recognition. The EC must seek greater connectivity and engagement with local businesses, enterprise support agencies and local government to enable change potentially supporting targeting business start-up. To demonstrate their contribution, ECs should conduct longitudinal research and provide evidence to their stakeholders.

HEIs often employ the terms enterprise and entrepreneurship within their strategic vision and value statements. However, the attainment of these visions through ECs seems to lack strategic implementation, sufficient resource and meaning. Therefore, HEIs should invest sufficient time and resources in their ECs to create viable enterprise and entrepreneurship strategies and link these strategies to entrepreneurial eco-systems in their specific regions. Thirdly, ECs perform a wide diversity of activities spanning from curriculum design and implementation to supporting business start-ups. It could be argued that the activities are too diverse to be efficiently undertaken and could be more effectively managed by other HEI entities e.g. start-ups by technology parks. An area that seems currently underdeveloped is the connectivity between research activity and policy formulation.

ECs should focus research activity to inform policy formulation to enhance socio-economic growth in their regions or target communities. Fourthly, ECs identified resources as one of their key problems. Financial resources were obtained from various sources of which the majority were typically external to the HEI. The challenge to bid for external funding can put strain on the EC resources. Within an environment of restricted funding, the importance of being financially viable is not negated – a more optimal balance between internal and external financial sources is argued for especially if ECs are to become more involved in longer-term community focused research projects. Therefore, the availability of longer-term financial resources for ECs should be investigated by both HEIs and government decision makers.

Fifthly, the route to promotion for staff in ECs are often unclear and difficult to achieve if traditional practices to promotion (e.g. publications in ranked journals) are overshadowing what is required of staff members within an EC. Therefore, HEIs should investigate the route to promotion for staff within ECs with greater consideration of business and external project activity. Lastly, enterprise and entrepreneurship are multi-disciplinary concepts that are not for the domain of business schools alone. Within a HEI, various political barriers might exist if an EC belongs to a specific faculty. Location of ECs should allow them to operate freely among all units within a HEI and with relevant external stakeholders. Therefore, ECs should be located in areas, which will allow maximum interaction with the HEI and external stakeholders.

This study has contributed to the literature by providing novel insights into the factors influencing ECs within the context of UK HEIs. This study reinforced problems experienced by ECs identified in earlier studies (Finkle et al., 2006). This underlines the robustness of this study and highlights an important point that although ECs are fulfilling a critical role in the promotion of enterprise and entrepreneurship they are struggling to prosper.

This study offers novel insights and contributions. The key limitation concerns number of cases considered and point in time nature of the data collection undertaken. A wider selection of cases of ECs in different country contexts would provide further insights of international practice. These limitations offer the opportunities for future research. A longitudinal study of ECs from different

country contexts to examine impact and long term contribution is required and would enrich the extant literature. Moreover, further research can be conducted by contrasting ECs in developed countries with those in developing countries.

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Annexure A

Nodes structure and responses per node

Question from questionnaire	Nodes	Case 1	Case 2	Case 3	Case 4	Case 5
2.1 What is the Centre strategy	Business support	1	0	1	0	0
	Education	0	1	1	0	0
	New tools for business	1	0	1	0	0
	Research	0	0	1	0	2
	Student support	0	1	0	1	0
	Survival	2	0	0	1	0
2.2 How does the Centre strategy fit into the University mission	Creating spin-out projects	1	0	0	0	0
	Improved engagement with community	1	1	0	0	0
	Innovation	0	1	0	0	0
	Link with corporate strategy	2	2	1	1	0
	No link with corporate strategy	0	0	0	0	1
	Student support	0	0	1	0	0
2.3 Is there a coordinated enterprise and entrepreneurship	Future is better	1	0	0	0	0

strategy within the university						
	No	2	1	1	0	1
	Yes	0	0	0	1	0
3.1 What are the underlying principles underpinning the Centre's activities	Business engagement	2	0	0	0	1
	Contributor to eco-system	0	0	0	1	0
	Development of best practices	1	0	0	0	1
	Entrepreneurial mindset	0	0	1	0	0
	Entrepreneurialism	0	1	1	0	0
	Ethical actions	0	1	0	0	0
	Global involvement	0	1	0	0	0
	Innovation	0	1	0	0	0
	Regional development	1	0	0	0	0
	Sustainability	0	1	0	0	0
	University - business link	1	0	0	1	0
4.1 What are the current objectives of the Centre	Business engagement	2	1	0	1	0
	Education	1	1	1	0	1
	Networking	0	1	0	1	0
	Reorganisation due to changes in funding streams	1	0	0	0	0

	Research	1	1	1	0	0
	Student support	0	1	0	1	0
4.2 Will the current objectives of the Centre change in the next five years	No	0	0	1	0	0
	Uncertain	0	1	0	1	1
	Yes	1	0	0	0	0
4.3 How should the success of the Centre be measured	Academic feedback	0	1	1	0	0
	Engagement targets	1	1	2	0	0
	Financial	2	0	0	0	1
	Impact	2	2	0	0	2
	Reputation improvement	1	0	0	0	0
	Research output	0	0	1	0	0
5.1 What geographical regions does the Centre service	Contributor to eco-system	0	0	0	1	0
	International	1	1	1	0	1
	Local	0	1	1	0	0
	Regional	1	1	0	0	1
	Transnational	1	0	0	0	0
6.1 How is the Centre funded	Externally funded	0	0	1	0	1
	Grants	0	0	0	1	0

	Industry contracts	0	1	0	1	1
	Internally funded	0	1	1	1	0
	Research income	1	1	0	0	0
	Teaching income	1	0	0	0	0
6.2 How should Centres be resourced for the next 5 years	Commercial income	2	0	1	0	0
	Research projects	0	0	1	0	0
	The same as currently	0	1	0	1	0
	Utilisation of university resources better	1	0	1	0	1
7.1 What role does the Centre play in the provision of core curriculum	Improve accessibility of education	1	0	0	0	0
	Leading curriculum design	0	1	0	0	1
	Presenting specific programmes	0	0	1	0	0
	Support curriculum delivery	0	0	0	1	0
7.2 What role should the Centre play in terms of curriculum	Champions role	1	0	0	0	0
	Curriculum development	1	0	1	0	1
	Support implementation of curriculum	0	1	0	0	0

7.3 What role does the Centre play in the provision of co-curricular and extra-curricular activities	Provide support to students	1	1	1	0	1
7.4 What role should the Centre play in the provision of co-curricular extra-curricular activities	Improved engagement with community	1	0	0	0	0
	Maintain existing role with students	1	0	1	0	0
	Provide services across university	0	1	0	1	0
7.5 What role does the Centre play in the provision of research	Conducting research	0	0	1	0	1
	Create impact case studies	0	0	1	0	0
	General support	0	0	1	0	0
	Limited role	1	1	0	0	0
	No research activity	0	0	0	1	0
7.6 What role should the Centre play in the provision of research	Higher level entrepreneurship	1	0	0	0	0
	Identifying research themes	0	0	1	0	0

	Impactful research	1	0	0	0	0
	More involvement in research	0	1	0	0	0
	The same as current role	0	0	1	0	1
8.1 How is the Centre organised	Advisory board	0	1	0	0	1
	Independent from faculties	1	0	0	1	0
	Management board	0	0	1	0	0
	Part of a faculty	0	1	1	0	1
	Student employment	1	0	0	0	0
8.2.1 Where is the centre currently located	Business enterprise group	1	0	0	0	0
	In faculty	0	0	0	0	1
	Off campus	0	1	0	1	0
8.2.2 What is the reason for the current location of the Centre	Availability of space	0	1	0	0	0
	Costs	0	0	0	1	0
	No other logical place	1	0	0	0	0
	Part of faculty	0	0	1	0	1
8.2.3 Should the Centre be located differently to achieve its future goals and objectives	No	0	1	1	0	0
	Yes	1	0	0	0	1

9.1 What are the key problems experienced by the Centre	Balance between curriculum and extra curricular	0	0	0	2	0
	Distance between academia and business	1	0	0	0	0
	Financial sustainability	2	0	0	0	0
	Focus on income	0	0	1	0	0
	Measurement of success	1	0	0	1	0
	Physical space	0	1	0	0	0
	Reaching small numbers	0	0	0	1	0
	Shift in national agendas	0	0	1	0	0
	Staffing	0	1	0	0	1
	Succession for director	1	0	0	0	0
	University regulations	0	1	2	0	0