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The Role of Entrepreneur-Venture Fit in Online Home-based Entrepreneurship: A Systematic Literature Review

Dr Muhammad Naveed Anwar¹

Department of Computer and Information Sciences, Northumbria University,
Newcastle-upon-Tyne, NE2 1XE, UK, and

Professor Elizabeth Daniel²

The Open University Business School, Milton Keynes, MK7 6AA, UK.
Email: Naveed.Anwar@northumbria.ac.uk¹, E.M.Daniel@open.ac.uk²

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Abstract

Home-based businesses and their founders represent an important, but under-researched facet of entrepreneurship. Far from being small, hobby-businesses with little economic impact, home-based business make significant contribution to national economies in terms of both turnover and employment. Online home-based businesses have been recognised as an important and distinct sector of the home-based business domain, offering unique opportunity for innovation and business diversity. The paper presents a systematic literature review of extant research on online home-based entrepreneurs and their businesses. The findings of the review are structured and discussed using the theoretical lens of entrepreneur-venture fit. Use of this lens allows the study to bring coherence to previously fragmented extant studies, providing a basis for future research in this domain. The study also develops a novel model of entrepreneur-venture fit in the specific case of online home-based businesses. This allows us to suggest five positive interactions between entrepreneurial and venture characteristics. It also allows us to suggest a number of previously unidentified negative interactions, which may result in entrepreneurs becoming 'locked-in' and suffering multiple sources of stress.

Article Classification: Research paper

Keywords: Online home-based business, Systematic review, Entrepreneur-venture fit

Introduction

Home-based businesses represent a significant proportion of businesses in many economies. For example, in the US, UK and Australia, home-based businesses represent between 50-60% of all businesses (Mason et al, 2011; BIS, 2012). Far from being small, hobby-businesses with little economic impact, home-based business make significant contribution to their economies. In the UK the estimated 2.9 million home-based businesses contribute £300bn turnover to the national economy and represent 1 in 6 employees (Enterprise Nation, 2014). Such businesses are increasingly making significant use of the internet, either to extend the reach of more traditional types of business, or in order to develop purely online businesses.

Whilst the number of academic studies that consider online home-based businesses is modest, we argue this is an important domain, and an apposite time, for a focussed systematic review of existing knowledge for a number of reasons. Firstly, the highly heterogeneous nature of home-based businesses has resulted in a lack of understanding and contradictory findings. It is therefore important to undertake studies that focus on home-based businesses with similar characteristics. Secondly, online home-based businesses are important, with some of today's largest online businesses starting in the homes or residences of their founders (e.g. Kirkpatrick, 2011). Finally, a number of scholars have recognised the specific opportunities and challenges offered by online

home-based businesses (Deschamps et al, 1998; Fairlie, 2006; Kalyanaraman, 2016) and hence there is now a critical mass of existing, but highly fragmented studies.

We therefore undertake a systematic review (Gough et al, 2012; Briner and Denyer, 2012; Tranfield et al, 2003) of online-home-based entrepreneurs and their businesses. Our systematic review demonstrates that extant studies of home-based businesses are highly descriptive and a-theoretical and therefore fail to provide an understanding of why observed findings arise and what the implications of these may be. We address this lack of theoretical analysis, by drawing on entrepreneur-venture fit (Dvir et al, 2010; Kristof, 1996) as a framework to synthesise the fragmented studies in the domain and to provide a theoretically-based understanding. Our review addresses the following questions:

- What are the salient characteristics of online home-based business entrepreneurs and their businesses identified in extant studies?
- Can entrepreneur-venture fit provide insight into online home-based businesses?

We draw together the definitions proposed in the studies identified in our systematic review by proposing the following definition of an online home-based business: *a business entity operated by a self-employed person working at home and who is using the internet to carry out a significant proportion of business activities that may include sourcing, selling, providing services and communicating with stakeholders. The business may be operated full or part-time and may utilise building surrounding the home such as studios and garages.* This definition brings earlier definitions up to date, in that it reflects that businesses use the internet for a wide-range of business activities (Clark and Douglas, 2011). It also incorporates key aspects of such businesses that will

be discussed in the subsequent sections, for example, many online home-based businesses are developed in order to operate on a part-time basis (Phillips, 2002; Clark and Douglas, 2009-2010). Our definition includes businesses that use the internet to sell products and those using it to provide services, such as IT consultancy, web design, online communities and portals, accountancy and tuition.

We commence this paper with a succinct consideration of the notion of entrepreneur-venture fit (Dvir et al, 2010; Kristof, 1996). The method adopted to undertake our systematic review is then presented. The two research questions are then addressed, including the development of a model that draws on the notion of entrepreneur-venture fit to explore the relationships between the characteristics of the online home-based entrepreneurs and the characteristics of these types of businesses. We conclude our study by identifying the limitations of our study and the opportunities for future research in this growing and important domain.

Entrepreneurs, Entrepreneurship and Micro-Enterprises

Since we draw on the notion of entrepreneur-venture fit to frame our study, it is important for us to clarify our use of the term entrepreneur. For this, we draw on the widely accepted definition of Shane and Venkataraman (2000): an entrepreneur is someone that has a deliberate strategic intent to deliver value for customers by recognising or creating novel opportunities and then exploiting them, often through new uses or combinations of resources.

Entrepreneurship is not the sole preserve of small organisations. Large organisations can also develop highly novel approaches to delivering customer value, in what is often

termed intrapreneurship or corporate entrepreneurship (Halme et al, 2012; Burns, 2012). Similarly, not all small organisations are entrepreneurial, since some may be following well tried and tested approaches (Van Wyk and Boshoff, 2004).

In the case of online businesses, those involved are deliberately seeking to leverage the flexibility of the online environment to provide novel value to their customers, often through lower cost, enhanced choice, rapid fulfilment, increased socialisation or combinations of these (e.g. Zhang et al, 2014; Shin, 2014). The vast number of online ventures requires those entering this domain to develop novel ways to compete. Those operating their online businesses from home are additionally seeking to provide value whilst maintaining extremely low operating costs, requiring them to find creative ways to leverage and combine limited resources (Daniel et al, 2014; Di Domenico et al, 2014). Hence, whilst we would not claim that all online home-based businesses are entrepreneurial, the flexibility offered by the online environment, the high levels of competition and the need to creatively use limited resources, result in many online businesses being highly entrepreneurial in nature, resulting in them being recognised as a source of innovation and business diversity (Gelderen et al, 2008; Gagliardi, 2013).

Micro businesses are frequently defined as businesses with less than 10 employees (e.g. European Union, 2016). The majority of home-based businesses are micro-businesses, for example in the UK over 70% of online home-based businesses have less than 4 employees and over 90% have less than 10 employees (Mason et al, 2011). Like small businesses, micro businesses are associated with flexibility, creativity and an ability to react quickly to changing context and opportunities (Baines and Wheelock, 2000; Pretorius et al, 2005). The founder and employees tend to have a good understanding

of all areas of the business, enabling this rapid and creative reaction to changing conditions. They have also been characterised as being able to ‘stay close to the customer’, allowing them to respond to customer needs and wants, sometimes termed entrepreneurial marketing (Morrish et al., 2010; Anwar and Daniel, 2016). Micro businesses have also been associated with providing economic and social opportunity. In developed economies, this provision of opportunities is often characterised in terms of pull or push motivations for business creation. Pull describes individuals who are drawn to forming a micro business often as a means of developing an innovation, pursuing an interest or becoming their own boss. Micro businesses formation also provides opportunities those who have had to leave paid employment (i.e. a push motivation) and the number of micro businesses is often counter cyclic with economic and paid employment growth (Vorley and Rodgers, 2014). The social and economic opportunities provided by micro businesses have been highlighted for developing economies, where supporting institutional developments such as micro financing and micro payments are seen as important to providing opportunities to those referred to as ‘bottom of the pyramid’ entrepreneurs (e.g. Ahuja, 2012; Babah Daouda et al, 2016).

Whilst micro businesses provide significant opportunities, they also present severe challenges. The mean earnings of micro-entrepreneurs tend to be lower than for similar individuals who are employed (Hamilton, 2000; Mandelman and Montes-Rojas, 2009). Also, the failure rate of micro businesses is higher than for small, medium or larger businesses (Fajnzylber, 2006). The higher failure rate is attributed to lower resources, meaning that micro businesses are less able to withstand shocks. The high failure rate has been attributed to limited managerial experience, with managers learning about the true nature of operating their business only once they have begun operating through

learning by doing (Harrison and Leitch, 2005; Keith et al, 2016). The small number of employees in micro businesses also means there is less knowledge and experience to draw upon.

Rationale for Study: Differences Between Online and Offline home-based Businesses

Home-based businesses include a wide variety of business types, such as: in-home hospitality, childcare, craft, food production, professional services and trades such as carpentry and plumbing (Orser, 1991; Berke, 2005; Felstead et al, 2005; Mason, 2009-2010). Thus they include both businesses operating at home and those operating from home (Clark and Douglas, 2009-2010), and include self-employed entrepreneurs operating on medium to long term contracts for larger firms, as well as entrepreneurs without such arrangements. As we will show from the findings of our review, whilst online home-based businesses have some commonality with other types of home-based business, the characteristics of their online setting, such as relatively low cost, speed of set up, flexibility and global reach makes many of the features of their businesses more extreme than for offline home-based businesses. Online home-based businesses therefore provide greater opportunities and challenges for entrepreneurs and also provide compelling areas of study for scholars, for example allowing the testing of the boundaries of entrepreneurial theory (Daniel et al, 2014).

Examples of the more extreme nature of online home-based businesses, which are explored further in latter section of this systematic literature review, include the speed at which a business can be established and launched to the whole world (Wynarczyk and Graham, 2013), the opportunity to create a business that can operate whilst the

entrepreneur is away from it, allowing them to work elsewhere at the same time and hence benefit from multiple income streams (Bryant, 2000; Gelderen et al, 2008). Since many online home-based businesses are designed to need little face to face input from people, those running such businesses from home suffer greater isolation than, for example, those operating home-based businesses in the hospitality sector or those who sell their products at traditional markets (Di Domenico et al, 2014).

Person-Organization Fit Theory

Entrepreneur-venture fit draws upon the wider notion of person-organization fit (Van Vianen, 2000; Billsberry et al, 2005; Li, 2006). The first author to use the term person-organization fit, Chatman (1989, p.339), described it as '*the congruence between the norms and values of organizations and the values of persons*'. A recent bibliographic review by dos Santos and De Domenico (2015) suggests that interest in the topic has grown rapidly since then, witnessed by an increased rate of academic publications in the domain.

Person-organisation fit is characterised as either supplementary or complementary fit (Piasentin and Chapman, 2006; Morley, 2007). In supplementary fit, which is sometimes also called similarity fit (dos Santos and De Domenico, 2015), a person fits into an organisation because they have similar values to the organisation. In contrast, complementary fit occurs when the person provides something that is missing but is required by the organization or vice versa. The complementary fit is further characterised as either *needs-supplies* or *demands-abilities* (Kristof, 1996). In the case of needs-supplies, fit occurs when '*an organization satisfies individuals' needs, desires*

or preferences' (p.3). For demands-abilities, the notion of fit operates in the other direction, with individuals providing the abilities demanded by the organization.

The theory of person-organization fit is important since it has been linked to increased employee satisfaction, lower intention to leave and higher levels of performance (Edwards and Shipp, 2012; Ostroff and Schulte, 2012; Yu, 2014).

Despite the growth in popularity of person-organization fit as a theoretical basis (dos Santos and De Domenico, 2015), it has a number of challenges and limitations (Wheeler et al, 2005; Morley, 2007). For example, a number of different levels of fit have been identified and explored, such as person-job fit, person-vocation fit, person-group fit, but it is unclear how these either reinforce or undermine each other (Kristof-Brown et al, 2005). Similarly there are a range of measures of fit, such as personality, values, and beliefs (Cable and Judge, 1997; Schneider, 2001). Authors have also noted that organizations have sub-cultures and hence it is difficult to identify a single culture for use in person-organization fit (Werbel and DeMarie, 2005).

Entrepreneur-Venture Fit Theory

Entrepreneur-venture fit extends the above ideas to suggest that entrepreneurs will be drawn to certain types of venture based on their affordances or if there is a high level of congruence (Markman and Baron, 2003; Mitchell et al, 2000).

Person-organization fit is based on the premise of an individual joining a pre-existing organization with an established set of organizational characteristics (e.g. Piasentin and Chapman, 2006). Entrepreneur-venture fit differs in that, particularly in the case of a

start-up, there is no pre-existing venture or it is not well established. While an entrepreneur may try hard to establish a venture that is a fit according to both needs-supplies and demands-abilities perspectives, the high incidences of failure and exits amongst new businesses demonstrate that this is difficult to achieve (e.g. Ucbasaran et al, 2010). Whilst many failures may be attributable to external forces, more experienced managers may have the abilities to foresee and address such forces, and hence even an inability to withstand external forces can be seen as a lack of fit from a demands-abilities perspective. The inability to establish a venture that is a perfect fit can be understood from a learning perspective of new venture creation and firm survival (Keith et al, 2016). This theory posits that entrepreneurs can only know the real nature of operating a firm by creating and operating it, that is they entrepreneurship is an ongoing learning process. This process is necessarily extended and during that time the theory of entrepreneur-venture fit, which highlights the unfolding, dynamic mutual interaction between entrepreneur and venture, is highly apposite.

In addition to those entrepreneurs who voluntarily exit, or are forced to exit their ventures, others continue with their venture despite being dissatisfied, or are having mixed views, often if they perceive they do not have other alternatives or the benefits offered out-weigh disadvantages (Crawford and Naar, 2016; Bird and Wennberg, 2016). Again, entrepreneur-venture fit's recognition of the ongoing interaction of entrepreneur and venture captures the lived-reality of entrepreneurial persistence (Holland and Shepherd, 2013; Davidsson and Gordon, 2016).

In contrast to many studies of person-organization fit, entrepreneurs do not have fixed job descriptions. In contrast, they must be flexible and adaptable to meet the needs of

their venture. Hence entrepreneur-venture fit does not consider specific day to day roles or jobs undertaken by the entrepreneur. Rather it considers larger scale, slower to change aspects such as the needs and abilities of entrepreneurs and how these fit with what is supplied or demanded by the venture.

Much entrepreneurial research has considered the traits of entrepreneurs, finding both support for the influence of traits (e.g. Ndubisi, 2008; Okhomina, 2010; Delgado-García, 2012) and lack of support for their influence (Gartner, 1988; Davidsson, 2008; Sarasvathy and Venkataraman, 2011). Entrepreneur-venture fit provides an extension to trait based research in that it considers the specific venture in which the entrepreneur operates, rather than the broad and abstract notion of entrepreneurship and therefore offers an opportunity for more targeted studies of suitability and performance, thus helping to address the contradictory findings of trait based studies (Dvir et al, 2010). Also, in contrast to the enduring and therefore static view adopted in trait based studies, entrepreneur-venture fit theory captures the unfolding, dynamic mutual interaction between entrepreneur and venture and hence incorporates notions of temporal development. However, whilst addressing limitations in trait based studies, entrepreneur-venture fit based studies have some of the limitations recognised in person-organization fit studies. For example, fit could be considered at a number of levels including person-vocation, person-person and person-group fit and could be measured in terms of beliefs, values and personality (Kristof-Brown et al, 2005). In contrast to person-organization fit studies in large organizations, entrepreneur-venture fit studies are less likely to encounter issues of sub-culture due to the smaller size of most entrepreneurial ventures.

Systematic Review Method

Like other forms of literature review, a systematic review seeks to organise and synthesise the findings of a body of literature (Briner and Denyer, 2012). The unique features of a systematic review are the explicit, unbiased and pre-determined set of inclusion criteria (such as databases used and search terms) and the external scrutiny of those criteria and the findings, usually by an external expert panel (Tranfield et al, 2003). In contrast, a meta-analysis is usually used to describe a study that combines and undertakes new analysis of quantitative data from previous studies. It therefore excludes all conceptual studies and all qualitative data and findings. The following provide examples of meta-analyses in the field of person-organization fit (Hoffman and Woehr, 2006; Arthur et al, 2006; Kristoff-Brown et al, 2005)

Our systematic review was guided by the method suggested by Gough et al (2012). Our interpretation and implementation of the review process is shown in Figure 1.

Take in Figure 1 about here.

Whilst the focus of our study is online home-based businesses, we first identified publications relating to the wider field of home-based businesses, and then within this, those papers relating to online home-based businesses. This approach provides an indication of the proportion of papers from the domain of home-based businesses that consider the sub-domain of online businesses, which provides an indication of the relative activity and interest in this sub-domain. Since this is the first systematic review of online home-based businesses it is intended to be a relatively broad scoping study of the domain, rather than a more in-depth review of a single aspect of the domain.

Consistent with the notion of a scoping study, we constrained our search to academic journal papers. We recognise that this excludes 'grey literature' (Briner and Denyer, 2012) and other forms of academic publication, such as conference papers and theses. We would suggest that these forms of literature should be included in future reviews of particular facets of the online home-based business domain.

An expert panel was formed to guide and review the progress of the systematic review. This comprised four academics from three institutions. Two were experts in the field of entrepreneurship, one was an expert in the field of online business and one was an expert in undertaking systematic reviews. The experts provided an impartial and unbiased oversight of the search inclusion criteria and findings both of which are important aspects of the systematic review methodology (Tranfield et al, 2003). Advice provided included confirmation of our approach (shown in Figure 1) was consistent with good practice. The experts in entrepreneurship added additional search terms, such as small office/home office, soho and home enterprise, to our initial list of search terms (see below) to reflect the wide range of terms used for home-based businesses.

In the second stage of the review process searches were performed on the following databases as these are the largest databases in the fields of business and management: Business Source Complete, ScienceDirect, Emerald and ABI/INFORM Complete. Searches were performed using the following keywords using proximity operators (3 words before or after): Home business, Home employ*, Home enterp*, Home entrep*, Home firm, Home industry, Home office, Home work, Single family office, Small office, Soho. Use of the key words and the exclusion terms resulted in 1,380 unique publications. The titles and abstracts of these were independently reviewed by the two

researchers and 140 publications were identified as relevant to home-based businesses. The small proportion of relevant publications reflects the challenges arising from the wide range of terms used to refer to home-based businesses, the rather general nature of the terms and the overlap of these terms with other domains of study. The titles and abstracts of the 140 papers relating to home-based businesses were again independently reviewed by the two researchers, this time to identify the sub-domains within the field of home-based business (see Table 1).

Take in Table 1 about here.

The 27 papers relating to online home-based businesses were all read in detail by both researchers involved in the study. Quality was considered by adopting a critical perspective (Briner and Denyer, 2012). Two papers were excluded on the grounds of quality. In both cases, despite being categorised as peer reviewed journals, these were short magazine articles. The remaining 28 papers were reviewed and synthesised to address the research questions.

A plot of the number of papers published each year in each sub-domain identified was undertaken. The gradients of these plots (i.e. the growth rate of publications) are shown in the final column of Table 1. These gradients show that the sub-domain of online home-based business studies is the second fastest growing.

We recognise that 28 papers is a relatively modest set for review. However, this number is consistent with similar systematic reviews of emergent sub-domains and where the intention is to ensure studies identified are closely related to the sub-domain (e.g.

Renken and Heeks, 2014). A modest sample is also well accepted when a rigorous identification method has been undertaken (Jesson et al, 2011). We adopted a systematic review process, and followed good practice, in order to ensure that our identification of publications was thorough and complete. Finally, although the 28 papers identified form the central part of our review, we draw on considerably more studies than this (approximately an additional 30 studies) in order to provide comparative data and to situate our findings in the wider context of home-based business studies and entrepreneurship.

Characteristics of Online Home-based Business Entrepreneurs

Guided by our theoretical lens of entrepreneur-venture fit, we address part of our first research question by considering studies that consider the characteristics of entrepreneurs that operate online home-based businesses. These characteristics encompass both the needs and abilities of the entrepreneurs. Where possible we draw on comparisons with entrepreneurs that operate other types of home-based businesses or other types of micro-businesses. As a background: ownership and use of a PC has been found to be associated with increased levels of entrepreneurship (Fairlie, 2006). Also, as we shall discuss, entrepreneurs who base their business on the internet have been found to be significantly different from entrepreneurs who do not (Colombo and Delmastro, 2001). Table 3 provides a summary of the characteristics of online home-based entrepreneurs, each of which we address in the following text.

Considering firstly the gender of entrepreneurs, previous studies have suggested that home-based businesses are predominately owned by women, leading to them being termed pink collar businesses (Walker and Webster, 2004; Sulaiman et al, 2009). In

contrast, Mason et al (2011) found that the majority of home-based businesses were owned by males (44%) or jointly owned by males and females (38%). Similarly, Kim et al (2002) found that the majority of home-based businesses were owned by males (65.2%) compared to females. Clark and Douglas (2009-2010) found that the ownership of online home-based businesses by males and females is more balanced (54% male and 46% female). This suggests that such businesses have encouraged females to become entrepreneurs. This is consistent with the study of Glucksmann and Nolan (2007) that showed how the advent of new technologies has often increased the participation of women in the paid labour market. However they also find that this is frequently accompanied by changes to the patterns and amounts of other types of work, often unpaid work, undertaken by those women. Whilst their study did not focus on the impact of IT, the scenarios they describe resonate with the experiences of women who establish online home-based businesses due to their need to undertake childcare or other caring work (Daniel et al, 2014). Without the option of the online home-based business, some of these women would have paid others to undertake their caring responsibilities whilst they attended on-site paid employment. Establishing their business online and from home in order to combine paid work with caring responsibilities results in them suffering the 'double day' of simultaneous paid work and unpaid caring (Bryant, 2000). Hence, whilst there may be some truth in the observation of Wajcman (2009) (cited in Wynarczyk and Graham, 2013) when he states '*the internet ... is potentially liberating for women*' (p.452), the consequences of that liberation should also be taken into account.

The need for risk avoidance has been found to be important to many home-based entrepreneurs and the opportunity to reduce financial risk is often a major contributor

to the decision to base the business at home (Vorley and Rodgers, 2014). Following the theory of effectuation (Sarasvathy, 2001), Daniel et al (2014) adopt the notion of low affordable loss to explore the notion of risk appetite in online home-based entrepreneurs. Consistent with studies from other domains, they find that these entrepreneurs wish to reduce their exposure to risk, particularly financial risk. The authors describe how both the home location of the business and its online nature, which requires little capital or ongoing investment, combine to result in businesses with much lower requirements for initial investment or operating costs than other types of venture. These authors also find that this type of business shields the entrepreneur from the risk of losing face or reputation. For example, one entrepreneur describes how it is very public when a shop closes down, but it is easy to switch to a new online venture if a previous one fails, without many people being aware.

Chalmers (2008) found that for home-based self-employed knowledge workers who use IT, a group that is similar to our online home-based entrepreneurs, a significant proportion (up to 44%) experienced time-related stress. Other studies find that online home-based businesses do not necessarily reduce work-family conflict (Christensen, 1987; Baines, 2002; Laegran, 2008; Di Domenico et al, 2014). These provide some explanation of Deschamps et al's (1998) finding that online home-based entrepreneurs were more likely to be single or more likely to be divorced than traditional home-based entrepreneurs, suggesting that operating an online home-based business may be less conducive to a happy home-life and marriage than other forms of home-based business.

Consistent with these findings on family status, online home-based entrepreneurs were less likely to have children than offline home-based entrepreneurs (Deschamps et al,

1998) or non-entrepreneurs (Fairlie, 2006). These findings are surprising, given many studies highlight the attraction of home-based businesses is to allow individuals to undertake caring responsibilities for children alongside their work. It suggests that in the case of online home-based businesses, there may be a different dynamic in play compared to other home-based businesses: that is, features of the online domain make these businesses attractive to operate from home even if childcare is not a motivator. The higher rate of being single and lower incidence of children is consistent with online home-based entrepreneurs being less motivated by family factors than offline home-based entrepreneurs (Deschamps et al, 1998). In the case of the latter study, the difference in family factors was not due to differences in age, since these authors found no age difference between online and offline home-based entrepreneurs in their study.

Online home-based entrepreneurs have been found to be significantly better educated than those operating traditional home-based businesses, with almost 25% of the former possessing a graduate degree compared to only 5% of the latter group (Deschamps et al, 1998). Combining these findings with previous literature that has identified home-based entrepreneurs as better educated than other types of entrepreneurs (Mason et al, 2011; Kim et al, 2002; Laegran, 2008; Colombo and Delmastro, 2001), suggests that the entrepreneurs that operate online home-based businesses are more educated than all other types of entrepreneur and form educated elite amongst entrepreneurs. This very high standard of education lends weight to the maxim about homes that make significant use of technology: '*smart homes, smarter people*' (Deschamps et al, 1998, p.87).

Despite their higher levels of education, many online home-based entrepreneurs, particularly those that operate ventures in which they operate alone, recognise that the success of the venture relies on their skills and are keen to develop those skills to match the needs of their business (Betts and Huzey, 2009; Sayers, 2009-2010). Gelderen et al (2008) describe their learning:

Constantly learning was important to HBIB [home-based internet business] operators....Trial and error was part of the way they thought and operated, and they took this approach to their learning. Learning was self-directed and ad hoc: that is, it occurred when and where it was needed to solve problems and challenges as they presented themselves. (p.169)

Such trial and error learning may be satisficing in the short to medium term. However, widespread adoption of this way of learning has been associated with a reduction in the quality of skills and professional development and a reduction of skills being passed on to future generations, leading to possible longer term lowering of the national skills base (Baines, 2002).

In addition to offering employment opportunities in less developed countries (Gelderen et al, 2008; Sayers, 2009-2010), home-based businesses and particularly online home-based businesses offer employment opportunities for immigrants in developed countries. Fairlie (2006) found that in the US, there was a stronger positive association between computer ownership and entrepreneurship for immigrant groups than US residents. Immigrants often struggle to integrate socially and economically, due to language and other cultural barriers (Kloosterman et al, 1999; Azmat, 2010). Low capital business formation, such as that offered by online home-based businesses,

provides a means for economic self-sufficiency, often enhanced by the opportunity of leveraging distinct cultural or geographic backgrounds (Sayers, 2009-2010).

Characteristics of Online Home-based Businesses

Our theoretical lens suggests that it is also important to consider the characteristics of home-based businesses, particularly considering what these businesses supply to entrepreneurs, or demand from them. Whilst many of the characteristics can be found in other start-up ventures, they are often more extreme in online home-based businesses due to the interactions of online operation and the home setting.

Online home-based businesses cover a wide range of types of business, including online retailing, revenue generating online communities, business services such as recruitment, IT services such as web development and marketing including digital marketing. There are differences between these businesses but their operation online results in them having many common characteristics. Table 3 provides a summary of the common characteristics of online home-based businesses, each of which we address in the following text.

Gelderen et al (2008) developed the acronym SMILES to describe the characteristics of home-based online businesses: Speed, Multiple income, Inexpensive, LEan, and Smart. Considering each characteristic in turn: Speed describes the short time it takes to start an online home-based business, as described by the authors '*all it takes to start an internet business is a computer and an idea*' (p.166). It also describes the ease of communicating with colleagues, handling orders and processing payments. Many online businesses ask for payment before dispatch of goods, often using instant online

payment methods, increasing the speed of the order cycle and reducing the risk of bad debts (Betts and Huzey, 2009). Prompt payment reduces the need for working capital, which is consistent with the findings that such businesses are often established with low levels of investment; usually from the founders own sources, rather than bank loans or venture capital (Phillips, 2002; Betts and Huzey, 2009).

Multiple income describes how online home-based businesses allow, or supplies, entrepreneurs with the opportunity to be involved in more than one form of income generation or supported by other sources of income. They may operate their online business alongside other employment, operate more than one business, be supported by savings from previous employment or by the income of a spouse. In her study of information based home workers, Bryant (2000) found that self-employed home-based information workers, equivalent to our online home-based entrepreneurs, contributed between 30% and 37% to their total household income on average (see Table 2). Whilst this is less than the fifty per cent that she found home-based information workers who were employed (i.e. teleworkers) contributed to their household budgets, it is not an insignificant contribution and counters the misconception that home-based businesses are ‘hobby businesses’ that do not make worthwhile contribution to household income.

Take in Table 2 about here.

Whilst it could be thought that multiple income streams or reduced contribution to household income mean that the entrepreneurs are not serious about their online ventures, Gelderen et al (2008) considers that these other income sources allow the entrepreneur to pursue their venture ‘*without the pressures of immediate financial*

reward' (p.166), which allows the trial and error learning and experimentation and leads to innovation and business diversity.

Online home-based businesses allow, or supply a business model that can be very inexpensive to establish and operate. For example, Bryant (2000) describes the costs of acquiring the necessary hardware and software as '*fascinatingly little*' (p.22). The modest IT costs are combined with the reduced cost, compared to operating from commercial premises, of operating the business from home (Betts and Huzey, 2009). Some countries also offer tax relief for businesses operating from home, allowing a proportion of the costs of running the home to be classified as a business expense (Christensen, 1987; Wynarczyk and Graham, 2013). As noted above, these low costs to establish and operate, mean that many online home-based businesses are often formed with modest investments from the founders own sources, and the business model is designed to reduce the need for working capital.

The authors describe online home-based businesses as Lean due to their being small and virtual. Whilst these characteristics in themselves do not endow leanness, the examples they provide of entrepreneurs working to produce value for customers whilst maintaining low costs do suggest that they are lean. Finally the authors characterise online home-based businesses as Smart by finding creative ways of achieving their objectives, often at low cost. Anwar and Daniel (2016) explore a number of both lean and smart ways ethnic entrepreneurs use to creatively market their online home-based businesses.

The five SMILES characteristics are highly positive in their framing of online home-based businesses. Our review of the online home-based business literature suggests that these businesses also have characteristics that also make demands on the abilities of entrepreneurs, which may not always be beneficial. These characteristics, which again occur in other types of business but are highly salient in online home-based businesses are: operation within a distributed network of businesses; the opportunity for entrepreneurs to '*leverage their labour*', the reinforcement of existing inequalities in the labour market and engendering feelings of isolation.

With regard to operating as a network, many online home-based businesses outsource key business activities to other firms, often other small or home-based businesses (Clark and Douglas, 2011; Mason et al, 2011). For example, one entrepreneur described his approach '*...sub-contract everything and pay on results...*' (Gelderen et al, 2008 p.168). Outsourcing also allows them to maintain low start-up and working capital. Extensive use of networking is also consistent with the observation that many online home-based entrepreneurs do not wish to take on employees, since they perceive this reduces their own control, flexibility and low operating costs. Growth of such businesses therefore tends to involve increased networking rather than the employment of additional staff and has therefore been termed '*jobless growth*' (Mason et al, 2011). Whilst not generating employment within the venture, home-based businesses are recognised as making economic contribution to both local and wider economies (Jain, 2011; Sayers, 2009-2010; Newbery and Bosworth, 2010; Rowe et al, 1999).

Online home-based businesses have also been characterised as providing an opportunity for entrepreneurs to '*leverage their labour*' so that they could earn a worthwhile income whilst working fewer hours than would be required in other types

of business or in traditional employment. This was described by interviewees in the study by Gelderen et al, (2008).

And the more I became interested in business the more I really wanted to establish a business that could exist without me and so moving into a home-based internet business was a conscious decision. (p.171)

Again, whilst the economic aim of the majority of new ventures is to leverage the labour of those involved, online home-based businesses provide a singular opportunity. The online aspect of the business allows them to be 'always open' (Nansen et al, 2010; Wynarczyk and Graham, 2013) and hence attracting and servicing customers, without the entrepreneur needing to be present and involved at all times. It may be expected that the opportunity to leverage labour would result in lower incidence of time-related stress and work-life or work-family conflict (Roberts, 2007; Michel et al, 2011) for such entrepreneurs, but as discussed in the previous section, a significant proportion of online home-based entrepreneurs experience time-related stress (Chalmers, 2008) and work-family conflict (Christensen, 1987; Baines, 2002; Laegran, 2008). This suggests that, for many, rather than the online business running with minimal intervention, the 'always open' nature of technology means that it is also 'always on', demanding '*instantaneous attention*' (Nansen et al, 2010, p.139) and leading to '*interruption and task non-completion*' (Kaufman-Scarborough, 2006, p.71).

Whether entrepreneurs suffer stress or work-life conflict may depend upon the nature of their skills and the nature of their business. Whilst the majority of their study considers teleworkers, Olson and Primps (1984) briefly discuss self-employed home-

based entrepreneurs who use a computer their business, a group that is largely equivalent to our online home-based entrepreneurs. They observe that there are two extreme scenarios: firstly, the individual has a skill that is scarce and is in demand, and their work is characterised by complexity and autonomy. In such cases, a home-based business is likely to reinforce their autonomy and self-control over their work, helping to reduce stress and conflict. At the other extreme, individuals may have few skills and the home-based business is one of few work options (i.e. a push rationale). In such cases, these authors predict that a home-based business may well result in reduced autonomy, self-control and compensation, compared to more traditional, on-site forms of employment. Hence, whilst online home-based businesses may offer great opportunities for some, for others they may reinforce existing inequalities and disadvantages (Gluksmann and Nolan, 2007).

Isolation has been recognised as a challenge of home-based businesses in general (Smith and Markham, 1998; Smith and Calasanti, 2005; Golden et al, 2008). Not only are such businesses frequently operated by an entrepreneur working alone, who therefore does not have either the social or professional support of colleagues, they also do not require the entrepreneur to venture outside of their house, removing the variety and stimulation of social and other interactions inherent in travelling to, and working at, communal on-site workplaces. Offline home-based businesses often have some degree of face to face interactions, for example, selling craft products at markets. Many online businesses do not require any face to face activity. Indeed, the motivation to leverage labour often results in the development of a business model that can be operated without face to face interaction. Hence online home-based businesses have been found to be strongly associated with feelings of isolation (Baines, 2002;

Christensen, 1987; Mason et al, 2011; Sayers, 2009-2010; Wynarczyk and Graham, 2013). Some entrepreneurs develop strategies to address or ameliorate such feelings, for example participating in face to face networking events, using social media and developing spheres of interest outside of the business (Golden et al, 2008; Michel, 2011).

The characteristics of online home-based entrepreneurs and businesses identified from the systematic review are summarised in Table 3.

Take in Table 3 about here.

Entrepreneur-Venture Fit in Online Home-based Businesses

In order to address our second research question, we bring together the two previous sections that have identified and discussed the characteristics of entrepreneurs operating online home-based businesses and these businesses. Figure 2 presents a model of the key characteristics identified. Consideration of a needs-supplies perspective, where the needs of the entrepreneur are supplied by the type of venture (Morley, 2007), suggests high levels of fit in the areas shown by the solid arrows (numbered 1 – 5). Consistent with the notions of temporal emergence inherent in entrepreneur-venture fit, we suggest that these areas of fit are positively self-reinforcing over time, and hence we have shown these as double headed-arrows. The findings of the systematic review suggest that the characteristics of online home-based businesses also make demands on entrepreneurs, which they find challenging to supply or achieve and which impair their experience of

entrepreneurship. We identify these as dashed arrows in Figure 2 (numbered 6 – 8). Table 4 shows the studies from the systematic review that relate to each of the arrows shown in Figure 2. We now discuss each of the areas of fit (arrows) identified in Figure 2 and the underlying studies identified in Table 4.

Take in Figure 2 about here.

Take in Table 4 about here.

Firstly, the findings of the systematic review suggest that online home-based entrepreneurs undertake high levels of self-directed learning and learning by doing (arrow 1) (Betts and Huzey, 2009; Sayers, 2009-2010; Anwar and Daniel, 2016; Colombo and Delmastro, 2001; Kim et al, 2002; Deschamps et al, 1998). Online businesses offer a unique opportunity to undertake experimentation and learning by doing. For example, entrepreneurs can make rapid and inexpensive changes to their web page, and quickly measure the impact of those changes. They can also easily learn from others, since the offerings of competitors or other benchmark organisations are clearly set out on their web sites, and can be rapidly imitated. Similarly, the vast array of resources available on the internet, support the ability to undertake the self-directed learning identified in the systematic review. The association of more highly educated individuals with online home-based businesses, compared to other forms of home-based businesses, (Deschamps et al, 1998) is consistent with more educated individuals feeling confident in their ability to undertake self-directed learning, learning by doing and experimentation (Gelderen et al, 2008; Phillips, 2002; Sulaiman et al, 2009).

Whilst male participation in childcare is increasing, women are still more frequently required to be the main care giver (Glucksmann and Nolan, 2007; Christensen, 1987). Being able to work in the home allows female entrepreneurs to balance work and care giving, and was frequently cited in the studies identified in the review (arrow 2) (Daniel et al, 2014; Nansen et al, 2010; Wynarczyk and Graham, 2013). The characteristics of the online aspect of online home-based businesses identified in the studies make this type of venture even more attractive to women.

Daniel et al (2014) draw on the effectual (Sarasvathy, 2001) notion of low affordable loss to highlight the risk averse nature of online home-based entrepreneurs. As shown in Figure 2 (arrow 3), the combination of operating from home and operating online result in low start up and operating costs, which supply the entrepreneurs' need for risk avoidance. The ability for online businesses to 'leverage labour' and to be operated alongside other income earning activities (Bryant, 2000; Gelderen et al, 2008) also provides reduced risk (arrow 4). Consistent with other home-based entrepreneurs, the risk aversion of online home-based entrepreneurs has been characterised as a desire to maintain control of all aspects of the business (Gelderen et al, 2008). The ability to operate an online businesses as a network of sub-contractors (Clark and Douglas, 2011; Mason et al, 2011), which are tightly performance managed, supplies this need in the entrepreneurs to maintain control (arrow 5).

In addition to the positive attraction to ventures described by needs-supplies perspective, the findings of the systematic review suggest that there are characteristics of the online home-based businesses that make demands on the entrepreneurs that they

find challenging and tend, over time, to negatively affect the entrepreneur. These are shown as dashed arrows in Figure 2 (numbered 6 – 8).

That these businesses are by definition operated from home, usually by a single individual, leads to the findings relating to feelings of workplace isolation (arrow 6) (Baines, 2002; Christensen, 1987; Mason et al, 2011; Sayers, 2009-2010; Wynarczyk and Graham, 2013). This is exacerbated by the fact that the growth of the businesses is likely to be via subcontracting and networking, rather than employment of colleagues (arrow 8). Whilst interaction with sub-contractors would provide some workplace interaction, such interaction, particularly if it is based on strong performance management, is likely to be more transactional than the collegial relationships with employees or colleagues. The combination of these characteristics, together with the finding that many online businesses are designed to require as little person to person input as possible (Gelderen et al, 2008), makes entrepreneurs highly isolated. The findings that online home-based entrepreneurs suffer time-related stress (Chalmers, 2008, Di Domenico et al, 2014), work-family conflict (Christensen, 1987; Baines, 2002; Laegran, 2008) and are more likely to be single or divorced (Deschamps et al, 1999) exacerbates this isolation further. The finding that many online home-based businesses are operated alongside other income earning activities (Gelderen et al, 2008) provides an explanation of the time-related stress identified in these entrepreneurs (Chalmers, 2008) (arrow 7). That these businesses are always open (Nansen et al, 2010) further contributes to the time pressure and hence time-related stress suffered.

Discussion

Just as the linkages shown by arrows 1 – 5 are likely to be positively self-reinforcing, the linkages shown by arrows 6 – 8 can be expected to be self-reinforcing, but in a negative sense. For example, an increase in the number of income streams an entrepreneur is involved in, the more likely they will suffer time-related stress (arrow 7). Whilst fit with the positive aspects of an organization or job is associated with low levels of turnover, unexpected findings from the domain of teleworking show that workers who experienced greater levels of isolation, showed the lowest levels of intention to leave (Golden et al, 2008). These authors posit that isolation may cause the workers to lose confidence and hence reduce their appetite to seek alternative employment or that the benefits offered by teleworking outweigh the disbenefits. That is, the workers are displaying continuance commitment to their work rather than affective commitment. Similar research has not been undertaken on home-based entrepreneurs, but if the findings are transferable, this suggests that the negative self-reinforcement shown by arrow 6 – 8, may result in entrepreneurs that feel stressed and isolated, either being ‘locked-in’ to their online home-based business because they have lost confidence, or continuing with the venture due to convenience.

Whilst it would be expected that entrepreneurs will start ventures that fit themselves and hence the notion of studying fit in such circumstances is redundant. However, the identification of a mix of positive and negative characteristics in this study show that it is difficult to choose an ideal venture. Also, that these positive and negative characteristics are self-reinforcing and hence can increase over time, means that they may not be apparent before the venture is started or at start-up. Rather, consistent with an entrepreneurial learning perspective they may only become apparent as the entrepreneur gains experience of his or her particular venture and context. Hence our

study emphasises the need to consider entrepreneur-venture fit, not only at the point of start-up but also to consider fit over time as the needs-supplies and demands-abilities elements of fit emerge and are manifested.

The negative implications of entrepreneur-venture fit have not previously, to our knowledge, been highlighted. They suggest a dark side to the demands-abilities perspective of fit, where entrepreneurs who are prepared to meet certain challenging demands from online businesses may become ‘locked in’.

Conclusion

We have argued that it is an apposite to undertake a review of studies of online home-based businesses: home-based businesses represent the majority of businesses in many economies (Mason et al, 2011), they are highly heterogeneous and focussed studies are required to understand the opportunities and challenges offered by the different types of home-based business. Online home-based businesses have been recognised as providing a unique opportunity to undertake innovation and create business diversity (Gelderen et al, 2008) and there has been a recent rapid growth in the number of academic studies that address this type of business, presenting the opportunity to synthesise these studies and provide a robust and inclusive foundation for future studies. Finally, the systematic review methodology adopted by our study demonstrated the challenges of identifying studies of home-based businesses, and the value that review studies can provide to this highly fragmented domain.

The theory of entrepreneur-venture fit provided an effective means of ordering and structuring the findings of the systematic review and provided a number of insights into online home-based businesses. Firstly, the positive interactions shown in Figure 2 suggest that operating an online home-based business can provide entrepreneurial opportunities to groups and individuals who may be otherwise excluded. This includes entrepreneurs with caring responsibilities; those who are highly risk averse or have very limited access to finance and other resources, and those that have limited skills and are not able to attend formal education or training programmes, but are prepared to undertake experimentation and self-directed learning. Whilst a number of these opportunities exist in other new businesses, particularly home-based businesses, as our review has discussed, the combination of the online aspects and the home-based aspects result in these aspects being reinforced and hence exhibited to a higher degree or being more salient in the online home-based business context. Perhaps more interestingly, the application of entrepreneur-venture fit has also suggested a darker side to such businesses, with the potential for entrepreneurs to become 'locked-in' to their venture and to suffer multiple sources of stress. To date the literature on online home-based businesses has been largely positively framed, and hence this study makes an important contribution in suggesting and proposing an explanation for negative cycles that might arise. Our study also contributes to the field of entrepreneur-venture fit by highlighting that whilst entrepreneurs may seek to start a venture that fits them, it is important to include a longitudinal perspective when considering fit in order to capture the effects of interactions between the entrepreneur and venture characteristics, which unfold over time.

It is important for us to recognise the limitations in this review. Whilst the number of publications in our field of interest is growing rapidly, we recognise that the number of papers included in our review is modest. We have therefore positioned our review as an early scoping review. We are also aware that there are aspects of online home-based businesses that we did not investigate in our review, such as, the motivations for forming such businesses and how entrepreneurs view the success of such ventures.

Whilst there is a lively and growing stream of studies that consider international perspectives of home-based businesses (see Table 1), to date only one study (Törenli, 2010) explores the impact of international context on online home-based business, with a consideration of a rapidly developing country context. Interestingly she concludes that for many home-based entrepreneurs producing traditional products, the benefits of IT may lie in *'developing solidaristic structures rather than personal-individual success stories'* (p.62).

Finally, we recognise the limitations of the systematic literature review (Briner and Denyer, 2012), and how we have implemented it, for example our exclusion of grey literature. Such limitations include the reliance on the selection of keywords, which is particularly challenging in a field such as online home-based businesses where there is a myriad of terms used.

Note

An earlier version of this paper was presented at the UK Academy of Information Systems Conference 2014. The paper has been significantly developed since then and this version is materially different.

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** and * indicate 28 papers included in systematic review. ** indicates primary topic is online home-based business (20), * indicates addresses online home-based business but is not primary topic (8).

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Figures

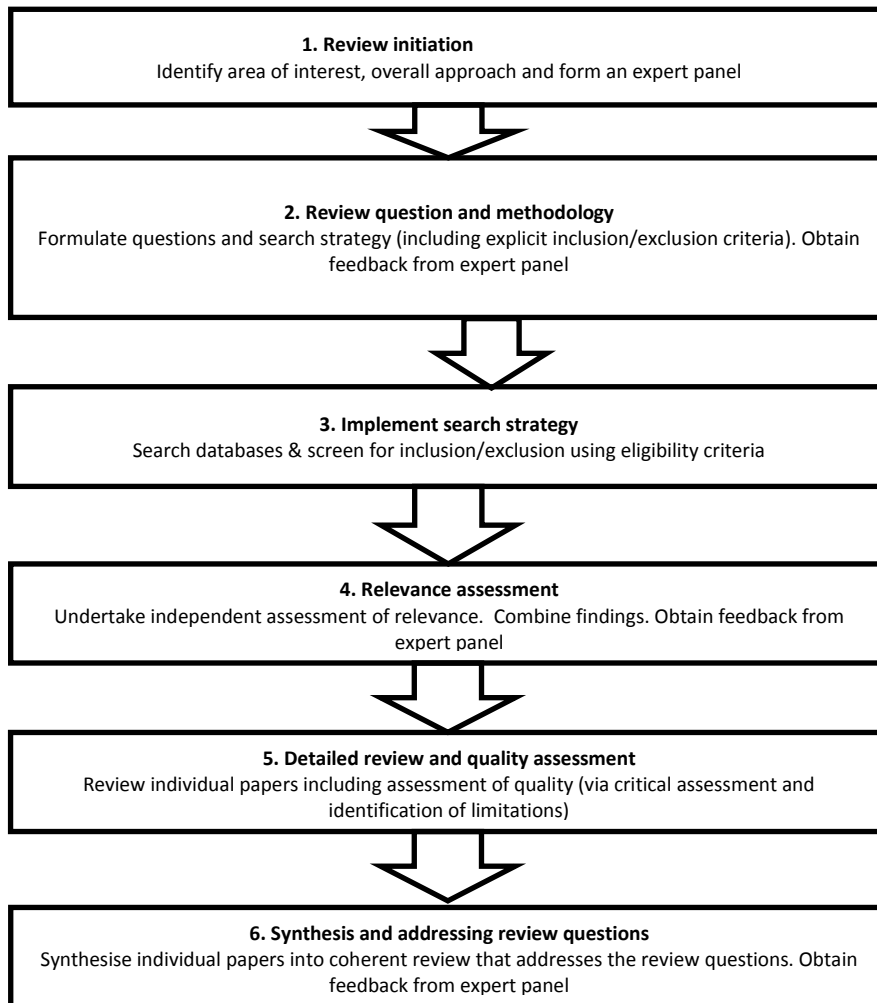


Figure 1: Systematic review stages (after Gough et al., 2012)

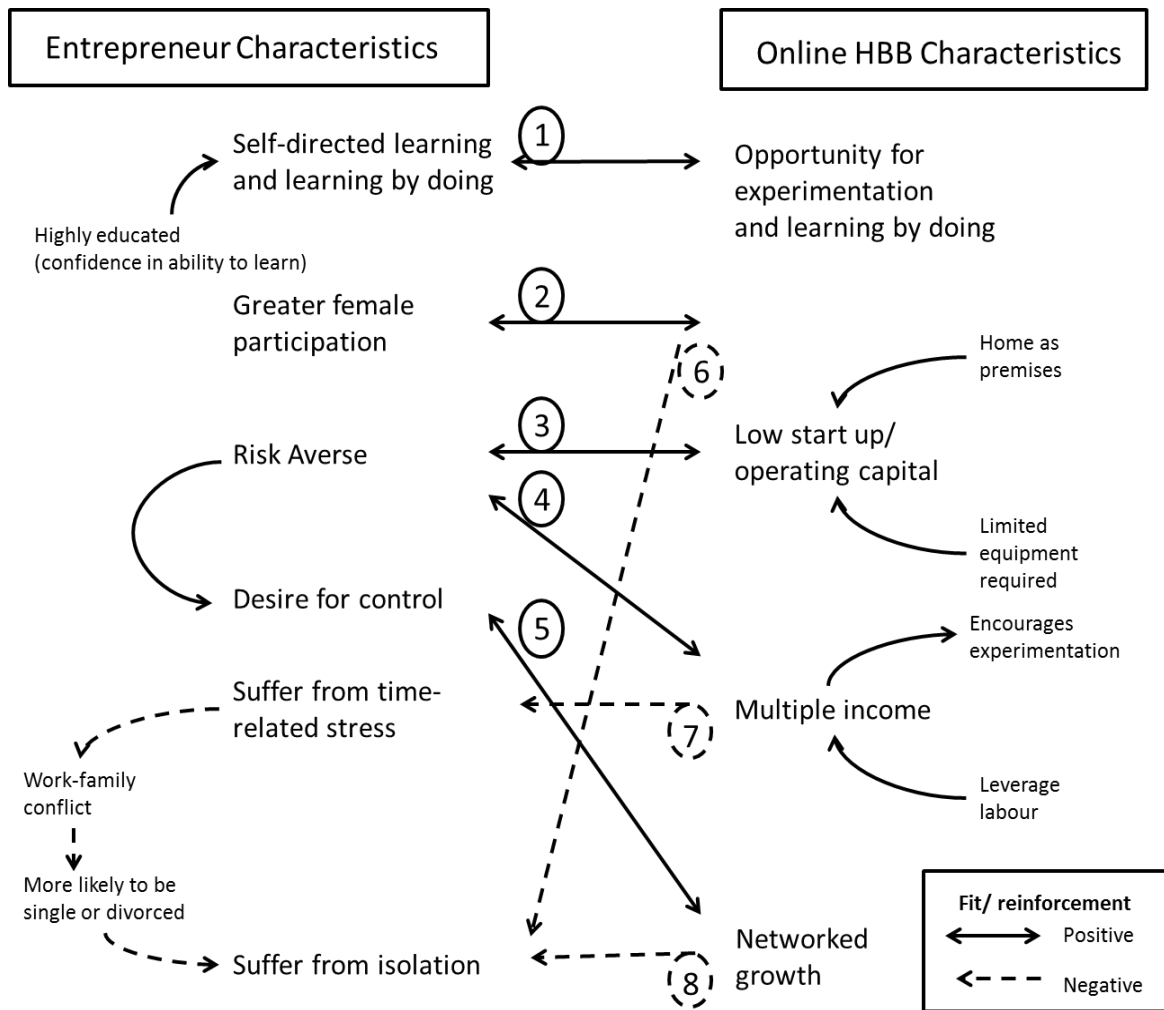


Figure 2: Characteristics of online home based entrepreneurs and businesses identified in the systematic review and a suggested model of entrepreneur-venture fit

Tables

Table 1. Classification of home based business papers identified in systematic review

Sub-domains within home based business studies	Number of papers (sub-domain is primary focus)	Number of papers (sub-domain addressed)	Total no of papers for sub-domain	Gradient of plot of no. of papers per year
Gender	28	16	44	0.97
International	29	4	33	0.71
Characteristics of home based business entrepreneurs and their businesses	23	4	27	0.55
Online (includes digital/online/e-business/e-commerce/IT/ICT)	22 (20 as 2 excluded on quality criteria)	8	28	0.78
Work-life balance	16	1	17	0.00
Economic value	12	3	15	0.51
Regional Studies	6	1	7	0.05
Support networks	4	3	7	0.34
Social enterprise	2	1	3	0.17
Research methods	1	-	1	-0.09
Total	140	n/a	n/a	n/a

Table 2: Contribution to household income

	Average % contribution to household earnings
Part time self-employed home based information worker	30.6%
Full time self-employed home based information worker	37.5%
Full time employed home based information worker (for comparison)	53.7%

From Bryant (2000)

Table 3: Characteristics of online home based entrepreneurs and businesses identified in studies found in Systematic Review

Characteristics of online home based entrepreneurs	Studies
Gender – greater female participation	Sulaiman et al, 2009; Mason et al, 2011; Kim et al, 2002; Clark and Douglas, 2009-2010; Clark and Douglas, 2011; Glucksmann and Nolan, 2007; Bryant, 2000; Wyncarczyk and Graham, 2013
Risk aversion	Daniel et al, 2014
Associated with time-related stress	Chalmers, 2008, Di Domenico et al (2014)
Associated with work-family conflict	Christensen, 1987; Baines, 2002; Laegran, 2008, Di Domenico et al (2014)
More likely divorced or single	Deschamps et al, 1998
Less likely to have children	Deschamps et al, 1998; Fairlie, 2006
More educated than other entrepreneurs	Deschamps et al, 1998; Mason et al, 2011; Kim et al, 2002; Laegran, 2008
Self-directed learning and learning by doing	Betts and Huzey, 2009; Sayers, 2009-2010; Gelderen et al, 2008
Ethnic background – associated with providing opportunity	Fairlie, 2006; Sayers, 2009-2010, Anwar and Daniel, 2016
Characteristics of online home based businesses	Studies
Speed	Gelderen et al, 2008; Wyncarczyk and Graham, 2013; Betts and Huzey, 2009; Phillips, 2002
Multiple income	Gelderen et al, 2008; Bryant, 2000
Inexpensive	Gelderen et al, 2008; Bryant, 2000; Christensen, 1987; Wyncarczyk and Graham, 2013
Lean	Gelderen et al, 2008, , Anwar and Daniel, 2016
Smart	Gelderen et al, 2008; Deschamps et al, 1998, , Anwar and Daniel, 2016

Networked	Clark and Douglas, 2011; Mason et al, 2011; Gelderen et al, 2008; Jain, 2011; Sayers, 2009-2010
Opportunity to ' <i>leverage their labour</i> '	Gelderen et al, 2008; Nansen et al, 2010; Wynarczyk and Graham, 2013
Can reinforce existing inequalities	Olson and Primps, 1984; Gluksmann and Nolan, 2007
Lead to feelings of isolation	Baines, 2002; Christensen, 1987; Mason et al, 2011; Sayers, 2009-2010; Wynarczyk and Graham, 2013

Table 4: Support for arrows in Figure 2 from Systematic Review

Arrow number	Studies from Systematic Review
1	Betts and Huzey, 2009; Sayers, 2009-2010; Anwar and Daniel, 2016; Colombo and Delmastro, 2001; Kim et al, 2002; Deschamps et al, 1998
2	Daniel et al, 2014; Nansen et al, 2010; Wynarczyk and Graham, 2013
3	Daniel et al, 2014; Gelderen et al, 2008
4	Bryant, 2000; Daniel et al, 2014; Gelderen et al, 2008
5	Clark and Douglas, 2011; Mason et al, 2011
6	Baines, 2002; Christensen, 1987; Mason et al, 2011; Sayers, 2009-2010; Wynarczyk and Graham, 2013
7	Chalmers, 2008, Di Domenico et al, 2014; Christensen, 1987; Baines, 2002; Laegran, 2008; Deschamps et al, 1999; Nansen et al, 2010
8	Mason et al, 2011, Di Domenico et al, 2014