



Department
for Business
Innovation & Skills

BIS RESEARCH PAPER NO. 236

Entrepreneurship Skills: literature and
policy review

SEPTEMBER 2015

RESEARCH

Contents

Contents	2
Executive summary	5
Background.....	5
Research aims and objectives.....	5
Entrepreneurship skills	5
Case studies of entrepreneurship skills programmes	6
Conclusion	6
Aims, objectives and methods.....	7
Background.....	7
Research aims and objectives.....	8
Methodology	8
Exploration of concepts, definitions and literature.....	8
Literature review.....	8
Policy review	9
Entrepreneurship skills	10
Key findings	10
Background.....	10
Skills and entrepreneurship.....	11
Skills for successful entrepreneurship	12
Factors associated with entrepreneurship skills	15
Business and entrepreneur characteristics and entrepreneurship skills.....	16
How are entrepreneurship skills acquired?.....	18
Conclusion: entrepreneurship skills.....	19

Policy review	21
Key findings	21
Introduction	21
Summary of country specific case study findings	22
Implications for UK SME initiatives	24
Conclusion	26
Are 'entrepreneurship skills' distinctive?	26
Will improving entrepreneurship skills improve business growth? Is there a rationale for policy development?	26
Should entrepreneurship skills programmes be targeted?	26
How can/should entrepreneurship skills best be delivered?	27
Annex: case studies	28
Policy review 1: Australia	28
Description/Area of focus	28
Coverage – country/region	28
Sector/target business/demographic groups	28
Details of policy/programme	28
Key findings	29
Implications for practice/policies	30
Policy review 2: United States	32
Description/area of focus.....	32
Coverage – country/region	32
Sector/target business/demographic groups	32
Details of policy/programme	32
Key findings	34

Lessons and implications for UK practice/policies	36
Policy review 3: Canada.....	37
Description/Area of focus	37
Coverage – country/region	37
Sector/target business/demographic groups	37
Details of policy/programme.....	37
Key findings	40
Lessons and implications for UK practice/policies	41
References	43

Executive summary

Background

- Recent research has highlighted the importance of entrepreneurship skills to small business performance. Although there are quite extensive literatures dealing with management and leadership skills more generally, relatively little is known about these particular skill-sets.

Research aims and objectives

- The project objectives were to distil from the academic literature the key components of 'entrepreneurship skills', to identify how they can and cannot be developed and to draw out possible lessons for UK policy.

Entrepreneurship skills

- Our review confirms that it is possible to identify a set of skills that can be characterised as 'entrepreneurship skills' which are distinct from – although closely related to – accepted definitions of management and leadership skills. Entrepreneurship skills are associated with competence in the process of opportunity identification (and/or creation), the ability to capitalise on identified opportunities and a range of skills associated with developing and implementing business plans to enable such opportunities to be realised.
- There is evidence to suggest that there is a positive association between entrepreneurship skills and some measures of business success. The evidence regarding the impact on business performance of specific education, training or support programmes to promote entrepreneurship is limited, suggesting the need for further experimentation and systematic evaluation.
- While there is some suggestion of variation in the type and / or level of entrepreneurship skill by gender, ethnic groups, nationalities and/or location, overall entrepreneurship skills appear to be related only loosely to factors such as the demographic or educational background of the entrepreneur.
- There is evidence that some entrepreneurship skills can be taught and/or learned. However entrepreneurs tend to learn less effectively from the conventional didactic approaches typical of much of the educational sector. The most effective approaches to developing entrepreneurship skills involve experiential learning based around task-oriented development focused on real business problems.

Case studies of entrepreneurship skills programmes

- All three overseas countries studied (Australia, USA and Canada) place particular emphasis on supporting the growth and development of small and medium-sized enterprises (SMEs). Examples of initiatives focusing on entrepreneurship skills include:
 - The US Office for Entrepreneurship Education (OEE) is a dedicated national resource with the specific remit of assisting the skills development of entrepreneurs, which it deploys via a series of online toolkits and resources and targeted initiatives.
 - Another US initiative, the Emerging Leaders Executive-level development programme is targeted at established businesses with large turnover and growth potential. Evaluation findings indicate positive results in terms of job creation, access to finance and securing of public sector contracts among 2,000 participating businesses.
 - In Canada, the Futurpreneur Canada initiative is directly targeted at youth entrepreneurship and has achieved notable impact and results.

Conclusion

- This review has established that it is possible to identify a range of 'entrepreneurship skills' associated with the identification and exploitation of opportunities for performance gains and growth.
- The available evidence suggests that there are significant numbers of small businesses in the UK with relatively underdeveloped entrepreneurship skills and that there is the potential for substantial impacts on performance.
- Our findings show that some entrepreneurship skills can be taught and/or learnt provided that the approaches used are informed by a proper understanding of how such skills are most effectively developed. Effective approaches are, necessarily, based around experiential learning.
- Current UK initiatives such as Goldman Sachs 10,000 and Growth Accelerator are helping targeted (and largely self-selected) businesses to develop their entrepreneurship skills and provide examples of good and effective practice.
- The research literature and reviewed policy initiatives suggest that targeting of key groups (such as young entrepreneurs) may help programmes reach those most likely to have underdeveloped entrepreneurship skills. Similarly, there is also some evidence to suggest that spatial targeting may be appropriate to address low levels of entrepreneurship skills in more peripheral areas of the UK.

Aims, objectives and methods

Background

Entrepreneurship is considered to be a key factor in promoting economic development, innovation, competitiveness and job creation, yet little is known about the skills required for successful entrepreneurship. Research and policy has focused upon the conditions necessary for entrepreneurship - typically defined in terms of the creation of new ventures - to flourish¹. 'Entrepreneurship skills' issues have been addressed primarily in relation to the education system.

Recent research commissioned by BIS and undertaken by the University of Warwick (Hayton, 2015) suggested that there exists a deficiency within a substantial proportion of the UK's small and medium-sized enterprises (SMEs) in relation to entrepreneurship skills. These (self-reported) skill deficiencies may be acting as a constraint on the growth of many SMEs. In order to explore this issue in more detail, BIS commissioned this literature and policy review, which focuses on understanding the nature of entrepreneurship skills and exploring the extent to which, and the ways in which, public policy might support the development of such skills.

The term 'entrepreneurship skills' implies that competences can be identified that are associated with (successful) entrepreneurship and may be distinguished from attributes and behaviours that are typically associated with entrepreneurs². The debate as to whether and/or how entrepreneurship (skills) can be taught³ is central to this study. If it can be established that some 'entrepreneurship skills' can be identified/learned/applied, there may be a case for policy intervention to stimulate improved business performance, competitiveness, innovation and job creation.

This study reviews the literature on entrepreneurship skills, together with some policy initiatives that have attempted to encourage and support individuals to acquire and apply entrepreneurship skills, with anticipated positive consequences for business performance.

The project was undertaken by five Hull University Business School (HUBS) researchers:

- Dr Steve Johnson, Professor of Enterprise and Economic Development at HUBS
- Dr Nick Snowden, Lecturer in Organisational Behaviour at HUBS
- Dr Sumona Mukhuty, Lecturer in HRM and Organisational Behaviour at HUBS
- Ben Fletcher, Associate at the University of Hull
- Professor Terry Williams, Dean of HUBS and Professor of Management Systems

¹ A range of definitions and measures of entrepreneurship exist, but these are not explored here due to space constraints

² See <http://www.brighthub.com/office/entrepreneurs/articles/39016.aspx> for one example among many 'how to' blogs and websites that produce lists of such attributes

³ Henry, C., Hill, F and Leitch, C. (2005) 'Entrepreneurship education and training: can entrepreneurship be taught? Part I' *Education and Training* 47(2), 98-111

Research aims and objectives

The project objectives were:

1. To identify and critically review the academic literature on entrepreneurship skills, with a focus on whether and how such skills are acquired within established small businesses.
2. To distil from such literature the key components of 'entrepreneurship skills' and how they are acquired, developed, measured and assessed.
3. To review policy initiatives in selected countries and draw out lessons to be learnt for UK policy.

Methodology

Exploration of concepts, definitions and literature

Phase One of the research comprised an exploration of concepts, definitions and scoping of previous literature:

- An initial sift of literature to identify definitions of 'entrepreneurship skills'.
- Discussion and agreement on a working definition to guide the scope of the study.
- Compilation of keywords to be used in literature and policy search.
- Exploratory searches of relevant databases such as Google Scholar, EBSCO, Web of Science.
- Keyword search to identify policy literature and contacts to approach for further information.
- Compilation of template(s) to guide literature and policy reviews.

Literature review

The literature review utilised a comprehensive search strategy using agreed key words including 'entrepreneurship' and/or 'skills' and/or 'policy'. Journals reviewed are indicated in Table 1. 'Grey' literature includes the proceedings of conferences such as ISBE⁴, RENT⁵, Babson, ECSB⁶, ICSB⁷ and ACERE⁸. We also searched the websites of leading research institutes in the field including those based at Warwick, Middlesex, Cambridge, Kingston and Strathclyde, and selected international centres such as Babson, EIM⁹ and ACERE.

⁴ Institute for Small Business and Entrepreneurship

⁵ Research in Entrepreneurship and Small Business

⁶ European Council for Small Business

⁷ International Council for Small Business

⁸ Australian Centre for Entrepreneurship Research Exchange

⁹ Erasmus Centre for Entrepreneurship Research

Table 1: Journals reviewed

Entrepreneurship journals	Management/skills journals
<ul style="list-style-type: none"> • Journal of Business Venturing • Entrepreneurship Theory and Practice • International Small Business Journal • Journal of Small Business Management • Small Business Economics 	<ul style="list-style-type: none"> • British Journal of Management • Journal of Management Studies • Academy of Management Review

Policy review

The policy review followed a similar process to the one described above. The review focused on a small number of countries, selected due to their known policy focus on entrepreneurship and the availability of information about relevant policies and initiatives: the USA, Canada and Australia. Three case studies were produced highlighting particular initiatives and their treatment of entrepreneurship skills for these countries. International organisations such as OECD¹⁰, European Union (Interreg panel on entrepreneurship) and GEM¹¹ provided useful information on policy. We undertook electronic conversations with a small number of key stakeholders in each country covered by the study.

¹⁰ Organisation for Economic Cooperation and Development

¹¹ Global Entrepreneurship Monitor

Entrepreneurship skills

This section reviews the literature regarding the definition and significance of ‘entrepreneurship skills’, building on a BIS study that highlighted the relationship between management skills, leadership skills, entrepreneurship skills and business performance.

Key findings

- The literature illustrates that it is possible to identify a range of skills that can be categorised under the broad heading of ‘entrepreneurship skills’ that can, to some extent, be distinguished from leadership and management skills that appear to be most relevant to larger organisations.
- In general high levels of entrepreneurship skills are associated with competence in the process of opportunity identification (and/or creation), the ability to capitalise on identified opportunities and a range of skills associated with developing and implementing business plans to enable such opportunities to be realised. There are indications in the literature that entrepreneurship skills and associated development needs may vary by gender, ethnicity and location; however the evidence is not definitive and further research would help to clarify this.
- It is clear that interventions consistent with the typical entrepreneur’s preference for experiential learning are most likely to be successful in developing entrepreneurship skills.

Background

This report reviews the theory and evidence on the skills required to grow small entrepreneurial ventures. The focus is on existing organisations including start-ups, and the review concentrates on ‘entrepreneurship skills’ as opposed to more broadly defined leadership and management skills that have been the focus of a number of previous reports (for example, Department for Innovation and Skills, 2012).

The starting point for this study is Hayton’s report for BIS (2015), which defines entrepreneurship skills as “identifying customer needs, technical or market opportunities, and pursuing opportunities” (Hayton, 2015, p. 3). He posits these entrepreneurship skills as part of a broader set of leadership and management skills needed in SMEs. Hayton identifies a positive relationship between (self-reported) entrepreneurship skills and some measures of business performance. Leadership skills and entrepreneurship skills combine to influence strategy formalisation and responsiveness, factors that are positively associated with performance and growth. The study also pinpoints self-reported deficiencies in entrepreneurship skills amongst a ‘long tail’ of survey respondents, suggesting that around 200,000 (16 per cent) of the UK’s 5.2 million small businesses rate themselves below 3.4 on a 5-point scale for entrepreneurship skills. One potential implication of these findings is that **successful interventions to improve entrepreneurship skills are likely to result in improved SME performance, not only among this ‘long tail’ but also among a wider group of SMEs for which self-reported**

entrepreneurship skills might be improved. Our report reviews the literature regarding entrepreneurship skills with a view to policy development.

Skills and entrepreneurship

Before discussing the literature in more detail, it is useful to consider briefly the concept of 'skill' and its relationship with entrepreneurship. Chell (2013, p. 8) notes that '*... skill refers to proficiency in performance and may be enhanced by practice and training*'. She goes on to state that:

'Skills are multidimensional constructs; they comprise the cognitive – knowledge and what is learnt; the affective – emotional expression and what is experienced; the behaviour – action at strategic, tactical and personal levels; and the context – sectoral, occupational, job and task levels ...'

This is a useful framework within which to understand the skills that are required in order to be a successful entrepreneur, the ways that these skills are acquired and the potential for entrepreneurship skills to be developed and improved within the context of existing entrepreneurial ventures.

Chell also reviews some of the key literature regarding the nature of entrepreneurship, noting that '*...the knowledge, skills and abilities of entrepreneurs and innovators are many and various, but as with personality traits, they interact with situations ...*' (2013, p. 9). One implication of these observations is that, while there may be some personality traits that are associated with entrepreneurial behaviour, in principle it is possible to identify a range of 'entrepreneurial skills' that can be learnt, practiced and improved, in turn enhancing the prospects of business survival and growth. Moreover, **experiential learning linked to specific situations and/or issues is more likely to be successful in developing entrepreneurship skills than classroom-based learning.**

There is a long-running theoretical and empirical debate about the nature of entrepreneurship, which has important implications for discussions regarding the nature of entrepreneurship skills and the extent to which (and the ways in which) they might be learnt. This report does not discuss these debates in detail; however a basic understanding of the key differences in perspective is useful in order to identify the skills that are required for successful entrepreneurial activity. Chell (2013) focuses on the dominant 'opportunity recognition' theory which defines the role of the entrepreneur as being the person that discovers new opportunities that already exist and subsequently develops (or exploits) these opportunities. This is consistent with Hayton's (2015) definition outlined above.

Chell (2013) points out – building on a substantial and growing body of literature – that there are a number of competing views of the entrepreneurship process that may have differing implications for our understanding of entrepreneurship skills. In particular, a number of studies have suggested that the creation of completely new opportunities, not the discovery of already existing opportunities, lies at the heart of the entrepreneurial process. Moreover, while the individual characteristics, knowledge and qualities of the entrepreneur are important in this process (Shane & Venkataraman, 2000), other researchers - notably Sarasvathy (2009) - emphasise the role of networking and 'effectuation', with entrepreneurship being more of a collective, iterative process than was

previously thought. A number of variants of the ‘opportunity creation’ approach can be identified; however, the key issue from the perspective of this study is the implication that **successful entrepreneurship involves more than the characteristics and/or skills of the individual**. While most studies of entrepreneurship focus on the start-up process, it is reasonable to suggest that a more collective model of entrepreneurial learning and action is appropriate to understand the survival and/or growth phases of the business life cycle and the skills required to achieve growth.

A further branch of the entrepreneurship and SME literature – that concerned with the survival and growth of small enterprises – is also relevant here. Again, the literature is vast and diverse and is not reviewed in detail in this report. However, it is useful to note that theoretical and empirical studies are inconclusive about the relationship between individual skills, approaches to strategy and the survival/growth of small businesses. One school of thought suggests that entrepreneurs may be tempted to ‘rest on their laurels’ and repeat past behaviours on the (often incorrect) assumption that this will result in continued success (Parker et al, 2010). To the extent that this argument has validity, it might be concluded that simply further enhancing the existing entrepreneurship skills of the owner/manager may not be the most appropriate route to growth. Other studies have researched the role of strategy formulation and adoption by small businesses, with mixed results. For example, Armstrong (2013) suggests that adoption of strategies based on firms’ current internal resources increases the chances of growth, but also decreases the chance of survival. While the results are inconclusive, they suggest that **caution is required in making simplistic assumptions about the consequences for business survival or growth of increased entrepreneurship skills and/or strategies based solely on the past success of individual businesses**.

Skills for successful entrepreneurship

The literature review supports many of the existing ideas regarding which skills are important for successful entrepreneurship including,

- identifying customer needs, technical opportunities and market opportunities, as summarised by Hayton (2015)
- creation of new opportunities (Alvarez & Barney, 2007)
- recognising social/market needs (Hunter, 2012)
- successful entrepreneurs may find (or create) an opportunity and then develop skills to capitalise on the opportunity

As identified above, rather than being a specific set of skills in their own right, these can be related to particular personality traits and behaviours that entrepreneurs typically display, and may also reflect the contexts (sector, spatial, policy etc.) within which they operate. This is explored in more detail below.

Chell (2013) provides a useful overview of the literature on entrepreneurship skills, building on writers such as Markman (2007) who developed a theory of entrepreneurial competences, which Chell feels is at too high an order of generality to be of practical use. Michelmores and Rowley (2013, p. 100) suggest a framework which identifies – in addition

to a range of other managerial and related skills and competences - six main entrepreneurial competences:

- identification and definition of a viable market niche
- development of products or services appropriate to the firm's market niche / product innovations
- idea generation
- environmental scanning
- recognising and envisioning taking advantage of opportunities
- formulating strategies for taking advantage of opportunities

In the context of the research, this highlights the presence of a particular action-orientated competency framework. The OECD¹² highlights the importance of a new set of entrepreneurship skills that are distinct from other traditional business management competences. These include strategic thinking, positive orientation to change and innovation, ability to network and build strategic alliances, risk assessment, opportunity identification and motivating others around a common goal. These, they argue, are important to new firm creation and supporting existing SME owners and managers to facilitate growth within their businesses.

Mitchelmore and Rowley's approach is eclectic in bringing together a wide range of concepts related to skills and competences of managers and entrepreneurs. They note the need for further research, for example in developing an agreed entrepreneurial competency framework and investigating the relationship between different entrepreneurial competences (p.106). Studies focused on the teaching of entrepreneurship in the Higher Education (HE) sector - for example Galloway et al (2005) and Rae (2004) - utilise similar definitions of entrepreneurship skills based around opportunity recognition and/or creation. Similarly, Chell (2013) attempts to categorise the contributions of a range of researchers to develop a coherent framework in which to understand entrepreneurship skills. The framework is based around a number of broad (and in many cases inter-related) areas of behaviour/skills (Table 2)¹³.

This provides further evidence as to the existence of particular behaviours and traits that we associate with 'being entrepreneurial' and what an entrepreneur does, but it is not sufficiently distinct from what are also leadership and management skills sets. We develop this further next in terms of identifying discrete behavioural and motivational factors relevant to entrepreneurship and in the context of enterprise creation and growth.

¹² SMEs, Entrepreneurship and Innovation, 2010, OECD Studies on SMEs and Entrepreneurship

¹³ The list presented in Chell's paper is more extensive and detailed than the summary presented here

Table 2: Categories of entrepreneurship skills

Idea identification/creation	Capitalising on ideas
<ul style="list-style-type: none"> • Idea generation / envisioning • Opportunity recognition and means-end analysis • Ability to acquire information about a potential opportunity, domain knowledge and associated skills • Recognition of social / market need 	<ul style="list-style-type: none"> • Awareness of environment and factors conducive to opportunity exploitation • Ability to garner the necessary material resources • Ability to convince others of the value of an opportunity • Networking and social embedding
Traits/behaviours	Managerial/leadership skills
<ul style="list-style-type: none"> • Self-belief, self-awareness, trust in own judgement etc. • Ability to manage risk and shoulder responsibility • Ability to endure and cope with difficulties. Energy, motivation, persistence etc. 	<ul style="list-style-type: none"> • Ability to manage others • Ability to overcome institutional and other constraints • Ability to develop an idea as a commercial opportunity • Decision-making capability

Source: adapted from Chell (2013, p.12), Table 1

The competence framework developed and tested on a sample of entrepreneurs by Chandler and Jansen (1992, p. 225) is less extensive and focuses on two key factors; firstly *'(the) ability to recognize and envision taking advantage of opportunity'* and secondly *'... the drive to see firm creation through to fruition'*. Chandler and Jansen recognise that these factors are associated with a range of other factors, for example sector knowledge and experience and more 'conventional' management skills. Nonetheless, their study found that *'self-reported competencies of founders are correlated with venture performance'* (p. 232).

This finding is supported by the work of Baum and Locke (2004), who use the concept of *'new resource skills ... the ability to acquire and systematize the operating resources needed to start and grow an organization'* (p.587). New resource skill is measured through a questionnaire survey of entrepreneurs using five-point scales for statements such as *'I am good at finding money and people to start a new organization or new program'*. This is similar in nature to the work of Hayton (2015) and yields similar results with respect to the relationship between self-reported entrepreneurship skills and business performance.

The definitions of entrepreneurship skills outlined above demonstrate a **considerable degree of consistency in focusing on opportunity identification/creation and the**

skills required to take advantage of these opportunities as well as to assemble and utilise the resources needed to achieve commercial success on the basis of these opportunities. The various contributions to the debate vary mainly in terms of the level of detail provided, the overview by Chell (2013) illustrating this most clearly by presenting 22 different behaviours/skills that have been identified by researchers in the field.

Volery et al (2015) suggest, on the basis of a detailed qualitative study of the actions of entrepreneurs, that different skills may be required to successfully undertake the idea recognition/creation element of entrepreneurial behaviour, as compared with the skills necessary to capitalise successfully on the idea (or ideas). They identify a group of entrepreneurs who appear to be 'ambidextrous' in being able to switch readily between these two skills sets or modes of behaviour. This study raises the possibility that **in some cases the full range of entrepreneurship skills may reside (or can be developed) in one individual, whereas in other cases a team approach may be more appropriate.**

The literature illustrates that **it is possible both conceptually and empirically to identify a range of skills that can be categorised under the broad heading of 'entrepreneurship skills' that can, to some extent, be distinguished from leadership and management skills that appear to be most relevant to larger organisations.** This is not to say that there is no relationship between these broad categories of skill – nor that leadership and/or management skills are irrelevant to small enterprises - as has been demonstrated by Hayton (2015). The next section examines the factors that the literature suggests are associated with high levels of entrepreneurship skills.

Factors associated with entrepreneurship skills

Research has, to a limited extent, investigated the relationship between entrepreneurship skills, 'entrepreneurial traits' that have been identified by psychologists and other factors, for example the demographic characteristics, education level and/or experience of the entrepreneur. This section summarises briefly the evidence that is relevant to consideration of the potential for policy initiatives to promote entrepreneurship skills with a view to influencing the growth ambition and performance of existing businesses.

International exposure of SMEs and their owner managers to new ideas and approaches is one of the factors associated with developing entrepreneurship skills, both at a local and international level (Rodriguez-Pose & Hardy, 2015). This can be seen in SME export activity in overseas markets or via involvement in trade missions led by business support organisations that target particular countries or markets, often as part of a collective geographic or sector network of other likeminded enterprises and peers. This could be useful in policy regarding training, business support and trade initiatives, and suggests **the development of enabling skills such as networking, interpersonal communication, and cultural awareness could have an indirect impact on entrepreneurship.** Indeed, our review highlights the importance of 'human skills' alongside knowledge and technical know-how.

It may be suggested that networking skills are crucial to the success of entrepreneurs. While the literature focuses on technical knowhow and knowledge, it may be the case that the individual with opportunity recognition skills may not be the person with the knowledge/technical know-how, making networking skills and opportunities even more relevant and valuable, whether in an international context or local context. International

networking with a clear focus on sharing knowledge and generating ideas could therefore be beneficial.

Two important considerations in the context of the acquisition of entrepreneurship skills and business performance concern maintaining practical relevance to an SME and the challenges it faces and fostering a supportive peer learning environment. SME owner-managers will typically be involved in a variety of business clubs or networks, their involvement driven by multifaceted economic, social and personal motivations. Giving networking activity real relevance and application to the SME owner-manager and the challenges their businesses face is a key to engagement. Mutual understanding and trust between network participants may be heightened if the appropriate supportive peer group environment can be established, facilitating more valuable exchange and group learning.

Some researchers have found that **educational attainment** is positively related to opportunity recognition. Singh & Gibbs (2013) note this in a number of empirical studies, and suggest that the increased knowledge that educated individuals hold provides them with a greater resource from which to draw links to new data, thus creating new innovative opportunities.

Cognitive skills including counterfactual thinking and analytical thinking have been identified as crucial for entrepreneurial growth especially in translating opportunity recognition into information processing ultimately leading to transforming a market opportunity into a business (Chell, 2013). Therefore, courses and workshops on tools to enhance creativity and entrepreneurial decision-making are likely to prove beneficial in facilitating the growth of small businesses.

Maase and Bossink (2010) capture the **need to bring together public and private talents and capital** to progress entrepreneurship growth. Co-ordination and marshalling of resources can help capitalise on new opportunity recognition. Furthermore, small businesses would benefit by investing their resources in research and development after starting up as opposed to only prior to the start-up of the business (Blazenko, 2012). Growth is essentially related to capitalising on envisioning where a small idea/venture can be extrapolated to a realistic larger business concept. However, the person who recognises the opportunity, envisions the idea and the person/s who have the expertise or the capital to transform the idea into a business output may not necessarily be one and the same (Armstrong, 2013). This can be achieved by bringing together the different skill-sets and resources to provide the synergistic outcome of business growth.

Business and entrepreneur characteristics and entrepreneurship skills

Most of the research identified through our literature review makes little, if any, distinction between the entrepreneurship skills possessed or required by different demographic groups of entrepreneurs, or by entrepreneurs operating in different sector, spatial or other contexts. This section summarises some of the key concepts, findings and implications arising from the limited relevant literature that we were able to review. We suggest that this is a potential area for future research, especially given the policy imperative to target support in order to achieve the greatest impact, rather than spread such support thinly across a wide range of beneficiaries.

Culture, ethnicity and nationality

The foreign-born population of the UK, currently standing at approximately 13% of the total (Rodríguez-Pose & Hardy, 2015), has a potentially significant role in increasing entrepreneurial activity. Migrants have been shown to be natural risk-takers, and twice as likely to engage in entrepreneurship as natives (Hasan, 2011) therefore suggesting that immigrants have more entrepreneurship skills. However, this is not the full picture.

Recent evidence suggests that regional levels of entrepreneurship in the UK have been stimulated by increased cultural diversity, and this appears to be driven by highly skilled, educationally diverse, non-UK born migration (Rodríguez-Pose & Hardy, 2015). It is perhaps this eclectic mix of cultures, ideas, training, and skills that stimulates entrepreneurial thinking, rather than simply 'importing' entrepreneurship skills into the nation.

Indeed, Zhou (2004) notes a number of studies that record high levels of entrepreneurship in regions of the USA with high concentrations of ethnic minorities. Wang (2012), in a further US study, implies that ethnic minority entrepreneurs typically limit their enterprise's scope to the local enclave, supplying that migrant community with their products or services. If this pattern is repeated within the UK¹⁴, **policies which support the development of the skills needed to break these barriers could be valuable, aiding the wider application of the entrepreneurship skills possessed by ethnic minorities.**

Moreover Rodríguez-Pose & Hardy (2015) identify the potential for a positive effect on entrepreneurship and innovation when highly and diversely skilled foreign-born workers interact with UK-born counterparts. This international networking may create 'knowledge spillover' and knowledge 'pipelines' between nations, with the benefits being felt regionally as well as nationally, as such groups are *'better able to exploit a larger pool of talents, perspectives, and social connections, and may also be more responsive to the recognition and exploitation of gaps or opportunities in the regional economy'* (Eraydin et al, 2013).

Gender and entrepreneurship skills

Kariv (2012) points out that business growth requires suitable change-related strategies, and men and women lead business change in different ways. A number of studies have captured the existence of significant gaps in the growth, survival and sales for business ventures led by men and women (OECD, 2003a, b, c; US Census Bureau, 2002). Kariv (2012) implies a need to study practices that men and women entrepreneurs adopt to achieve competitive advantage and the development of dynamic capability with a view to accomplishing change-oriented strategies.

Interpersonal skills and being socially dexterous were reported as strong entrepreneurial skills for women. However, financial skills are an area where women entrepreneurs indicated a greater need for support (Mitchelmore & Rowley, 2013). Jennings and Cash (2006) found that men and women entrepreneurs differ in their use of financial capital. Huarng et al's (2012) review also indicates that women business owners need more specialised financial skills. **Women entrepreneurs might be disadvantaged in gaining access to entrepreneurial capital due to their differing background and experience**

¹⁴ See Carter, Ram, Trehan and Jones (2013) for a recent review of the literature

from their male counterparts (Mitchelmore & Rowley, 2013). Therefore, women entrepreneurs could benefit from support in developing entrepreneurship skills in accessing and managing financial capital to help grow their businesses.

Spatial variations in entrepreneurship skills

There is a vast literature which examines the causes and consequences of spatial variations in entrepreneurship within and between countries. However, there appears to be little evidence regarding the level and nature of entrepreneurship skills in different localities. Peripheral regions are thought to be constraining to SME development from both a resource based and network perspective (Arbuthnott & von Friedrichs, 2013; Karlsen et al, 2013). While these studies do not focus on entrepreneurship skills *per se*, their findings indicate that **small businesses operating in peripheral regions may lack access to resources that have been demonstrated to support the development of entrepreneurship skills.**

Research suggests that entrepreneurship skills are related to factors such as entrepreneurial 'traits' associated with environment or upbringing, education levels, business experience, ethnicity, access to business support/training and participation in diverse learning networks. It might therefore be argued that regions with relatively low levels of entrepreneurial activity might also exhibit relatively low levels of entrepreneurship skills among the existing small business population. In particular, given the emphasis in the literature on the benefits of networking and peer learning, it could be argued that entrepreneurs in 'low entrepreneurship areas' might benefit from initiatives that encourage them to interact with entrepreneurs from other areas (and perhaps also other cultures and nationalities) in order to develop their entrepreneurship skills. There may also be an argument that opportunity identification and/or creation is more difficult to achieve effectively in areas where consumer and business markets are relatively depressed and/or limited in scale or scope.

How are entrepreneurship skills acquired?

Discussions about entrepreneurship skills are often associated with debates regarding whether and/or how such skills might be taught and/or learned. Recalling Chell's (2013) observation that skills, in general, should be understood as being something that can be learnt and improved with practice, the implication is that it is possible to teach and/or learn entrepreneurship skills. However, as demonstrated above, there is some evidence that entrepreneurship skills are influenced by a range of factors, including the demographic characteristics of the entrepreneur, their education level, their business and other experiences and perhaps a range of 'traits' that may be determined by genetics and/or early experiences that are difficult to change. The question is perhaps best re-stated therefore, in terms of what elements of entrepreneurship skills are (a) most amenable to learning and (b) most likely to make a demonstrable difference to business performance. Associated with these questions are debates as to the most appropriate methods of 'teaching' entrepreneurship skills, a topic that has particularly exercised educators in the higher education sector (Gibb, 2002; Galloway et al, 2005; Rae, 2004).

Henry, Hill and Leitch (2005) make a useful contribution to this discussion by reviewing the debate over 'can entrepreneurship be taught?'. Following Tiernan et al (1996) they define an entrepreneur as *'someone who has the ability to see and evaluate business opportunities; gather the necessary resources to take advantage of them, and initiate*

appropriate action to secure success' (Henry, Hill and Leitch, 2005; 99). This definition is very close to the one adopted by Hayton (2015) and a number of other studies reviewed in this report. Henry, Hill and Leitch go on to observe that the nature of learning about entrepreneurship skills is likely to vary according to the stage of development of the business (pre-start, start-up, growth, maturity) and also point out that learning about entrepreneurship is not restricted solely to those who are running (or wish to run) existing businesses. The review highlights a range of enterprise skills very similar to those considered above, including *'inner control, risk taking, innovativeness, being change oriented, persistence and visionary leadership ...'* (2005: 104).

Entrepreneurs tend to be task-oriented, so Henry et al suggest that entrepreneurship skills programmes should themselves be task focused, as compared to more conventional programmes that focus on specific skills for small business management such as finance and marketing. **Learning needs to be based on real work situations**, encouraging managers to implement what they have learnt. Flexibility in learning is also important, as well as greater experimentation than is often the case in more conventional learning programmes. Entrepreneurship is seen as an art and a science, the latter being seen as 'teachable', the former generally not. The consensus of the literature review by Henry et al is that *'at least some aspects of entrepreneurship can successfully be taught'* (158), although it is recognised that evaluation evidence regarding the impact of entrepreneurship education programmes is limited.

A further useful contribution is made by Stuetzer et al (2013), who consider the influence of varied work experience on the acquisition and deployment of entrepreneurship skills. They examine entrepreneurs in a sample of German small businesses, using experience in five different business areas (marketing, accounting, financial control, R&D, production and personnel) as indicators of varied work experience. These measures were found to be good predictors of entrepreneurship skills and the authors conclude that *'... our study speaks in favour of a varied curriculum that builds on insights and practical experiences from a range of functions and roles in order to foster the development of entrepreneurial skills'* (6).

Conclusion: entrepreneurship skills

Our review of the literature has confirmed clearly that it is possible to identify a set of skills that can be characterised as 'entrepreneurship skills' and are distinct from – although closely related to – accepted definitions of management and leadership skills. A key distinction appears to be the action-orientated manner in which these skills are applied – in pursuit of market opportunities or business performance objectives. Some studies have suggested a wide and complex range of skills or competences; however in general there is consensus that high levels of entrepreneurship skills are associated with competence in the process of opportunity identification (and/or creation), the ability to capitalise on identified opportunities and a range of skills associated with developing and implementing business plans to enable such opportunities to be realised.

There is some evidence to suggest that **there is a positive association between entrepreneurship skills and some measures of business success**, although it is clear that further research is required in order to understand which specific skills are most important and how they inter-relate with other types of skills and other factors associated with business growth. The evidence regarding the impact on business performance of

specific education, training or support programmes to promote entrepreneurship is limited, suggesting the need for further experimentation and systematic evaluation in this area.

While there is some suggestion of variation in the type and/or level of entrepreneurship skill by gender, ethnic groups, nationalities and/or location, overall, **entrepreneurship skills appear to be related only loosely to factors such as the demographic or educational background of the entrepreneur.** Again this is an area that would benefit from further research.

Our understanding of how and why entrepreneurs acquire entrepreneurship skills is also limited. There is **strong evidence that entrepreneurs tend to learn less effectively from the conventional didactic approaches typical of much of the educational sector and some indication that a task-oriented approach focused on real business problems would bear fruit with this group.** Experiential learning and learning through interaction with peers also appear to be appropriate for the effective development of entrepreneurship skills, as is exposure to a range of cultures, backgrounds and experiences. Variety (reflecting the varied experiences of many entrepreneurs), flexibility and innovation also appear to be elements of the learning process that are most likely to engage entrepreneurs and result in increased levels of entrepreneurship skills.

The next section of this report reviews some policy initiatives in selected countries that have, at least in part, attempted to improve entrepreneurship skills.

Policy review

Building on the literature review the focus of the brief for this part of the project was to identify and critically review policy initiatives in selected countries that have attempted to develop entrepreneurship skills as a route to improving enterprise productivity and growth. The objective being to draw out good practice and lessons learned which may be useful to inform the development of future UK policies and initiatives in this area.

Key findings

- Our initial assessment is that there is only a limited body of policy evidence that is directly relevant to the entrepreneurship skills issue (as we have defined it).
- Hard evaluation evidence has been limited. However, we understand from our established country contacts that in many cases, such evidence does exist but has not been or is unlikely to be published in the public domain.
- There are some pertinent examples from the country specific case study review of wider innovation and entrepreneurship infrastructure support systems that have contributed to entrepreneurship skills development.
 - The Office for Entrepreneurship Education (US) is a good example of how the promotion and support of leadership and entrepreneurship skills can be given greater prominence.
 - The Emerging Leaders Executive-level programme (US) underlines the importance of targeting SME skills development as a route to achieving business growth.
 - The Futurpreneur Canada initiative provides a good example of directly targeting youth entrepreneurship and has achieved notable impact and results.

Introduction

Our review of policy information, evaluation evidence and case studies generated a large amount of material on policies relating to SME development, internationally, across Europe and within the UK. Notably the OECD and Interreg have written extensively on the subject.

Our initial assessment is that **there is only a limited body of policy evidence that is directly relevant to the entrepreneurship skills issue** (as we have defined it – see literature review) in terms of the contribution made to improving enterprise productivity and growth. Albeit there are some specific, targeted examples of innovation and entrepreneurship infrastructure support systems that have contributed to entrepreneurship skills development.

To illustrate this point, three case studies were identified and written up, focusing on SME support arrangements in Australia, the US and Canada. These can be found in Annex 1.

The following section looks at the key findings from each of the countries reviewed. We then present a summary of these findings and some next step actions arising from the case studies designed to enhance the evidence base. We conclude by identifying some lessons regarding how entrepreneurship skills might be integrated into UK SME business support initiatives.

Summary of country specific case study findings

There is only limited hard evaluation evidence of the effectiveness of government policies in the public domain.

Three case studies were undertaken, covering Australia, the US and Canada. A summary of findings on the relative success/merits/weaknesses are presented next against each country reviewed.

Australia

Dedicated policies in Australia brought together under the Entrepreneurs' Infrastructure Programme (EIP) directly target entrepreneurs and their needs and look to provide simple and clear points of entry for its intended beneficiaries. The Programme offers differentiated levels of service, each with associated thresholds for the duration of support and grant finance available, dependent upon SME type or stage of development and their support requirements. The Business Management or Research Connections streams deliberately target larger and more established SMEs operating in key industry sectors (e.g. turnover over \$750,000).

EIP is an assembly of a number of previous programmes including Enterprise Connect (EC), Commercialisation Australia and a new precincts programme. Launched in the November 2014 Budget, it is too early in EIP's development to properly evaluate its success and impact, other than to note that the EC programme continued under the auspices of the EIP.

Enterprise Connect (EC), a business extension service, was subsumed into EIP. Previously called Australian Industry Productivity Centres (2007), it was based on the UK Manufacturing Advisory Service. EC sponsored research on business skills correlation with business performance (undertaken by Professor Roy Green of the London School of Economics) supported EC moving towards a greater focus on "entrepreneurship skills" development.

Australia has an Innovation Investment Fund (IIF) programme and part of the intent is to develop entrepreneur finance skills (supply and demand side). Evaluation has not been published.

EIP draws on a national network of more than 100 private sector advisors and provides a wealth of experience and expertise in functional business support, process improvement, commercialisation, industry sectors and regional geography.

United States (US)

The USA has specific Government policy led and funded by the US Small Business Administration (SBA), targeted at SME owners and entrepreneurs that seeks to foster the development of entrepreneurship and associated skill-sets.

The US has a long tradition of policy favourable to SMEs and entrepreneurship development. The highly liquid financial systems and available private equity and venture capital, together with an entrenched entrepreneurial culture within society has established the US as an example of good practice. The ease of access to finance for SMEs and highly developed innovation ecosystem has been cultivated over a substantial period, an investment that is not easily replicated.

The SCORE programme is a long established business support initiative, providing advice and support via an extensive volunteer network of experts and online resources that has proven demonstrably effective and has similarities to the previous UK Business Link Small Business Service.

Within the SBA, the Office for Entrepreneurship Education (OEE) is a national office with a specific remit to assist the skills development of entrepreneurs via a series of toolkits, resources and initiatives. It may be worthy of further investigation for the UK in terms of a focal point for promoting entrepreneurship skills and training.

The Emerging Leaders Executive-level development programme, provided free to delegates, is targeted at established businesses with large turnover and growth potential. There are similarities with the Executive MBA programmes available via UK Higher Education Institutions (HEIs)¹⁵ and the Common Purpose¹⁶ programme in terms of scope and sphere of teaching and community/local development roots - both are fee based programmes. Evaluation findings indicate positive results in terms of job creation, access to finance and securing of public sector contracts among 2,000 participating businesses.

Canada

Canada has specific policy led and funded by the Canadian Government, via Industry Canada, targeted at SME owners and entrepreneurs that seeks to foster the development of entrepreneurship and enterprise.

Similar to US, government policies and investment that favour SMEs and entrepreneurship, access to finance and historic societal attitudes to entrepreneurship, has enabled Canada to develop a highly supportive entrepreneurial environment and provides an example of good practice. Federal, provincial and territorial governance in Canada differs from the UK, but there are similarities to previous UK regional policy, Regional Development Agencies and Government Offices.

The Canadian Business Network is similar to the UK GOV.UK portal in terms of providing a single online point of contact and signposting for business support for SMEs. The Job Fund Agreements are similar also to UK and EU national European Social Fund

¹⁵ See for example <http://www.ambaguide.com/find-an-accredited-programme/schools/united-kingdom/>

¹⁶ <http://www.commonpurpose.org.uk/>

programmes targeting workforce skills and development. However, one notable difference is that in Canada programmes are delivered by regional development bodies as guardians of wider economic plans for their regions. In the UK, Local Enterprise Partnerships, based around functional economic areas and local authority groupings act as focal points for coordination of UK Government funding (e.g. Business Growth Hubs) rather than delivering business support services.

Futurpreneur Canada is well established, with notable investment from the Canadian Government, which underlines a clear strategy of supporting youth entrepreneurship and young enterprise with demonstrable impact and results. The broadly defined 18-39 years category for youth compared to UK is notable. For example, support in the UK via the Princes Trust charity targets 13-30 year olds but with emphasis on those that are not in education, employment or training (NEET). Futurpreneur Canada looks to have a well targeted programme of mentoring, advice and funding support for the entrepreneur and to develop associated skill-sets. This may provide a good example of practice for further investigation for application to UK.

Implications for UK SME initiatives

All three countries studied appear to place particular emphasis on supporting SME growth and development. Australia, the USA and Canada all have specific policies led and funded by their respective governments' industry departments, which are directly targeted at SME owners and entrepreneurs and seek to foster the development of entrepreneurship and enterprise. All have extensive business support networks operating at national level underpinned by a multitude of business centres and contact points operating at the sub national state, county and locality (territorial and provincial) levels. These are defined by geography and governance structures that differ from the UK. There are clear cost implications of replicating this model across the UK, particularly in light of public spending austerity measures.

The USA provides a good example of how the promotion and support of leadership and entrepreneurship skills can be given greater prominence. The US OEE is a dedicated national office and resource with the specific remit of assisting the skills development of entrepreneurs, which it deploys via a series of online toolkits and resources and targeted initiatives. This may be worthy of further investigation for the UK in terms of providing a dedicated focal point for promoting and supporting the development of SME entrepreneurship skills and training programmes.

Another US initiative underlines the importance of directly targeting SME skills development as a route to achieving business growth. The Emerging Leaders Executive-level development programme may be worthy of further investigation. It is targeted at established businesses with large turnover and growth potential. There are similarities with MBA Executive Education style programmes available via UK HEIs in terms of scope and teaching delivery – with the exception that it is provided free of charge to delegates. It also mirrors some of the elements of the UK Common Purpose leadership programmes in terms of its community and local development roots – but which is also a fee based programme.

In Canada, the Futurpreneur Canada initiative provides a good example directly targeted at youth entrepreneurship and has achieved notable impact and results. This may be

worthy of further investigation for application to UK in the context of the focus on youth enterprise and young entrepreneurs. It would also provide a comparator model to the current UK Princes Trust charity model and programmes that target disengaged and NEET young people with sector focused employability and personal development skills training as a means to improve skill levels and participation. Futurpreneur Canada also has well defined mentoring programmes, consisting of business advice and funding support tailored to youth entrepreneurs.

One practical action to help fill the gap in hard evaluation material on entrepreneurship skills initiatives in the target countries that is in the public domain and available for this review, is for BIS to consider making requests to its counterparts in the government industry departments of Australia, the US and Canada to share confidential copies of evaluations of relevant programmes.

Conclusion

This final section summarises briefly the main considerations for policy that emerge from our review of the literature on entrepreneurship skills and case studies of policy in three countries. The key message is that the evidence supports the case for policy intervention to promote entrepreneurship skills, targeted on key groups for which such support is likely to stimulate business growth. Entrepreneurship skills programmes are best delivered in the context of wider policies to support SMEs and should build on the success of initiatives that facilitate experiential learning on a group basis, rather than conventional class-based learning.

Are ‘entrepreneurship skills’ distinctive?

Our review confirms that it is possible to identify a set of skills that can be characterised as ‘entrepreneurship skills’ which are distinct from – although closely related to – accepted definitions of management and leadership skills. Entrepreneurship skills are associated with competence in the process of opportunity identification (and/or creation), the ability to capitalise on identified opportunities and a range of skills associated with developing and implementing business plans to enable such opportunities to be realised.

Will improving entrepreneurship skills improve business growth? Is there a rationale for policy development?

The available evidence generally shows a positive relationship between entrepreneurship skills and business growth. There is also some indication that lack of entrepreneurship skills may be inhibiting business growth in some cases.

The limited evaluation evidence in the public domain suggests that entrepreneurship skills programmes appear to play a role in stimulating growth. However the evaluation evidence is not conclusive at this stage and it will be important to examine this in more detail – both in the UK and internationally.

The available evidence also shows that there are significant numbers of small businesses in the UK with relatively underdeveloped entrepreneurship skills and that there is the potential for substantial impacts on performance.

Should entrepreneurship skills programmes be targeted?

Research suggests that targeting of entrepreneurship skills initiatives would be appropriate in terms of achieving maximum impact from the investment of public resources. More research would be required in order to reach firmer conclusions; however our review suggests that the main dimensions to consider in targeting are (1) growth orientation/potential of individual businesses, distinguishing between ‘high fliers’ and the ‘middle ground’, and (2) self-assessed skill needs, based on the Hayton survey and/or similar exercises. Our review suggests that the ‘long tail’ of businesses with self-reported poor entrepreneurship skills may not be the most fruitful target group in policy terms; however there is a case to explore the growth ambitions (or lack thereof) among that group

in order to identify a sub-group that may benefit from policy intervention. Current UK initiatives such as Goldman Sachs 10,000 and Growth Accelerator are helping targeted (and largely self-selected) businesses to develop their entrepreneurship skills and provide examples of good and effective practice.

In terms of specific demographic groups, the evidence provides weak support for targeting by, for example, ethnicity, age and/or gender, although there are indications that there are some variations in entrepreneurship skill needs. UK policy evidence suggests that mixed groups are beneficial in this context, but again there may be a case to explore this further. There is also a strong *prima facie* case for spatial targeting, linked to local skills eco-systems, with a potentially important role for 'anchor institutions' such as universities and business schools. Again further research might be helpful in understanding spatial variations in entrepreneurship skills, and their policy implications.

How can/should entrepreneurship skills best be delivered?

The research suggests five key elements that are likely to enable the successful delivery of entrepreneurship skills initiatives: (1) experiential rather than didactic learning, underpinned by appropriate theoretical knowledge; (2) involvement of both the individual and the enterprise; (3) group learning that, as appropriate involves teams from within businesses, not just individual entrepreneurs; (4) delivery as part of wider business support programmes, rather than as stand-alone training courses; (5) encouraging some degree of commitment from participants, for example in the form of (partial) charge.

The Goldman Sachs 10,000 Small Businesses UK initiative highlights some practical measures to support skills acquisition and learning, including facilitated learning techniques, peer mentoring and building supportive group learning sets. Both OECD and Interreg identify the importance of developing long term, stable and targeted entrepreneurship policies as means to attracting and maintaining entrepreneurs and investment in a region. Stand-alone support tools can have impact and maximise or advance activity but are best delivered as part of an ongoing package or programme of support that is designed for the individual in the context of their business. Long term and stable policies specifically targeted around entrepreneurship should result in a business environment that is more entrepreneur-friendly, supports new firm creation and enables SMEs to develop. This is demonstrated by the US case study and the Futurpreneur Canada initiative that specifically targets youth enterprise and entrepreneurship.

Annex: case studies

Policy review 1: Australia

Description/Area of focus

ENTREPRENEURS' INFRASTRUCTURE PROGRAMME (herein referred to as EIP),
DEPARTMENT OF INDUSTRY & SCIENCE, AUSTRALIAN GOVERNMENT

Coverage – country/region

AUSTRALIA

Sector/target business/demographic groups

SMEs

Entrepreneurs, researchers, inventors, start-ups, commercialisation offices

Details of policy/programme

EIP is a flagship initiative for business competitiveness and productivity at the firm level, forming part of the Australian Government's new industrial policy under its Industry, Innovation and Competitiveness Agenda.

It draws on national network of 100+ experienced private sector advisors.

Three levels of services or streams are available:

Business Management – advice and facilitation services to improve business management, capabilities and networks, including:

- Holistic business assessment leading to a detailed business improvement plan
- Extended engagement period (up to 2 years) for high growth potential businesses to embed strategic business improvements that accelerate growth capability
- Supply chain facilitation offering practical support for business to develop new and existing markets
- Small, co-funded support grants for SMEs to purchase external expertise to support implementation of business improvements identified above

Research Connections – facilitation of expert advice and business solutions to knowledge-related issues, plus brokerage services linking business to knowledge providers or research organisations. Facilitates collaboration with research sector to develop new ideas with commercial potential and identify knowledge gaps inhibiting business growth. May include financial assistance via matched funding grant of up to 12 months / \$50,000) supporting direct access to research capability.

Accelerating Commercialisation – advisory service and guidance assisting entrepreneurs, researchers, inventors, start-ups, commercialisation offices and SMEs to find solutions for the commercialisation of products, processes or services. Successful applicants receive ongoing guidance from a Commercialisation Advisor, access to an Expert Network of business professionals and practitioners and involvement in domestic and international roadshows and trade missions.

Eligibility criteria for the Business Management or Research Connections streams may apply, including:

- Operating for more than three years, sufficient turnover levels - between \$1.5 million and \$100 million.
- Operating in an eligible sector which could include:
 - Advanced Manufacturing;
 - Food and Agribusiness;
 - Medical Technologies and Pharmaceuticals;
 - Mining Equipment, Technology and Services;
 - Oil, Gas and Energy Resources; or
 - Enabling Technologies and Services of the sectors listed above.

Access to the growth services part of the business management stream, comprising a multi-year engagement, requires demonstration of:

- willingness to engage with change;
- growth potential; and
- capacity to benefit from additional services, including commercialisation advice.

Key findings

- Flagship policy initiative specifically supporting entrepreneurship within SMEs, with a budget of \$484.2 million.
- Launched at a time when the Australian Government is implementing reforms announced in November 2014 Budget, under auspices of the Industry, Innovation and Competitiveness Agenda led by the Department for Industry and Science. Involves launch of a Single Business Service and amalgamation of several Government websites into a single point of contact website.
- Targeted at SMEs in general plus specific groups, entrepreneurs, inventors and those with links to academic and publicly funded institutions, researchers, start-ups, commercialisation offices.

- Drawing on a national network of more than 100 experienced and specialist private sector advisors.
- Differentiated levels of service dependent upon SME type, stage of development and support required. Ranging from:
 - generic advice and facilitation around business management process improvement and access to support networks;
 - expert advice and brokerage linking SMEs to research sector/councils;
 - expression of interest/application triggered advisory and brokerage service to advance commercialisation ideas, processes, activities.
- Comprises a range of “lighter touch” business support services, targeting a broader range of businesses to access advice and support and which are not restricted by eligibility criteria.
- Varying periods of support and finance dependent on SME type / development and designated support service route. Ranging from:
 - Optional extended engagement for business management support up to 2 year for high growth potential firms to adopt/embed improvements;
 - Up to 12 months match funded support grant to facilitate connections to research sector / councils;
 - 50% match funded grant towards project costs for commercialisation activities;
 - Membership of the Portfolio group, a select/invitation only network of firms undertaking early stage commercialisation activities, offering peer support, networking and commercial opportunities, increased profile and prestige.

EIP complements other Government small business programmes and initiatives delivered by the Department for Industry and Science, such as the R&D Tax Incentive and the new Industry Skills Fund. It links with Austrade’s Adviser network and Export Market Development Grants scheme. Work is underway to map how the Business Management stream can operate in remote and regional Australia, complementing the work of Regional Development Authorities.

Implications for practice/policies

- Word of caution: Given early stage of this intervention by Australian Government (only announced in November 2014 Budget) and coming into effect in 2015, there has been only limited evaluation to gauge how effective this set of policy interventions have been.
- There is limited evidence on how this government policy will specifically assist the development of entrepreneurship skills per se (e.g. human capital, leadership and

management competencies) and the contribution it will make to SME business growth versus the clearer rationale of targeted functional business process improvement, access to finance, commercialisation activities, brokerage services to specialist support.

- From a general marketing and end user ease of access perspective, the programme is distinct from other wider industrial policy support for SMEs (if only in name). Support is specifically aimed at the entrepreneur and is promoted as an entrepreneurship support initiative, providing clear associations among its intended audience about who the service is for and by implication should provide a simple, ease of access for the end user.
- The differentiated levels of service, each with associated thresholds for the duration of support and grant finance available, dependent upon SME type, stage of development and support required, make it an attractive support programme for a variety of entrepreneurs and SMEs. The suite of “lighter touch” business support services, seek to target a broader range of businesses to access advice and support and these are not restricted by eligibility criteria.
- EIP aims to help established SMEs grow and as such they can access any service stream. The eligibility criteria for the Business Management or Research Connections streams deliberately target larger and more established SMEs operating in key industry sectors.
- Start-up businesses are not the intended focus of the Business Management or Research Connections streams; these are targeted by the commercialisation stream as per the above eligibility criteria requiring the demonstration of robust business proposition and market potential plus the ability to contribute match finance of at least 50% of the government intervention.
- The EIP national network of more than 100 experienced and specialist private sector advisors provides a wealth of experience and expertise in functional business support, process improvement, commercialisation, industry sectors and regional geography. These are appointed to the network via the government tendering process.

Policy review 2: United States

Description/area of focus

U.S. SMALL BUSINESS ADMINISTRATION (SBA), UNITED STATES; FOCUSING ON FOLLOWING SELECTED PROGRAMMES:

STARTUP AMERICA; EMERGING LEADERS INITIATIVE AND OFFICE OF ENTREPRENEURSHIP EDUCATION (OEE)

Coverage – country/region

UNITED STATES

Sector/target business/demographic groups

- SMEs
- SME owners, prospective entrepreneurs, young entrepreneurs
- Entrepreneurs, corporations, universities, foundations

Details of policy/programme

- Established in 1953 as an independent federal government agency to provide advice, guidance and assistance to SMEs. It provides financial, technical and management assistance, delivered via a network of field offices and partnerships with public and private organisations.
- Extensive network of centres, offices and other locations: several headquarters (with functional responsibility covering laws, regulation, contracting, international trade, etc), ten regional offices based around state groupings, country-wide network of District offices covering Counties, plus several Disaster Centre offices.
- Also state level Small Business Development Centers (SBDC) hosted by leading universities and state economic development agencies, part funded by SBA. These deliver three specific, entrepreneurship-orientated programmes:
 1. **Startup America** – Part of the White House national innovation strategy initiative that seeks to foster and accelerate high-growth entrepreneurship, supported by the Startup America Partnership, an independent alliance of entrepreneurs, corporations, universities and foundations. Two key strands include:
 - Expanding Access to Capital for Entrepreneurs via investment over 5 years in two \$1bn initiatives that target Impact Investing and Early-Stage Seed Financing;
 - \$1 Billion **Impact Investment Fund**: \$1 billion investment fund providing growth capital for companies located in underserved communities. Includes targeting economically distressed areas and

companies in emerging sectors e.g. clean energy. SBA provides match funding of 2:1 to private capital raised by these funds, partnering with private investors to target “impact” investments.

- \$1 Billion **Early-Stage Innovation Fund**: An innovation fund targeting the gap in capital for early stage and high growth SMEs, particularly those without the necessary assets or cash flow required by traditional bank funding. Over the last 4 years only 6% of venture capital had been deployed to firms in the form of initial capital funding (between \$1-4 million) – known as the “Valley of Death” stage – point at which costs are high and SMEs not yet generating sufficient revenues) and 70% of this funding had gone to 3 states: California, Massachusetts and New York. SBA provides match funds of 1:1 to private capital raised by early stage seed funds.
- A pilot scheme, connecting mentors and entrepreneurs around clean energy and support to encourage entrepreneurship for Veterans:
 - Joint SBA, Department of Energy (DOE) and Advanced Research;
 - Projects Agency-Energy (ARPA-E) Mentorship Program for Clean Tech Startups. A pilot programme funding four existing and successful business accelerators to provide intensive mentorship support to an additional 100 clean energy entrepreneurs;
 - Joint SBA and the Department of Labor, with Department of Veterans Affairs (VA) business accelerator and incubation support for Veterans, comprising interactive business support website and a business incubation facility specifically for veteran entrepreneurs.
- 2. **Emerging Leaders Initiative** – A federal training initiative providing intensive executive level training for executives of established businesses with growth potential in challenged communities. Not available for start-up businesses or those thinking of starting a business. Training is provided free providing the executives with the organisational framework, resource network and motivational support to develop their businesses and wider communities. Aims to provide skills sets to support expansion strategies, including access to new capital and securing government contracts. Annual recruitment begins in February, with classes commencing from April and the programme lasting seven months. Evaluation results indicate it has supported around 2,000 SME owners, with employment growth among participating SMEs of over 1,940 full time employees and having accessed circa \$20m in new financing since graduation and secured federal, state and local contracts worth \$300m.
- Eligibility criteria for SME owners and executives to access the Emerging Leaders Initiative include:
 - Annual turnover of \$400,000 or more
 - Operating for minimum of 3 years

- Have at least one employee, other than self
- Key programme highlights include:
 - A 3-year strategic action plan with benchmarks and performance targets to aid business growth and support communities;
 - 100 + hours of professional specialised training and peer counselling support.
- 3. **Office of Entrepreneurship Education (OEE)** – Responsible for developing and promoting resources for SME owners and prospective entrepreneurs, to assist SME start up, management and growth. Includes specialist training sessions, distance learning, written materials, websites and other information for SMEs. OEE manages the SCORE business assistance programme for the SBA and other initiatives and services that foster entrepreneurial development.
 - **OEE SCORE Programme** – a nationwide network of 13,000 volunteer small business counsellors based in around 380 chapters, providing SME advice, business seminars and mentoring entrepreneurs online. A non-profit making association, operating for 50 years and has assisted circa 8m SMEs. Funded by the SBA and with alliance partnerships with corporate business and financial institutions and sponsors e.g. Google, Canon, AT&T, Dell, MassMutual etc. www.score.org .
 - **SBA's Online Learning Courses:** Comprises around 30 free online courses providing quick access to business development information for entrepreneurs.
 - **Young Entrepreneurs:** A specialist website resource targeted at teenagers, with materials, advice and support on starting a small business, evaluating idea feasibility, business plan development and financial planning, case studies of successful young entrepreneurs and signposting to wider entrepreneurial development services. SCORE, Junior Achievement, DECA (Distributive Education Clubs of America) and the National Academy Foundation provide further support.
 - **Financial Literacy:** OEE works with several partners to share educational materials focused on money management and financial literacy for SMEs. www.mymoney.gov .

Key findings

- In the SBA, the US has a specific department (together with its large budget) focused directly on supporting the needs of SMEs and entrepreneurs. Access to services are via federal, state, county and district centres and contact points.
- SBA targets SMEs in general plus specific initiatives that focus directly on entrepreneurship development and skills (with a geographic focus on challenged communities and new growth sectors) including the free at point of entry

Emerging Leaders Executive level development programme and Startup America capital investment programmes. In the OEE, the US has a specific national resource and office with remit for assisting the skills development of entrepreneurs, delivered via online resources and local centres.

- History of targeted support for SMEs and entrepreneurs via the SCORE programme, a national initiative, delivered across US via local and districts centres, and comprising online web resources, business seminars, workshops and access to a large voluntary network of experts offering advice and mentoring support - most of which is free at the point of entry to SMEs.
- Evidence of segmentation and targeting: initiatives focus on specific challenged communities or SMEs, bridging the funding gap for SMEs after initial capital investment (point at which costs are high and SMEs not yet generating sufficient revenues) and specific groups e.g. veteran entrepreneurs, young entrepreneurs. Also target initiatives on encouraging entrepreneurship within new priority industry sectors e.g. clean energy.
- It is well documented that the US has a long history and tradition of supporting SMEs, which via favourable government intervention; this has led to market conditions and society that is less risk averse and more supportive (or at least less likely to view as negative) the natural business processes and life cycle of business start up, management and failure or bankruptcy.
- This can be seen by the Startup America initiative, which provides favourable capital funding from SBA at 2:1 ratio of private financing (or 1:1 like for like) for SMEs, placing emphasis of private sector investments on attaining impact.
- The above is further underlined by the US model of SME funding of private equity and venture capital via financial markets and investment funds versus the UK/EU model of traditional bank lending, family loans and other small grants and loans. By its very nature the former model is more open to risk but can also yield much greater potential returns. Access to finance for SMEs in the USA is easier than any other G20 group of countries¹⁷.
- Entrepreneurs in the USA benefit from access to one of the world's most highly developed innovation ecosystems¹, the US ranks 3rd in the G20 behind South Korea and Japan in terms of R&D spending as a percentage of GDP (2.8%, 1.6% G20 average, UK=1.8%) and 2nd behind Japan, in terms of patents granted.
- The highlighted selective entrepreneurship-orientated programmes, led or supported financially by the SBA, are complemented by a series of other SME programmes and initiatives delivered by the SBA and across government.

¹⁷ Ernst & Young EY G20 Entrepreneurship Barometer 2013

Lessons and implications for UK practice/policies

- Specific government policy led and funded by the SBA, targeted at SME owners and entrepreneurs that seeks to foster the development of entrepreneurship and associated skills sets.
- A long tradition of policy favourable to SMEs and entrepreneurship development, together with the highly liquid financial systems and available private equity and venture capital, and an entrenched entrepreneurial culture within society has established the US as an example of good practice. The ease of access to finance for SMEs and highly developed innovation ecosystem has been cultivated over a substantial period and investment that is not easily replicated.
- The SCORE programme is a long established business support initiative, providing advice and support via an extensive volunteer network of experts and online resources that has proven demonstrably effective. There are similarities to previous UK Business Link Small Business Service now limited to online resource and signposting via GOV.UK portal.
- The OEE, a specific national resource and office with remit for assisting the skills development of entrepreneurs, may be worthy of further investigation for the UK in terms of a focal point for promoting entrepreneurship skills and training.
- The Emerging Leaders Executive-level development programme, provided free to delegates, could be worthy of further investigation. It is targeted at established businesses with large turnover and growth potential.
- The geographic vastness of the US has undoubtedly given rise to the extensive business support network of national, state, county and district centres and contact points, supported by online resources.

Policy review 3: Canada

Description/Area of focus

GOVERNMENT OF CANADA, CANADA;

FOCUSING ON FOLLOWING SELECTED PROGRAMMES:

- BDC CANADA's BUSINESS DEVELOPMENT BANK – BDC YOUNG ENTREPRENEUR AWARD;
- INDUSTRY CANADA's CANADA BUSINESS NETWORK;
- FUTURPRENEUR CANADA;

EMPLOYMENT AND SOCIAL DEVELOPMENT CANADA (ESDC)'s CANADA JOB FUND AGREEMENTS

Coverage – country/region

CANADA

Sector/target business/demographic groups

Young entrepreneurs aged 18-39 years

SME owners, SMEs

Details of policy/programme

Responsibility for entrepreneurship policy in Canada is spread across a range of public, private and regional organisations together with state owned financial institutions and provincial and territorial economic development agencies.

Financial and business support for entrepreneurs and SMEs in Canada is overseen by Industry Canada, which it delivers via the Canada Business Network, a collaborative partnership of Federal departments and agencies and provincial and territorial governments. A state owned subsidiary BDC, provides access to specialist finance and consultancy services. These are complemented by wider programmes across government, such as Futurpreneur Canada (a youth entrepreneur association) and the employment and social development department's (ESDC) Job Fund Agreement initiative.

Four entrepreneurship-orientated programmes were examined:

1a) Business Development Bank of Canada - Established in 1944 as an industrial development bank and with additional remit confirmed by act of parliament in 1995. Established as BDC, a Business Development Bank – a state owned Crown Corporation and subsidiary of the Canadian Government, reporting to the Industry department. BDC provides financial and consultancy/management services to SMEs and via its subsidiary, BDC Capital. BDC offers specialist financing including venture capital, equity and growth and business transition capital. Marketed as the only financial institution dedicated exclusively to entrepreneurs. BDC delivers its services online at www.cba.ca

and via a nationwide network of 100 business centres, smaller and more remote communities are served by travelling account managers and consultants. Services include:

- **Financial support** - small business loans of up to \$50k (£26k) available online, with other products available for larger loan amounts targeting SME investment, growth and acquisition activity.
- **Consultancy services** - delivered by a national network of consultants; support focusing on business management, increasing revenues and cost reduction e.g. business planning, international marketing and ISO quality initiatives.

1b) BDC Capital – A subsidiary of BDC, providing access to specialist financing services and includes the following venture capital and growth/transition capital programmes:

- **Venture Capital** – strategic partnering with selected SMEs and other institutional funds, providing initial direct investments of \$250,000 to \$3m (£131k - £1.58m) as part of a financing round of circa \$1m to \$10m (£525k - £5.3m). BDC never owns more than 49% of a company's shares and usually requires to be represented on investees' Boards of Directors. Exit is normally through Initial Public Offering (IPO), sale or a leveraged management buy-out, working on a 3-5 year exit window;
- **Growth and transition capital** – providing mezzanine, cash flow and quasi-equity financing of between \$250,000-\$35m (£131k - £18.4m) with security subordinated to secured lenders to reduce risk to banks and long term lenders and making it easier for SMEs to borrow. An alternative to equity financing and limits dilution of ownership, with typically no requirement for shareholder agreement, management rights and representation on board of directors. Typical loan repayment periods of 2-8 years with option to defer capital payments for first 12 months.

1c) BDC Young Entrepreneur Award - BDC also sponsors a series of high profile awards and competitions offering financial and consultancy support prizes for winners plus national recognition. The BDC Young Entrepreneur Award, is a national annual competition for young entrepreneurs aged 18-35 offering \$100k (£52k) 1st prize and BDC consultancy support runners up prize worth \$25k (£13k). Winners are selected by public vote and scores allocated by a national committee. See www.bdcyoungentrepreneuraward.ca. BDC also sponsors/hosts other awards - Innovation Awards, Entrepreneurial Resiliency Award and Entrepreneurship Champion - offering winners increased national exposure, marketing and networking opportunities.

2) Canada Business Network – A collaborative cross government partnership of Federal departments and agencies and provincial and territorial governments, led by Industry Canada. Its role is to promote innovation and entrepreneurship and acts as a gateway for SME business and funding support. It operates via a network of Economic Development Agencies based in each province and territory that are responsible for progressing economic action plans for their regions. A Minister for State of the Federal Government represents each Agency. See www.canadabusiness.ca.

3) Futurpreneur Canada programme – a national, non-profit organisation providing financing, mentoring and support for young people aged 18-39 years. See

<http://www.futurpreneur.ca>. Funded by Government, private sector sponsors and community partners. Targeted support programmes include:

- Pre-launch coaching
- Online business resource centre with interactive business plan writer
- Financing loans of up to \$45k provided in partnership with BDC
- Option of above finance and 2 years mentoring support or 6 month mentoring only option - moMENTum programme; Basic eligibility criteria for financing and mentoring option includes:
 - Canadian citizens or permanent residents aged 18-39 years;
 - New business operating less than 12 months;
 - Work with mentor for 2 years, 4-5 hours per month;
 - Not for business in research and development phase;
 - Own 5% or more of business.
- 6 month mentoring only option via moMENTum programme has the following additional eligibility criteria:
 - Entrepreneur working full time on business for 0-12 months or part time for 0-24 months;
 - Work with mentor for 6 months, 4-5 hours per month;
 - \$125 administration fee.
- Some of the impact of Futurpreneur Canada since its inception in 1996, includes:
 - 5,750 supported start ups and 27,600 jobs created;
 - 23,000 entrepreneurs have used the interactive business plan writer software;
 - Created more than \$201m in estimated tax revenues;
 - 250 community partners and 2,800 volunteer expert mentors;
 - More than 40% of entrepreneurs are female.

4) ESDC Job Fund Agreements – In 2014, the Canadian Government via its Department for Employment and Social Development (ESDC), established 6 year labour market agreements to 2020 with each of its provinces and territories known as Job Fund

Agreements. A key component of these agreements is the Job Grant initiative, providing funding to businesses to support the costs of training and skills development of new or existing employees. This can include management and leadership development, and training must be provided by eligible third party training providers including community or career colleges, trade union centres or private trainers. Administered by provincial and territorial authorities, and reflecting local priorities, key features include:

- Funding up to \$15k (£8k) per person for training costs, including \$10k (£5.3k) in federal contributions. One-third of total training costs are met by the employer;
- SMEs with less than 50 employees able to count salaries as part of contribution;
- Be completed within 52 weeks of grant approval;
- Cost of tuition fees and fees charged by training providers;
- Cost of mandatory student fees;
- Purchase of textbooks, software and training materials;
- Cost of examination fees.

Key findings

- Unique mix of responsibility for entrepreneurship policy in Canada vested with the Federal Government and its departments, state owned financial institutions and provincial and territorial economic development agencies.
- Emphasis on delivery via strong provincial and territorial economic development bodies with broad economic remit – most probably reflecting the extensive geography and conurbation structure of Canada and its business stock.
- A strong ‘Youth’ voice is provided by youth entrepreneurship association, Futurpreneur Canada and has received large investment by government. Clear strategy of supporting youth entrepreneurship and young enterprise, with youth broadly defined as 18-39 (in the UK, young entrepreneurs are typically viewed as 18-24 years).
- Entrepreneurs in Canada benefit from a highly supportive environment¹⁸ in which to operate. There is a weight of government policies supportive of entrepreneurs and enterprise, together with business-friendly tax and regulatory regimes. Canada has one of the lowest costs of insolvency in the G20.
- Canadian society has a strong culture of entrepreneurship and of embracing research and innovation, underlined by the high number of scientific and technical journal articles published in the country (8.6 per 10,000 head of population; 3.3 G20

¹⁸ Ernst & Young EY G20 Entrepreneurship Barometer 2013

average). According to Industry Canada¹⁹, 98% of higher education institutions offer at least one course in entrepreneurship, underlining the prominence of the teaching of entrepreneurial skills in schools and universities.

- Access to finance for SMEs in Canada is among the easiest in the G20 group of countries¹. There are similarities to the US model of private equity and venture capital funding for SMEs and driven by the state owned BDC Business Development Bank. BDC also sponsors some high profile competition based innovation and entrepreneurship awards, which might be seen to stimulate a feeling of importance.
- The Canada Business Network is an attempt to provide a high level coordinated approach and signposting for SMEs and business support. There is limited evidence of this specifically targeting entrepreneurs or entrepreneurial skills as opposed to SMEs in general.
- Similarly, the ESDC Job Fund Agreements delivered via the economic development bodies are not specifically about entrepreneurship or entrepreneurship skills development in SMEs – although they can be used for leadership and management training - they primarily target broader workforce and employee skills development of new or existing workforce.
- There is a clear strategy and investment for promoting youth entrepreneurship and young enterprise, underlined by the notable impact of the Canadian Government sponsored Futurpreneur Canada initiative.
- The above entrepreneurship orientated programmes are complemented by wider programmes across Government, including a \$400m strategy to assist private sector venture capital investments and \$60m to assist high growth incubators and accelerator organisations expand services to entrepreneurs.

Lessons and implications for UK practice/policies

- Specific government policy led and funded by Industry Canada, targeted at SME owners and entrepreneurs that seeks to foster the development of entrepreneurship and enterprise.
- Similar to the USA, government policies and investment that favour SMEs and entrepreneurship, access to finance and historic societal attitudes to entrepreneurship, has enabled Canada to develop a highly supportive entrepreneurial environment and provides an example of good practice.
- The Canadian Business Network is similar to the UK gov.uk portal in terms of providing a single online point of contact and signposting for business support for SMEs. The Job Fund Agreements are similar also to UK and EU national European Social Fund programmes targeting workforce skills and development. However, in

¹⁹ C Parsley and M Weerasinghe, *The Teaching and Practice of Entrepreneurship within Canadian Higher Education Institutions* (Industry Canada, 2010).

Canada, these programmes are delivered by regional development bodies as part of wider economic plans for their regions.

- Futurpreneur Canada is well established, with notable investment from the Canadian Government, which underlines a clear strategy of supporting youth entrepreneurship and young enterprise with demonstrable impact and results. Futurepreneur Canada looks to have a well targeted programme of mentoring, advice and funding support for the entrepreneur and to develop associated skills sets. This would provide a good example of practice for further investigation for application to UK.

References

- Aldrich, H. & Waldinger, R. (1990) Ethnicity and Entrepreneurship. *Annual Review of Sociology*. 16: 111-135.
- Alvarez, S. A. & Barney, J. B. (2007) Discovery and creation: Alternative theories of entrepreneurial action. *Strategic Entrepreneurship Journal*, 1(1): 11-27.
- Arbuthnott, A. & von Friedrichs, Y. (2013) Entrepreneurial renewal in a peripheral region: the case of a winter automotive-testing cluster in Sweden. *Entrepreneurship & Regional Development: An International Journal*. 25 (5-6): 371-403.
- Armstrong, C. E. (2013) Competence or flexibility? Survival and growth implications of competitive strategy among small US businesses. *Journal of Strategy and Management*, 6(4): 377-398.
- Baum, J. & Locke, E. (2004) The relationship of entrepreneurial traits, skill and motivation to subsequent venture growth. *Journal of Applied Psychology*, 89(4): 587-598.
- Blazenko, G. W., Pavlov, A. D. and Eddy-Sumeke, F. (2012) 'New venture start-ups and technological innovation', *International Journal of Managerial Finance*, 8 (1): 4 – 35.
- Carter, S., Ram, M., Trehan, K. and Jones, T. (2013) *Diversity and SMEs*. Enterprise Research Centre, White Paper no. 3, April.
- Chandler, G. & Jansen, E. (1992) The founder's self-assessed competence and venture performance. *Journal of Business Venturing*, 7(3): 223-236.
- Chell, E. (2013) Review of skill and the entrepreneurial process. *International Journal of Entrepreneurial Behaviour and Research*, 19(1): 6-31.
- Department for Business Innovation and Skills (2012) *Business Growth Ambitions among SMEs: final report*.
- Doloreux, D. & Dionne, S. (2008) Is regional innovation system development possible in peripheral regions? Some evidence from the case of La Pocatière, Canada. *Entrepreneurship & Regional Development: An International Journal*, 20 (3): 259-283.
- Empowering Entrepreneurs, Accelerating Growth – Progress Report on the Goldman Sachs 10,000 Small Businesses UK Programme, November 2014.
- Eraydin, A; Armatli-Koroglu, B; Uzun, N. (2012) Importance of social capital in coping with and benefiting from new economic conditions. *Journal of Economic and Social Geography*. 103. (2) :222 - 239.
- Ernst & Young EY G20 Entrepreneurship Barometer 2013.

Felzensztein, C. and Gimmon, E. (2012) Regional entrepreneurship: What can we learn from the periphery? *International Journal of Entrepreneurship and Small Business*. 15 (3): 362 – 375.

Department for Business, Innovation and Skills (2015). *Formative Evaluation of Growth Accelerator*, January 2015, Research Paper 189.

Galloway, L., Anderson, M., Brown, W. & Wilson, L. (2005) Enterprise skills for the economy. *Education and Training*, 47(1): 7-17.

Gibb, A. (2002). In pursuit of a new 'enterprise' and 'entrepreneurship' paradigm for learning: Creative destruction, new values, new ways of doing things and new combinations of knowledge. *International Journal of Management Reviews*. 4 (3): 233 – 269.

Hampton, A., McGowan, P. and Cooper, S. (2012) 'Developing quality in female high-technology entrepreneurs' networks', *International Journal of Entrepreneurial Behaviour and Research*, 17 (6): 588-606.

Hasan M, (2011), "So MPs want to talk about immigration? Bring it on" *The Guardian* 16 April, p.31.

Hayton, J (2015) *Leadership and Management Skills in SMEs*, Warwick Business School: Department of Business, Industry and Skills.

Headlam-Wells, J., Gosland, J. and Craig, J. (2005) "There's magic in the web": e-mentoring for women's career development', *Career Development international*, 10 (6/7): 444 – 459.

Henry, C., Hill, F. & Leitch, C. (2005) Entrepreneurship education and training: can entrepreneurship be taught? Part 1. *Education and Training*, 47(2): 98-111.

Hogarth and Wilson, (2015). Institute for Employment Research, University of Warwick, SKOPE The demand for skills in England: from product market strategies to skills deficiencies.

Huang, K. & Mas-Tur, A. and Yu, T. H. (2012) 'Factors affecting the success of women entrepreneurs', *International Entrepreneurship and Management Journal*, 8:487–497.

Hunter, M. (2012) On some misconceptions about entrepreneurship. *Economics, Management, and Financial Markets*, 7(2), pp. 55-104.

Interim Evaluation of Growth Accelerator, November (2014) Research Paper 187, Department for Business, Innovation and Skills.

INTERREG IVC – Analysis Report on Entrepreneurship, October 2014.

Jennings, J.E. and Cash, M.P. (2006), "Women's entrepreneurship in Canada: progress, puzzles and priorities", in Brush, C.G., Carter, N.M., Gatewood, E.J., Greene, P.G. and

Hart, M.M. (Eds), *Growth-oriented Women Entrepreneurs and their Businesses*, Edward Elgar, Northampton, MA, pp. 53-87.

Kariv, D. (2012) “Off stage-on stage”: men and women entrepreneurs leading change and business growth’, *Journal of Enterprising Communities: People and Places in the Global Economy*, 6 (2): 169 – 184.

Karlsen, J. and Isaksen, J (2013) Can small regions construct regional advantages? The case of four Norwegian regions. *European Urban and Regional Studies*. 20 (2), 243-257.

Kyrgidou, L. P. And Petridou, E. (2013) ‘Developing women entrepreneurs’ knowledge, skills and attitudes through e-mentoring support’, *Journal of Small Business and Enterprise Development*, 20 (3): 548 – 566.

Maase, S. J. F. M. and Bossink, B. A. G. (2010) ‘Factors that inhibit partnering for social start-up enterprises’, *Journal of Enterprising Communities: People and Places in the Global Economy*, 4 (1): 68 – 84.

Markman, G. D. (2007) Entrepreneurs' competencies. In: J. R. Baum & A. R. Baron, eds. *The Psychology of Entrepreneurship*. Mahwah, NJ and London: Robert Erlbaum, pp. 67-92.

Mayer, H. (2006) “Economic trends and location patterns of women high-tech entrepreneurs”, in Zacharakis, A. et al (Eds), *Frontiers of Entrepreneurship Research*, Babson College, Wellesley, MA, pp. 298-309.

Mitchelmore, S. and Rowley, J. (2013) ‘Entrepreneurial competencies of women entrepreneurs pursuing business growth’, *Journal of Small Business and Enterprise Development*, 20 (1): 125 – 142.

Muntean, S. C. (2013) ‘Wind beneath my wings: policies promoting high-growth oriented women entrepreneurs’, *International Journal of Gender and Entrepreneurship*, 5 (1): 36-59.

Nathan, M and. Lee, N. (2013) ‘Cultural diversity, innovation, and entrepreneurship’ *Economic Geography*. 89 (4) : 367-394.

OECD (2003a) *OECD Small and Medium Enterprise Outlook*, OECD, Paris.

OECD (2003b) *Smart, as Well as Beautiful: The Bologna Process*, OECD Observer No. 238, OECD, Paris.

OECD (2003c) *The Sources of Economic Growth in OECD Countries*, OECD, Paris.

OECD (2010) *SMEs, Entrepreneurship and Innovation, 2010*, OECD Studies on SMEs and Entrepreneurship, Paris.

O’Gorman, C. and Evers, N. (2011) Network intermediaries in the internationalisation of new firms in peripheral regions. *Studies in Economics and Finance*. 28 (4). 340-364.

Parker, S., Storey, D. and Witteloostuijn, A. (2010) What happens to gazelles? The importance of dynamic strategy. *Small Business Economics*, Volume 35, pp. 203-226.

Parsley and M Weerasinghe (2010) *The Teaching and Practice of Entrepreneurship within Canadian Higher Education Institutions* (Industry Canada, 2010).

Quader, M. S. (2012) 'A characteristic model of successful women entrepreneurs in the UK', *Journal of Services Research*, 12 (1): 89 – 113.

Rae, D. (2004) Practical theories from entrepreneurs' stories: discursive approaches to entrepreneurial learning. *Journal of Small Business Enterprise Development*, 11(2), pp. 195-202.

Rodriguez-Pose, A. and Hardy, D. (2015) Cultural diversity and entrepreneurship in England and Wales. *Environment and Planning*, 47: 392-411.

Sarasvathy, S. (2009) *Effectuation: Elements of Entrepreneurial Expertise*. MA: Edward Elgar Publishing.

See <http://www.brighthub.com/office/entrepreneurs/articles/39016.aspx> for one example among many 'how to' blogs and websites that produce lists of such attributes.

Shane, S. & Venkataraman, S. (2000) The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1): 217-226.

Shane, S. A. (2008) *The Illusions of Entrepreneurship*, Yale University Press.

Storey, D. (1994) *Understanding the Small Business Sector*, Chapman and Hall.

Shane, S. (2008) *The Illusions of Entrepreneurship*. New York: Yale University Press.

Singh, R. P., & Gibbs, S. R. (2013). Opportunity recognition processes of black entrepreneurs. *Journal of Small Business and Entrepreneurship*, 26(6), 643-659.

Stimulating Small Business Growth – Progress Report on the Goldman Sachs 10,000 Small Businesses UK Programme, April 2013.

Storey, D. (1994) *Understanding the Small Business Sector*. London: Chapman and Hall.

Stuetzer, M; Obschonka, M; Davidsson, D. Schmitt-Rodermund, E. (2013). Where do entrepreneurial skills come from? *Applied Economics Letters*. 20 (12). 1183-1186.

The Work Foundation (2010) *Anchoring Growth: The Role of 'Anchor Institutions' In the Regeneration of UK Cities*, Newcastle: The Northern Way.

Tiernan, S.D., Morley, M.J. and Foley, E. (1996), *Modern Management: Theory and Practice for Irish Students*. Gill and MacMillan, Dublin.

US Census Bureau (2002) Economic Census, Survey of Business Owners, Company Statistics Series, Table I, available at: www.census.gov/prod/ec02/sb0200cscosum.pdf.

Varis, M. and Littunen, H. (2012). SMEs and Their Peripheral Innovation Environment: Reflections from a Finnish Case. *European Planning Studies*. 20 (4). 547-582.

Volery, T., Mueller, S. & Siemens, B. (2015) Entrepreneur ambidexterity: A study of entrepreneur behaviours and competencies in growth-oriented small and medium-sized enterprises. *International Small Business Journal*, 33(2): 109-129.

Wang, Q. (2012) Ethnic Entrepreneurship Studies in Geography: A Review. *Geography Compass*. 6 (4): 227–240.

Zhou, M. (2004). 'Revisiting Ethnic Entrepreneurship: Convergencies, Controversies, and Conceptual Advancements'. *International Migration Review*. 38 (3): 1040-1074.

© Crown copyright 2015

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. Visit www.nationalarchives.gov.uk/doc/open-government-licence, write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: psi@nationalarchives.gsi.gov.uk.

This publication available from www.gov.uk/bis

Any enquiries regarding this publication should be sent to:

Department for Business, Innovation and Skills
1 Victoria Street
London SW1H 0ET
Tel: 020 7215 5000

If you require this publication in an alternative format, email enquiries@bis.gsi.gov.uk, or call 020 7215 5000.

BIS/15/456