Networking and strategic planning to enhance small and medium-sized enterprises growth in a less competitive economy

Nick Clifton
School of Management, Cardiff Metropolitan University, Wales, UK.

Robert Huggins
School of Geography and Planning, Cardiff University, Wales, United Kingdom, UK.

David Pickernell
Business School, University of Portsmouth, Portsmouth, UK.
david.pickernell@port.ac.uk

Daniel Prokop
School of Geography and Planning, Cardiff University, Wales, United Kingdom, UK.

David Smith
Business School, University of Portsmouth, Portsmouth, UK.

Piers Thompson
Economics Department, 8th Floor Newton Building, Nottingham Business School, Nottingham Trent University, 50 Shakespeare Street, Nottingham, NG1 4FQ, UK.
piers.thompson@ntu.ac.uk

Abstract
Competition and day-to-day firefighting prevents small businesses from undertaking the most effective types of strategic planning and networking for growth and innovation. Poor or inappropriate execution of these activities highlights the need for targeted managerial training. Potential explanations for the weak growth of many SMEs focus on the limited use of strategic planning and networking activities. Data from a management survey of SMEs in South East Wales shows that where these activities are undertaken the type of networking and information sought from it is often not that most associated with innovation and growth. Therefore, it may not be their absence per se, but the poor or inappropriate execution of these activities that is the key problem. This deficiency highlights the need for targeted managerial training in these areas.

Keywords: business education, growth, leadership, networking, SME, strategy, wales

Please cite this article as follows:

Clifton N, Huggins R, Pickernell D, Prokop D, Smith D, Thompson P. (2020) Networking and strategic planning to enhance small and medium-sized enterprises growth in a less competitive economy. Strategic Change, 29(6):699–711. doi:10.1002/jsc.2382
which has been published in final form at:

https://doi.org/10.1002/jsc.2382

Introduction

A new wave of technical change, primarily associated with information and computing technology, has re-enforced the effects of globalisation (Wen *et al*., 2001), shifts to a knowledge-based economy meaning that once protected markets are disappearing (Zhu et al., 2006; OECD, 2010; Jehangir et al., 2011). Consequently, firms seeking to remain or become more competitive do so by specialising in activities requiring levels of technology, innovation and skills above those available elsewhere (Cefis and Marsili, 2006; Robertson et al., 2009).

These developments are not restricted to traditional manufacturing industries. Indeed, service industries using modern technology or emphasising mental and social skills have grown significantly in recent years (Aghion and Howitt, 2002). These technological developments, along with the flatter hierarchical structures of small and medium sized enterprises (SMEs) have led many commentators to perceive this 'third industrial revolution' as favouring SMEs and their ability to compete (Audretsch and Thurik, 2001). However, whereas large firms may operate with special departments to look after innovation, and related marketing and training needs, small firms lack these resources, with staff having instead to be generalists (Simon et al., 2007). These limitations can constitute a barrier to expansion.

By developing their leadership and management skills in these areas to maximise internal capacity, and also through collaborating (via networking) with other SMEs on certain business functions, or by sharing non-confidential knowledge, they can, together, overcome barriers caused by small size in a relatively costless manner (Almeida and Kogut, 1997; Narula, 2004).

This study therefore examines factors associated with SME growth both theoretically derived, and as found in empirical studies. Using South East Wales as a case study, data from a survey of SME owners and managers is examined to determine the importance or otherwise of these influences using regression analysis.

The remainder of the paper is structured as follows. The next two sections examine the literature, identifying the strategic and managerial influences on growth within firms, particularly the implications that these factors have for SMEs with their limited resources but greater flexibility, a brief overview of the case study area of South East Wales follows. The research framework and survey data are then introduced along with the methods of analysis. Results obtained from the survey on the influence of key factors on SME growth are presented and discussed. Finally, conclusions for policy and further research are outlined.

Factors Influencing Business Growth

Studies such as Acs and Armington (2004), Audretsch and Keilbach (2004), and van Praag and Versloot (2008) link small businesses to job creation, consequently encouraging the development of regional economic policies to generate new ventures. Growth is also of critical importance for the SMEs themselves due to its strong correlation with survival (Huggins et al., 2012). However, many SMEs are not growth orientated (Kirchhoff, 1996), Hay and Kamshad (1994) finding many managers unwilling to take on the additional commitments associated with growth. In fact, a large proportion of net jobs created within the sector come from a relatively small subset of new high growth businesses (Henrekson and Johansson, 2010).

There is also a danger that managers will continue to follow approaches that have previously brought success without considering the need to adapt to changing circumstances (Rerup, 2005). Another influence of experience is that formal planning is found to decline with the age of the firm, which may reflect fewer requirements to access external finance (Risseeuw and Masurel, 1994; Gibson and Cassar, 2002). Whilst this less formalised approach may relate to the growing knowledge about the business and market in which it operates, which can reduce uncertainty (Matthews and Scott, 1995) it may also indicate a more short-termist attitude amongst older managers (Foreman-Peck et al., 2006). In particular, where firms have been successful in the

immediate past, efforts to plan for the future may be reduced (Harris and Ogbonna, 2006). Such confidence, however, is potentially misplaced in the rapidly changing modern economy and as discussed below such strategic choices may have negative consequences for the business.

In order to grow SMEs also need to not only access, but also absorb, knowledge. Storey (1994) identifies three groups of variables that influence firm growth: management characteristics, business strategy, and firm characteristics, with Foreman-Peck et al. (2006) suggesting a fourth set of variables capturing the general business environment, which may include legislation such as that relating to tax, subsidies and competition..

The education and skills of SME management has been found to be positively linked to SME growth (Cooper et al., 1994), aiding the absorption and accumulation of knowledge relevant for growth in the future (Thorpe et al., 2005). However, not all sources of human capital will be as pertinent to growth. Colombo and Grilli (2005) find that only formal education in economic, managerial, science and technical fields have a significant influence on Italian high-technology firms' employment. Conversely, Bosma et al. (2004) finds no significant role for formal education, but instead finds experience within the specific industry is significantly related to employment creation. As network ties also play an important role in growth (Grant and Baden-Fuller 2004) graduate entrepreneurs may, however, be better placed in this regard, having access to a wider variety of ties (Yli Renko and Autio, 1998; Yli Renko et al., 2001; Pickernell et al., 2011), and being better able to absorb the information into their own businesses (Beckman et al., 2007; Pickernell et al., 2011). These findings suggest that softer skills developed both through experience and more vocationally orientated education and training schemes may be the best ones to promote.

Although networking activities appear to provide at least a partial solution to the resource restraints of SMEs wishing to grow, it should be noted that networking itself requires a resource

input, and that particular types of more general networking may actually divert managers' energies from the business, slowing growth (Foreman-Peck et al., 2006). An important distinction which might be necessary to make is between networking activities that produce social capital, which is developed on a reciprocal basis over a longer period of time, and network capital, which is developed for a specific transactional purpose (Huggins, 2010). There may also be lack of willingness to engage with any activities of this type; Robson and Bennett (2000) find a reluctance by owners to disclose details of their businesses to outsiders, which may limit the extent that networking activities, regardless of whether they are beneficial or not, will be pursued.

Given such caveats about the type of networking that is productive, it is unsurprising that no positive link between networking activities as a whole and employment growth was found using data from a number European countries by Havnes and Senneseth (2001), whilst in Wales trade association membership was even found to have a significantly negative corelation with profitability (Foreman-Peck et al., 2006). In some cases, this finding may reflect the limited importance of financial performance and pecuniary reward relative to intangible benefits such as autonomy, personal satisfaction and other lifestyle related outcomes (Wang et al., 2007). For others, it likely reflects another limited resource that is particularly constrained within small businesses, that of management time, largely consumed by day to day operational or administrative concerns (Tell, 2012).

Importantly, whilst studies such as Peel and Bridge (1998) and Cosh et al. (2000) found a positive relationship between SME success and the extent to which long-term planning is undertaken, little or patchy formal strategic planning behaviours exist for many SMEs (Gibson and Cassar, 2002; Beaver and Jennings, 2005). When documentation does exist, it is often subject to frequent revision, with Stonehouse and Pemberton (2002) finding a planning horizon

of 3 years or fewer for 70 percent of UK SMEs. This myopia suggests a lack of clarity in the long-term objectives of many SMEs with persistence in the pursuit of short-term objectives. There is often a concentration on short-term sales, cost and profit targets (Stonehouse and Pemberton, 2002), meaning that staff training (Hill and Stewart, 2000), marketing (Phua and Jones, 2010), and new technology (Irani et al., 1997) are ignored or under exploited.

All of the above points to management skills training having a potentially key influence in determining the extent to which SMEs can maximise the potential of the limited resources that are available to them. There is, however, mixed evidence from Foreman-Peck et al.'s (2006) findings in Wales, which suggests the need to explore this context in more detail.

South East Wales: A Case Study of Small Business Growth

The factors identified by previous studies as influencing SME growth, whilst largely pertaining to the resources and abilities within the business and its management, will also be influenced by the broader environment within which the firm operates (Foreman-Peck et al., 2006). In order to examine the presence of the skills and activities associated with growth this study considers businesses located within four Welsh unitary authorities, namely Cardiff, Monmouthshire, Newport, and the Vale of Glamorgan. These four local authorities are all located in South East Wales within the United Kingdom. To understand the context within which the businesses studied in this paper operate this section considers the characteristics of this location and the influence that any environmental factors are likely to have.

Wales is usually characterised as being peripheral and economically lagging (MacKay, 2002; Henley, 2005). South East Wales, however, is more densely populated than the rest of Wales, with two of Wales' three mid-sized cities found in the area (Newport and Cardiff). It also possesses good transport links to England with the M4 allowing Bristol to be reached in less than an hour from Cardiff (44 miles) and London by train in 2 and a quarter hours from Cardiff

on a half hourly basis. In economic terms also there is less difference between the four local authorities being studied and Britain as a whole than with the rest of Wales. There is also little difference in the average gross weekly wage for the sampled area (£501 compared to £502 for Britain the time of the study), although economic activity rates for the four local authorities do lag those of Britain (73.8 percent and 76.2 percent respectively), and unemployment rates are also higher (9.4 percent compared to a British average of 7.8 percent).

The industrial structure of South East Wales although traditionally based around the Coal and Steel industries (Hooper, 2006; Bristow and Morgan, 2006), has also developed into a much more modern service orientated economy. Cardiff is the dominant urban centre and whilst developing a professional and financial services sector (Cardiff Council, 2010) has struggled to created higher value-added jobs within these sectors (AECOM, 2010). Biotechnology sectors with links to the university sector, Cardiff University in particular (Cardiff & Co, 2010), and a creative industries sector based around BBC Wales and S4C (the Welsh language television channel) (Cooke and Clifton, 2007), are seen as providing considerable growth potential for the area (SEWEF, 2010).

The economy of the sample area whilst being similar to Britain as a whole, does appear to have a weaker entrepreneurial culture, and private sector, particularly when regarding those sectors regarded as having the most international potential for growth and retaining competitiveness. The UK Competitiveness Index, for example, ranked Wales as the thrid least competitive UK region (Huggins et al, 2014); of the sampled areas the highest rated locality being Cardiff with a competitiveness score of 100.2 approximately equal to the UK average represented by 100. The other three localities rated less strongly (Monmouthshire 97.5; Newport 91.8; Vale of Glamorgan, 92.5). Overall, the survey sample area can therefore be regarded as having many

commonalities with the British economy as a whole, although struggling to achieve its full potential, potentially hindered by internal factors, and the weaker surrounding economy.

Concentrating on resources held within the four unitary authorities covered by the study, the workforce is relatively highly educated with 35.8 percentage of the population holding NVQ level 4 qualifications or above (higher education first degrees or equivalent), which is higher than the average for Britain (31.3 percent). Conversely, there are suggestions that some of those towards the bottom end of the educational scale are not served as well (Parkinson and Karecha, 2006), with little difference in the percentage of the working age population that have no formal qualifications in the sampled area (11.1 percent) compared to the figure for Britain (11.3 percent). There is also some variation within the four local authorities, with Newport in particular lagging the others. Three universities are based in the area: Cardiff University, Cardiff Metropolitan University, the University of South Wales (formed by the merger of the University of Glamorgan, and University of Wales Newport). The potential for collaboration on innovation and related training is therefore considerable, but evidence suggests that collaboration between business and the higher education sector could be increased (AECOM, 2010).

Specifically, Huggins and Johnson (2009) suggest less competitive regions such as South East Wales are often described as being organisationally and institutionally "thin," with a lack of innovation-driven public or private sector entities, often with a high dependence on SMEs exhibiting low-growth trajectories and operating with only fragmented connections to external sources of knowledge. Foreman-Peck et al. (2006) note that Wales is highly dependent on its SME sector, which accounts for two thirds of its output, more than for any other region of Britain. Further, this reliance is twinned with relatively low productivity levels. As noted above these businesses are likely to be limited in terms of their resources, but there may also be an

inward-looking management culture of ‘fortress enterprise’, which prevents constructive networking activities (Huggins and Johnson, 2009). This internal focus suggests improved links with universities for innovation and related training are a way of overcoming some of these deficiencies

Methodology

Research Framework

In terms of developing a research framework to identify areas where university-based education and training may need to be focused, the literature identified two specific issues that need to be analysed in relation to SME growth. First, previous studies have highlighted the role that formal planning plays in not just instigating activities associated with growth (Stonehouse and Pemberton, 2002), but also in creating an environment for others to engage in these activities (O’Regan and Ghobadian, 2002), and in ensuring that strategies to pursue growth are successfully implemented (Foreman-Peck et al., 2006). However, a lack of formal planning in many SMEs was also noted (Gibson and Cassar, 2002; Beaver and Jennings, 2005), along with questions about the need for such ‘large firm’ approaches in the more entrepreneurial flexible SME climate (Harris and Ogbonna, 2006).

Second, in order to acquire resources and the relevant contacts and information needed to grow, the literature also suggests that networking activities will play an important role for SMEs (Carpenter and Petersen, 2002). However, as noted above it is also important that the most appropriate networking activities are undertaken, or these can just be a distraction, diverting resources away from key activities (Harris and Robinson, 2001; Beckman et al., 2007). Specifically, previous work has noted that it is not just the amount of networking, but the type of network and knowledge acquired that determine the success of networking for improving growth prospects (Foreman-Peck et al., 2006).

As also discussed above, innovative activities are also often associated with improved growth and performance (Rosenbusch et al., 2011), although other studies suggest that contextual factors play an important role here (Freel and Robson, 2004), and there may even be a disruptive influence of innovation (Christensen, 1997; Christensen and Raynor, 2003). In order to capture the more incremental improvements associated with SME innovations (Kitching and Blackburn, 1998), we consider those standards achieved by SMEs in terms of quality, but also self-assessed improvements to products, production and marketing. Given that with little formal planning it is unlikely that innovative activities will achieve their full potential, and without external sources of information incorporated it is also unlikely that innovations will stretch beyond the incremental (Kitching and Blackburn, 1998), in the present study innovation can be seen as a control variable. The literature also identifies other factors that function as control variables, most notably the broader regional economic environment in which the firms operate. These contextual factors form a broad framework for the survey, the details of which are discussed below.

Survey

A survey of small and medium enterprises (SMEs) was conducted. In order to identify a sample population of qualifying businesses the Financial Analysis Made Easy (FAME) and later MINT databases from Bureau Van Dyke were utilised. Approximately 15,000 firms were identified, which was eventually reduced to 2002 enterprises that were surveyed (after those with no employment data and turnover below £50,000 were removed). The initial sample was filtered using the sector codes, as defined by Standard Industry Classification (SIC) 2003, to include services and manufacturing firms, as well as those with initial financial data, and additionally employment levels. The sampling criteria of the remaining firms was as follows:

- For data with employment information: all firms that employed fewer than 250 staff
- For data without employment information: all firms that reported turnover of £50,000 or more.

The sample was initially contacted via post through a cover letter explaining the purpose of the survey and details of the use and storage of any data collected. A copy of the questionnaire was included with the cover letter, respondents were also directed to the alternative of completing an identical questionnaire online, but with additional option of a Welsh language version.

Out of a sample of 2002 businesses, 121 valid responses were received, providing a six percent response rate. Although relatively low, it is in line with the response rates of many large-scale business surveys (Brooksbank et al., 2001; Clifton et al., 2010). In order to establish whether the respondents represent the sample population, Chi Square and Mann-Whitney U tests were used to compare the descriptive statistics of the responses and the sample population of firms. In terms of the SIC 2-digit sectors that the survey responses were drawn from, the Mann-Whitney U-test was able to reject the null of independence from the sample population at the 1 percent level. The largest contributing sector was the 'Other Business Activities' group SIC 74, which made up more than a quarter of the sample population and the valid responses received. When comparing the size of businesses responding there is evidence of a skew towards micro and small businesses, with very few responses from medium sized business. The mean of employment of respondents is 20.4, roughly half that of the sample population (39.8 employees), with a similar pattern found for median employment (6 employees and 12 employees respectively). Understandably the distribution of the respondent firm sizes is also reduced with a standard deviation of 37 compared to 53 for the sample population. Although rejecting the null hypothesis of independence at the 1% level, respondent businesses were also found to be a little older (mean years of establishment 17, median 11 years), than the sample

population (12 years and 7 years respectively). However, given previous literature these are the SMEs most likely to suffer from lower managerial capabilities and thus where future education and training-based policy attention is best focused.

The questionnaire was composed of a mixture of multiple choice and open-end questions. These were based around six core themes exploring the nature of the business, its management and leadership approach:

- Business Objectives
- Company Growth
- Skills and Training
- Innovation
- Networking
- Business Prospects and Drivers of Growth.

Here we concentrate on the formal planning activities and networking activities of the businesses, considering how these influence the growth of the business. As outlined in previous sections the objective is to determine the extent that these activities take place within SMEs operating in an area of the UK, which although not lagging, can be described as not achieving its full potential. As well as determining the presence of these activities, the nature of the activities is explored, in order to also understand where increased management training might have a role in developing those skills for SMEs seeking to maximise their growth potential within non-core economies in developed countries.

In order to control for the multiple influences that may be present as well as considering the results of the survey, the links between formal planning and networking activities (in their broader form) with sales growth are examined using multiple regression analysis. The analysis

was performed using a Generalised Linear Model (GZLM). Sales growth is chosen as the dependent variable in preference to innovation, given the relatively low level of innovation that has been identified within SMEs (Kirchhoff, 1996; Thompson et al., 2007).

The dependent variable is measured as the sales growth of the firms in the previous three tax years. The proportionate sales growth figure is entered to take account of differences in the businesses' scales. Authors such as Foreman-Peck et al. (2006) have argued that some SMEs may target sales growth whilst others target profitability. Other studies such as Walker and Brown (2004) indicate that for a majority of SME owners neither is their primary objective with other lifestyle outcomes given greater importance. Roper (1999) suggests that there is some weak evidence that sales growth and profits are linked, but many strategic choices favour one or other outcome. The major reason for using sales growth as the performance measure here is due to the quality of data available; the accuracy of SME profitability data is questionable given the role that tax considerations will play in how profits are recorded (Cooke et al., 2005; Clifton et al., 2010). Studies have also found sales growth is more associated with what is likely to be the first priority of many SME owners, firm survival (Smallbone et al., 1992).

In terms of the independent variables, formal planning is captured in simplistic terms as purely the presence of a formal plan represented by a dummy variable, where plans qualifying include, business plans, marketing plans and financial plans. Trade association membership is utilised as a proxy to represent the networking activities of the SMEs' owners. This general networking activity although having been shown to be less effective than other more specific networking activities (Harris and Robinson, 2001), is found to be the most common form of networking undertaken by those firms captured by the survey. As the objective in this analysis is to understand whether the networking activities typically undertaken by the SMEs are effective,

it appears appropriate to base the networking measure on the activities most commonly observed, rather than those which may be most effective, but rarely undertaken by SME owners.

Controls are also included to capture alternative potential influences on sales growth. Three dummy variables are included to capture different types of innovation. These are subjective measures of innovation rather than more objective measures based on patents that are used more frequently in studies of larger firms. The reason for adopting this approach is that Kitching and Blackburn (1998) indicate that most innovations in SMEs are small, incremental and rarely patented, either on the basis of cost or fears of appropriation by others. The measures included are dummies to represent a significant improvement to the composition of a firm's range of goods or services in the previous three years. This method is intended to capture product innovations, whilst different ways of operating and improvements in the methods of marketing are included in the form of dummy variables to capture process innovations. External influences are then captured by a dummy representing those firms that feel that they were affected by the ongoing recession after 2007. Sector differences are captured by the average growth rate experienced by the respective 4-digit SIC2003 industry sector, based on the FAME database, entered into the regression as a continuous variable rather than as a dummy as had been the case for other control variables. This procedure allows for industry differences to be examined in more detail without having to resort a huge number of dummy variables and the associated reduction in the degrees of freedom.

Results: The presence of behaviours associated with growth

Business Growth

Starting with measures of growth of relevance to the dependent variable used in the analysis, the survey provides a variety of both objective and subjective measures of growth experienced by the respondent businesses, which are presented in Table 1.

INSERT TABLE 1 ABOUT HERE

The average revenue growth rate experienced was 103 percent. Employment growth, however, was less dramatic, although still nearly 40 percent. The average size of service firms increased more rapidly from 12.3 employees to 17.0 employees, whilst the manufacturing firms only increased average employment from 18.1 to 20.0 employees. As is usual in such studies the average growth figures also tend to be skewed by a small number of high growth businesses (Hendrekson and Johansson, 2010). When firms were asked to rate their growth as either none, slow, good or fast before the recession, 60 percent indicated that they had experienced no or slow growth.

Sectoral and Recession Effects

INSERT TABLE 2 ABOUT HERE

Breaking the results down by industry sector and firm size for growth experience prior to the recession reveals that service firms are more likely to be experiencing good or fast growth compared to manufacturing firms (40 percent and 33 percent respectively). The figures are even more stark when comparing self-assessed growth by firm size with three quarters of micro firms having no or slow growth, compared to only a third of medium sized firms, suggesting that access to resources as identified by Acs and Mueller (2008) and Hendrekson and Johansson (2010) remains important even in the digital age. The reasons for limited growth are varied but 23 percent of firms indicate a contentment with current sales. However, it does seem that most owners would like to have increased the size of their businesses but feel constrained by just the types of issues that formal planning and networking activities could have helped them to overcome. For example, a lack of finance (28.1 percent) may have been aided by formal planning documents to make access to external finance easier (Dawson, 2011), whilst declining

markets and skills shortages might be possible to overcome with greater collaboration (Cooke et al., 2005; Huggins, 2010; Robson and Bennett, 2000).

Innovation Activities

Only around a quarter of the respondent firms had introduced new quality standards, for example, ISO 9000, 9001, 9002, 14001 and others. However, when considering the more informal, and likely to be more incremental, changes a majority of firms had made at least one improvement (Table 3).

INSERT TABLE 3 ABOUT HERE

Product innovations were the most common with 45 percent of firms improving existing products and a further 44 percent adding to their product range. However, as noted above there is no criteria required for the level of change that would qualify, so these changes may be minimal and new products or services little different from those already provided. However, it does provide an alternative view to that of most SMEs effectively standing still (Gray, 2002). Over a third of the firms also indicated that they had changed their marketing methods and similarly sought alternative markets.

Formal Planning

It is also noteworthy that whilst many of the firms possessed formal plans (Table 4), more than a quarter (28.9 percent) had no formal plans at all. Business plans (60.3 percent) were more common than financial (38.0 percent) and marketing (26.4 percent) plans, perhaps suggesting that where plans were developed, they were more along the lines of general mission statements rather than actionable strategies.

INSERT TABLE 4 ABOUT HERE

Although the SME owner-manager is obviously a key figure, nearly two fifths (40 percent) were developed by the owner or managing director alone. Although one in ten of the plans were written by consultants, there is little evidence of collaboration, as only 5.8 percent of plans were authored by more than one group, making the results consistent with the general view that many SME owners are internally focused and have limited trust of others both within or outside the firm who could potentially aid the development of growth strategies (Robson and Bennett, 2000).

Networking Activities

Examining the resources committed to networking activities, it is clear that such activities are clearly coming second to more operational priorities, as found in other studies (Tell, 2012).

INSERT TABLE 5 ABOUT HERE

Table 5 above shows that nearly 70 percent of respondents spent fewer than 5 hours a month on these activities, and only 11 percent more than 10 hours a month on these activities. These low numbers are likely a reflection of the importance that most firms place on such activities, with a majority (57 percent) of firms indicating that they felt networking activities were only slightly important at best for the success of their firm. However, the patterns by firm size do show the difficulties faced. Micro firms are much more likely to place greater importance on networking activities than medium sized firms, 45 percent of micro firms felt networking was quite or very important to their success compared to only one in four medium sized firms. However, the same lack of resources that probably increases the importance of networking for micro firms, reduces their ability to network, with three quarters of micro firms spending less than 5 hours a week on these activities, whilst this percentage drops to 58 percent for medium sized firms.

INSERT TABLE 6 ABOUT HERE

Table 6 indicates that much networking activity is less transaction driven with trade associations (36.4 percent) and business clubs (24.8 percent) the most common source of network membership. The types of networking activities are consistent, with acquiring market information cited by fewer than one in four respondents. Much more activity appears to be associated with maintaining links to customers (34 percent). Although this networking could involve market information that enables products to be developed and improved, this type of information was not cited explicitly by most firms, suggests activities relate more to customer retention. In terms of the use of networking activities for longer term objectives, only 4 percent cited building relations with future investors, and 3 percent building relations with future employees. A higher proportion of respondents actually indicated that socialising was a major reason for their membership. Consequently, it seems that networking activities for respondents are unlikely to have significant benefits in terms of growth and innovation. To test this hypothesis, the connections between formal planning and networking activities undertaken by SMEs experiencing growth are explored using a multivariate approach, reported in the next section.

Network and Planning Activities' influence on Growth

Table 7 below presents the results of the regressions of growth on planning and networking activities along with other potentially contributing factors.

INSERT TABLE 7 ABOUT HERE

Unsurprisingly there is evidence that firms reporting they were significantly affected by the recession have experienced lower rates of growth, while influences such as process, marketing and product innovation were not found to have significantly influenced growth over the study

period. This result probably reflects the incremental nature of many of these innovations, which are unlikely to have been greatly influenced by networking activities. Although the industry growth rate was included to control for industry rather than firm specific factors, the negative coefficient suggests that higher rates of firm growth may actually be achieved where lower rates of industry growth are experienced. A potential explanation for this result is that competition in these sectors is lower and thus allows the strongest performers to grow.

Turning to the main variables of interest there is evidence that firms with formal plans in place are significantly more likely to have grown rapidly, although significance is reduced to the 10 percent level when the robust form of the estimation is used. Whilst this finding does indicate that where more formalised planning activities take place firms benefit in the form of greater growth, the weakness of this result suggests that managerial limitations may mean that these activities do not fully achieve their aims. Networking activities on the other hand show no positive relationship with growth, although unlike Foreman-Peck et al.'s (2006) study there is no evidence of a significant negative influence. Given the results examined in the previous section this result comes as little surprise with the motivations for these activities rarely being associated with acquiring knowledge or longer-term objectives.

Discussion: The Potential role of University-based management education and Training

Formalising budgets for particular activities, such as training, can help to ensure the implementation of long-term plans (Foreman-Peck et al., 2006) and although not considering the effectiveness of planning, Gibson and Cassar's (2002) study indicates that management training is positively associated with greater planning activities. It is therefore reasonable to assume that appropriate management training will put SMEs in a better position to navigate the difficulties and opportunities that these other groups of variables throw up. However, it has also been noted by other studies that it is likely to be inappropriate to simply adopt the

approaches of large businesses, but instead that an approach suitable and practical for SMEs to implement should be pursued (Glen and Weerawardena, 1996; Harris and Ogbonna, 2006).

One area where longer term planning is particularly important is training itself. SMEs often provide training on an ad hoc informal basis and generally at lower levels than is ideal (Kotey and Folker, 2007). One of the primary reasons for this under-provision is lack of time, which is also the reason most cited by survey respondents as a barrier to training and development (49.6 percent of respondents), followed by cost (41.3 percent).

INSERT TABLE 8 ABOUT HERE

Unsurprisingly, therefore, only around two in five of the respondent firms have a formal training budget (Table 8). Although the proportion of firms with a formal training budget varies little by sector, the results show considerable variation by firm size, with less than one in four firms that fall in the micro category having a formal training budget whilst all of those in the medium sized firm category possess a budget. Recognition of the importance of training is also related to scale. Although two thirds of the respondent firms place training as quite or very important, for micro firms this proportion is around three fifths, but rises to nine in ten of the medium sized firms.

More formal planning would, however, also be expected to increase training as it is scheduled within these activities (Hill and Stewart, 2000). Evidence that training is being treated more formally includes the presence of a specific training budget (Foreman-Peck et al., 2006), with one reason why ‘gazelles’ are more likely to come from larger start-ups (Acs and Mueller, 2008) being these are the firms that have the resource both in terms of time and money to pursue formalised training, which is likely to boost the efficiency and overcome any implementation problems of such interventions (O’Regan and Ghobadian, 2002). As medium sized firms budgets are not proportionately larger, it is not just the spending on training per

employee that is important, it is the formalisation of the process across more firms (Foreman-Peck et al., 2006).

A general lack of formalised training in most smaller businesses is, however, also a limiting factor (Gray and Lawless, 2000). Although employers spend more on training for managers than for staff with low or no qualifications, British companies spend much less on management development than their European competitors. As Jones et al's (2013) analysis of UK SMEs and their use of different training providers also found, the SME sector was found to lack an understanding of the potential benefits to be derived from formal training, whilst formal training providers in turn needed a greater understanding of their market in order to provide appropriate, relevant, accessible training.

It may also be that government interventions intended to provide forums for knowledge exchange and training within the SME sector and with other elements of the local innovation systems were always likely to have minimal impact until actors also possessed the skillset to absorb and utilise the knowledge available. South East Wales is in some ways well positioned to address such issues given the number of universities based in the area. Historically, the university model in Wales, has not, however, been strongly orientated towards the skills development and social capital creation required to address these shortages (see Morgan, 2002, and Pickernell et al, 2008).

Universities have long been recognized as having the potential to assist more directly in innovation and delivering growth (Pickernell et al, 2019). Universities and business schools are also facing ever increasing financial pressures in their core business, with uncertainly about the future of government funding regimes for undergraduate education, increasing UK and global competition for international students and research funding, and the need to demonstrate wider impact (Woolcott et al, 2019). In terms of positioning and perceived role, however, most

universities and business schools see themselves as primarily education and research institutions, rather than focused on training and knowledge transfer activities (Fuller et al., 2019). In addition, whilst the Chartered Association of Business Schools (CABS) has recently published a white paper on executive education (Lock and Hinxman, 2018) recognising that executive education can secure alternative income streams for universities, notably absent is any mention of SMEs or their needs. Whilst universities are therefore looking to secure alternative income streams, the focus is often not currently either on SMEs or training (e.g. see Pickernell et al, 2019).

The requirement for targeted leadership and management training suggested by the results of this paper, however, indicates a focus on business schools more specifically. The Small Business Charter mark scheme, jointly established by CABS and the UK government in 2014, explicitly recognises and encourages universities that support small businesses, local economies and student enterprise. Whilst there is certainly potential for university business schools to engage with SMEs to assist them with the leadership and management skills needed to absorb and utilise external knowledge effectively, this intervention is unlikely to be a quick or universal solution. Currently there are 34 accredited UK university business schools (covering around only 28% of the UK total), but importantly including Cardiff Business School (Cardiff University) and Cardiff School of Management (Cardiff Metropolitan University) in the South East Wales area.

Conclusions

This paper has set out to examine the planning and networking activities typically undertaken by SMEs in a less competitive, but not deprived local economy, in order to evaluate the potential role that managerial training could provide. The literature examined in the first section was unambiguous in that both strategic planning and networking activities have the potential

to increase the growth of SMEs (Cosh et al., 2000; Hansen and Hamilton, 2011). However, it also indicated that the use of such approaches by SMEs does not guarantee benefits in terms of growth, with it being important that the right planning strategies are used, and that networking activities have the appropriate focus (Foreman-Peck et al., 2006; Harris and Ogbonna, 2006). Studies also suggested that the managerial characteristics in terms of their experiences and training also play a role, not necessarily in a positive manner (Simon et al., 2000).

For local economies such as South East Wales, failure to improve workforce, leadership and management skills, and to apply those skills in the workplace, may lead to the economy finding it progressively harder to compete. Put simplistically, 'managing' performance in conditions of relative certainty and agreement is no longer sufficient for success in the globalised knowledge economy. Instead 'leadership' is required which can enable performance throughout the firm, regardless of size or sector. Effective business leaders thus understand how successful strategic planning addresses the complex interactions that take place within companies.

The study shows that whilst planning and networking activities are not ignored by most SMEs, they do take a secondary importance to other day-to-day pressures. Most firms did have at least one planning document, but around a third had none. The usefulness of such documents was also questionable as the owner was often the sole author of the document. In terms of staff development, micro firms are likely to struggle, with no formal training budget present for more than three quarters of these firms. Where the allocation of resources has not been formalised, be it for training, innovation or any other growth orientated activity, formal plans are likely to be relatively meaningless. Similarly, networking activities were more general in nature and less transaction related, which is likely to limit the benefits obtained from these

activities, particularly as most respondents did not associate networking with longer term objectives and knowledge acquisition.

As covered in the discussion of existing literature, these findings are likely to be related to the managerial skills and experience possessed. Previous studies have found the relatively high formal qualifications of the respondent managers will benefit both planning and networking activities (Yli Renko et al., 2001; Pickernell et al., 2011). However, older owners, whilst not atypical of SME owners in other areas, are associated with less long term and less formal planning (Foreman-Peck et al., 2006). Overall, the results suggest that although SME owners could undertake more formal planning activities and formalise their resource allocations to match, as well as spending more time on networking activities, it is the effectiveness of these activities when undertaken which is perhaps the greatest concern. Only weak evidence was found to link planning activities with higher growth rates, and no benefits from networking activities.

Given the obviously limited nature of this study, it would be of value for comparative studies to be conducted in both other areas of the UK, but also in other countries. In terms of ensuring the success of managerial training programmes designed to overcome the issues highlighted here, longitudinal studies will be invaluable in providing an insight into the changes that take place in terms of the leadership and management of longer-term activities. Such studies will provide invaluable feedback to those providing training courses of this type enabling them to adapt and develop appropriate programmes for firms operating in different contexts, be they defined by industry, firm size or local economic environment.

For many SME owners and managers, the current avoidance of training activities may appear rational, given their seemingly minimal association with growth. However, tailored managerial training may be able to improve leadership and thus in the long run business performance by

providing the softer skills, effective networking, planning and knowledge-sourcing many SMEs lack. Ultimately, more effective training will increase investment therein by SMEs.

References

Acs, Z.J. and Armington, C. (2004) 'Employment growth and entrepreneurial activity in cities', *Regional Studies*, 38 (8), 911-927.

Acs, Z. J. and Mueller, P. (2008) 'Employment effects of business dynamics: mice, gazelles and elephants', *Small Business Economics*, 30 (1), 85-100.

AECOM (2010) *Cardiff 2020*, Cardiff: Cardiff Council.

Aghion, P. and Howitt, P. (2002) 'Wage inequality and the new economy', *Oxford Review of Economic Policy*, 18 (3), 306-323.

Almeida, P. and Kogut, B. (1997) 'The exploration of technological diversity and geographic localization in innovation: start-up firms in the semiconductor industry', *Small Business Economics*, 9 (1), 21-31.

Audretsch, D.B. and Keilbach, M. (2004) 'Entrepreneurship and regional growth: an evolutionary interpretation', *Journal of Evolutionary Economics*, 14 (5), 605-616.

Audretsch, D. B. and Thurik, A. R. (2001) 'What is new about the new economy: sources of growth in the managed and entrepreneurial economies', *Industrial and Corporate Change*, 10 (1), 17-34.

Beaver, G. and Jennings, P. (2005) 'Competitive advantage and entrepreneurial power: the dark side of entrepreneurship', *Journal of Small Business and Enterprise Development*, 12 (1), 9-23.

Beckman, C. M. Burton, M. D. and O'Reilly, C. (2007) 'Early teams: the impact of team demography on VC financing and going public', *Journal of Business Venturing*, 22 (2), 147-173.

Bosma, N. van Praag, M. Thurik, R. and de Wit, G. (2004) 'The value of human and social capital investments for the business performance of startups', *Small Business Economics*, 23 (3), 227-236.

Bristow, G. and Morgan, K. (2006) 'De-instrutrialization, the new service economy, and the search for post-industrial prosperity', in A. Hooper and J. Punter (eds.), *Capital Cardiff 1975-2020: Regeneration, Competitiveness and the Urban Environment*, University of Wales Press: Cardiff, 47-70.

Brooksbank, D. Morse, L. Thomas, B. and Clifton, N. (2001) 'An assessment of the management and practice of training for businesses in South East Wales', *International Journal of Applied Management*, 2 (3), 79-106.

Cardiff & Co. (2010) *Cardiff the Capital Opportunity: Life Sciences*, Cardiff: Cardiff & Co.

Cardiff Council (2010) *Cardiff Today: 2010 Edition*, Cardiff: Cardiff Council.

Carpenter, R. E. and Petersen, B. C. (2002) 'Is the growth of small firms constrained by internal finance?', *Review of Economics and Statistics*, 84 (2), 298-309.

Cefis, E. and Marsili, O. (2006) 'Survivor: the role of innovation in firm's survival', *Research Policy*, 35 (5), 626-641.

Christensen, C. M. (1997) *The innovator's dilemma: When new technologies cause great firms to fail*, Boston, MA: Harvard Business School Press.

Christensen, C. M. and Raynor, M. E. (2003) *The innovator's solution: Creating and sustaining successful growth,* Boston, MA: Harvard Business School Press.

Clifton, N. Keast, R. Pickernell, D. and Senior, M. (2010) 'Network structure, knowledge governance, and firm performance: evidence from innovation networks and SMEs in the UK', *Growth and Change*. 41 (3), 337-373.

Colombo, M. G. and Grilli, L. (2005) 'Founders' human capital and the growth of new technology-based firms: a competence-based view', *Research Policy*, 34 (6), 795-816.

Cooke, P. and Clifton, N. (2007) *Technology, Talent and Tolerance in European Cities: A Comparative Analysis. End of Award Report*, Grant No. RES-000-23-0467, Swindon: ESRC.

Cooke, P. Clifton, N. and Oleaga, M. (2005) 'Social capital, firm embeddedness and regional development', *Regional Studies*, 39 (8), 1065-1077.

Cooper, A. C. Gimeno-Gascon, F. J. and Woo, C. Y. (1994) 'Initial human capital and financial capital as predictors of new venture performance', *Journal of Business Venturing*, 9 (5), 371-396.

Cosh, A. Hughes, A. and Weeks, M. (2000) 'The Relationship Between Training and Employment Growth in Small and Medium-Sized Enterprises', *Cambridge University, Centre for Business Research Working Paper*, WP188.

Dawson, A. (2011) 'Private equity investment decisions in family firms: the role of human resources and agency costs', *Journal of Business Venturing*, 26 (2), 189-199.

Delpierre, M. Madeuf, B. and Savoy, A. (1997) 'NTBFs – the French case', *Research Policy*, 26 (9), 989-1003.

Foreman-Peck, J. Makepeace, G. and Morgan, B. (2006) 'Growth and profitability of small and medium-sized enterprises: some Welsh evidence', *Regional Studies*, 40 (4), 307-319.

Freel, M. S. and Robson, P. (2004) 'Small firm innovation, growth and performance: Evidence from Scotland and Northern England', *International Small Business Journal*, 22 (6), 561-575.

Fuller, D., Beynon, M., and Pickernell, D. (2019). Indexing third stream activities in UK universities: exploring the entrepreneurial/enterprising university. *Studies in Higher Education*, 44(1), 86-110.

Gibson, B. and Cassar, G. (2002) 'Planning behavior variables in small firms', *Journal of Small Business Management*, 40 (3), 171-186.

Glen, W. and Weerawardena, J. (1996) 'Strategic planning practices in small enterprises in Queensland', *Small Enterprise Research*, 4 (3), 5-16.

Grant, R. and Baden-Fuller. C. (2004) 'A knowledge accessing theory of strategic alliances', *Journal of Management Studies*, 41 (1), 61–84.

Gray, C. (2002) 'Entrepreneurship, resistance to change and growth in small firms', *Journal of Small Business and Enterprise Development*, 9 (1), 61-72.

Gray, C. and Lawless, N. (2000) 'Innovations in the distance development of SME management skills', *European Journal of Open, Distance and E-Learning*, *http://www.eurodl.org/?p=archives&year=2000&article=77*. [Accessed 20 th May 2010].

Hansen, B. and Hamilton, R. T. (2011) 'Factors distinguishing small firm growers and non-growers', *International Small Business Journal*, 29 (3), 278-294.

Harindranath, G. Dyerson, R. and Barnes, D. (2008) 'ICT adoption and use in UK SMEs: a failure of initiatives?', *Electronic Journal of Information Systems Evaluation*, 11 (2), 91-96.

Harris, L. C. and Ogbonna, E. (2006) 'Initiating strategic planning', *Journal of Business Research*, 59 (1), 100-111.

Harris, R. and Robinson, C. (2001) *DTI Industrial Support Policies: A Critical Review of Empirical Research on Hindrances to Business Development and Productivity Growth and the Relative Importance of Different Constrains on UK Business*, London: DTI.

Havnes, P-A. and Senneseth, K. (2001) 'A panel study of firm growth among SMEs in networks', *Small Business Economics*, 16 (4), 293-302.

Hay, M. and Kamshed, K. (1994) 'Small firm growth: intentions, implementation and impediments', *Business Strategy Review*, 5 (3), 49-68.

Henley, A. (2005) 'On regional growth convergence in Great Britain', *Regional Studies*, 39 (9), 1245-1260.

Henrekson, M. and Johansson, D. (2010) 'Gazelles as job creators: a survey and interpretation of the evidence', *Small Business Economics*, 35 (2), 227-244.

Hill, R. and Stewart, J. (2000) 'Human resource development in small organizations', *Journal of European Industrial Training*, 24 (2), 105-117.

Hooper, A. (2006) 'Introduction: from 'Coal Metropolis' to 'Capital Cardiff'' in A. Hooper and J. Punter (eds.), *Capital Cardiff 1975-2020: Regeneration, Competitiveness and the Urban Environment*, Cardiff: University of Wales Press, 1-16.

Huggins, R. (2010) 'Forms of network resource: knowledge access and the role of interfirm networks', *International Journal of Management Reviews*, 12 (3), 335-352.

Huggins, R. and Johnston, A. (2009) 'Knowledge Networks in an Uncompetitive Region: SME Innovation and Growth', *Growth and Change*, 40 (2), 227-259

Huggins, R. Prokop, D. Thompson, P. Brooksbank, D. and Morgan, B. (2012) *Sustainable entrepreneurship in Wales: A Study of the Factors Underpinning New Venture Survival*, Cardiff: Cardiff University.

Huggins, R., Izushi, H., Prokop, D., & Thompson, P. (2014). *The global competitiveness of region*s. London: Routledge.

Irani, Z. Ezingeard, J-N. and Grieve, R. J. (1997) 'Integrating the costs of a manufacturing IT/IS infrastructure into the investment decision-making process', *Technovation,* 17 (11/12), 695-362.

Jehangir, M. Dominic, P. D. D. and Downe, A. G. (2011) 'Business resources impact on e-commerce capability and e-commerce value: an empirical investigation', *Trends in Applied Sciences Research*, 6 (9), 1063-1070.

Jones, P., Beynon, M. J., Pickernell, D., and Packham, G. (2013). Evaluating the impact of different training methods on SME business performance. *Environment and Planning C: Government and Policy*, 31(1), 56-81.

Kirchhoff, B. A. (1996) 'Self-employment and dynamic capitalism', *Journal of Labor Research*, 17 (4), 627-643.

Kitching, J. and Blackburn, R. (1998) 'Intellectual property management in the small and medium enterprise (SME)', *Journal of Small Business and Enterprise Development*, 5 (4), 327-335.

Lock, D., and Hinxman L., (2018) Building an executive education team:
Leadership, infrastructure and culture: A White Paper from the Chartered ABS
Executive Education Committee, Chartered Association of Business Schools https://charteredabs.org/wp-content/uploads/2018/10/Chartered-ABS-How-to-Build-an-Executive-Education-Team.pdf (last accessed: 030519)

Morgan, B. (2002) 'Higher education and regional economic development in Wales: an opportunity for demonstrating the efficacy of devolution in economic development', *Regional Studies*, 36 (1), 65-73.

Narula, R. (2004) 'R&D collaboration by SMEs: new opportunities and limitations in the face of globalisation', *Technovation,* 24 (2), 153-161.

Kotey, B. and Folker, C. (2007) 'Employee training in SMEs: effect of size and firm type – family and nonfamily', *Journal of Small Business Management*, 45 (2), 214-238.

MacKay, R. R. (2002) 'Regional contrasts', *Welsh Economic Review*, 14 (2), 37-40.

Matthews, C. H. and Scott, S. G. (1995) 'Uncertainty and planning in small and entrepreneurial firms: an empirical assessment', *Journal of Small Business Management*, 33 (4), 34-52.

OECD (2010), *OECD Reviews of Innovation Policy: Synthesis of Country Reports*, Paris: Organisation for Economic Co-operation and Development.

O'Regan, N. and Ghobadian, A. (2002) 'Effective strategic planning in small and medium sized firms', *Management Decision*, 40 (7), 663-671.

Peel, M. J. and Bridge, J. (1998) 'How planning and capital budgeting improve SME performance', *Long Range Planning*, 31 (6), 848-856.

Phua, S. and Jones, O. (2010) 'Marketing in new business ventures: examining the myth of informality', *International Journal of Entrepreneurship and Innovation Management*, 11 (1), 35-55.

Pickernell, D., Packham, G., Thomas, B., & Keast, R. (2008). University challenge? Innovation policy and SMEs in Welsh economic development policy: Towards a new framework. The International Journal of Entrepreneurship and Innovation, 9(1), 51-62.

Pickernell, D. Packham, G. Jones, P. Miller, C. and Thomas, B. (2011) 'Graduate entrepreneurs are different: they access more resources?', *International Journal of Entrepreneurial Behaviour and Research*, 17 (2), 183-202.

Pickernell, D., Ishizaka, A., Huang, S., and Senyard, J (2019-forthcoming) Entrepreneurial university strategies in the UK context: Towards a research agenda, *Management Decision*.

Parkinson, M. and Karecha, J. (2006) *Cardiff: A Competitive European City? – Final Report*, Cardiff: European Institute for Urban Affairs.

Rerup, C. (2005) 'Learning from past experience: footnotes on mindfulness and habitual entrepreneurship', *Scandinavian Journal of Management*, 21 (4), 451-472.

Risseeuw, P. and Masurel, E. (1994) 'The role of planning in small firms: empirical evidence from a service industry', *Small Business Economics*, 6 (), 313-322.

Robson, P. and Bennett, R. (2000) 'SME growth: the relationship with business advice and external collaboration', *Small Business Economics*, 15 (3), 193-208.

Robertson, P. Smith, K. and von Tunzelmann, N. (2009) 'Innovation in low and medium-technology industries', *Research Policy*, 38 (3), 441-446.

Roper, S. (1999) 'Modelling small business growth and profitability', *Small Business Economics*, 13 (3), 235-252.

Rosenbusch, N. Brinckman, J. and Bausch, A. (2011) 'Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs', *Journal of Business Venturing*, 26 (4), 441-457.

Simon, J. C. Kaiser, K. M. Beath, C. Goles, T. and Gallagher, K. (2007) 'Information technology workforce skills: does size matter?', *Information Systems Management*, 24 (5), 345-359.

Simon, M. Houghton, S. M. and Aquino, K. (2000) 'Cognitive biases, risk perception, and venture formation: how individuals decide to start companies', *Journal of Business Venturing*, 15 (2), 113-134.

Smallbone, D. J. North, D. and Leigh, R. (1992) 'Managing change for growth and survival: the study of mature manufacturing firms in London during the 1980s', Planning Research Centre, Middlesex Polytechnic, Working paper #3.

South East Wales Economic Forum (2010) *Enter the Dragon Economy: Review 2010*, Cardiff: SEWEF.

Stonehouse, G. and Pemberton, J. (2002) 'Strategic planning in SMEs – some empirical findings', *Management Decision*, 40 (9), 853-861.

Storey, D. J. (1994) *Understanding the Small Business Sector*, London: Routledge.

Tell, J. (2012) 'Managerial strategies in small, fast-growing manufacturing firms', *Journal of Management Development*, 31 (7), 700-710.

Thompson, P. Brooksbank, D. Jones-Evans, D. and Kwong, C. (2007) 'Who are the Innovative Entrepreneurs?', *Paper presented at the ISPIM Conference,* 17th - 20th June, Warsaw: Poland.

Thorpe, R. Holt, R. Macpherson, A. and Pittaway, L. (2005) 'Using knowledge within small and medium-sized firms: a systematic review of the evidence', *International Journal of Management Review*, 7 (4), 257-281.

Van Praag, C. M. and Versloot, P. H. (2008) 'The economic benefits and costs of entrepreneurship: a review of the research', *Foundations and Trends in Entrepreneurship Research*, 4 (2), 65-154.

Walker, E. and Brown, A. (2004) 'What success factors are important to small business owners?', *International Small Business Journal*, 22 (6), 577-594.

Wang, C. Walker, E. A. and Redmond, J. (2007) 'Explaining the lack of strategic planning in SMEs: the importance of owner motivation', *International Journal of Organisational Behaviour*, 12 (1), 1-16.

Wen, H. J. Chen, H-G. and Hwang, H-G. (2001) 'E-commerce Web site design: strategies and models', *Information Management and Computer Security*, 9 (1), 5-12.

Woolcott, G., Keast, R., and Pickernell, D. (2019) Deep impact: re-conceptualising university research impact using human cultural accumulation theory, *Studies in Higher Education*, DOI: 10.1080/03075079.2019.1594179

Yli-Renko, H. and Autio, E. (1998) 'The network embeddedness of new technology-based firms: developing a systematic evolution model', *Small Business Economics*, 11 (6/7), 253-267.

Yli-Renko, H. Autio, E. and Sapienza, H. J. (2001) 'Social capital, knowledge acquisition, and knowledge exploitation in young technology-based firms', *Strategic Management Journal*, 22 (6/7), 587–613.

Zhu, K. Xu, S. and Kraemer, K. L. (2006) 'The global diffusion and convergence of E-commerce: cross-country analyses', in K. L. Kraemer, J. Dedrick, N. P. Melville and K. Zhu (Eds.), *Global E-Commerce: Impacts of National Environment and Policy*, Cambridge University Press: Cambridge, 345-384.

Biographies

Nick Clifton is Professor of Economic Geography and Regional Development at Cardiff Metropolitan University

Robert Huggins is Professor of Economic Geography and Director of Research and Innovation in School of Geography and Planning at Cardiff University

David Pickernell is Professor of Small Business and Enterprise Development in the Faculty of Business and Law at the University of Portsmouth

Daniel Prokop is a Lecturer in Economic Geography in the School of Geography and Planning at: Cardiff University

David Smith is a Visiting Fellow at Portsmouth Business School, University of Portsmouth, after retiring from his role as Associate Dean, Innovation and Business Engagement.

Piers Thompson is an Associate Professor in the Economics Department of Nottingham Business School at Nottingham Trent University

Table 1 Growth of Respondent Firms

Growth Measure	Sub-Group of Respondents	Growth Rate
Average growth rate of revenues	All	102.5%
Average growth rate of employment	All	39.5%
Rate of growth before recession	Fast	10.8%
	Good	26.7%
	Slow	41.7%
	None	18.3%

Table 2 – Self-assessed growth of respondent firms before the recession

			Industry		Firm Size		
Growth measure	**Sub-group of respondents**	**All**	**Secondary**	**Tertiary**	**Micro**	**Small**	**Medium**
Rate of growth before recession	Fast	10.8%	4.8%	14.3%	8.6%	9.7%	8.3%
	Good	26.7%	28.6%	26.0%	25.9%	29.0%	58.3%
	Slow	41.7%	40.5%	42.9%	46.6%	45.2%	25.0%
	None	18.3%	26.2%	14.3%	19.0%	16.1%	8.3%
Constraints on growth	Lack of finance	28.1%					
	Content with current sales	23.1%					
	Declining market size	21.5%					
	Level of competition	19.0%					
	Shortage of skilled labour	16.5%					
	Other	16.5%					

Table 3 – Improvements made by firms

		Proportion of respondents
Process innovations		55.4%
Product innovations	To existing products	45.3%
	Composition of product range	43.8%
Marketing innovations	Method of marketing	38.0%
	Target customer groups	34.7%
Energy efficiency/emissions reduction		9.9%
Other innovations		12.4%

Table 4 – Formal plans possessed by companies

		Proportion of firms
Plans possessed	Business plan	60.3%
	Financial plan	38.0%
	Marketing plan	26.4%
	None	28.9%
	More than one	36.4%
	All three plans	24.8%
Author of documents	Owner/managing director	33.9%
	Management team	38.0%
	Consultants	9.9%
	Multiple authors	5.8%

Table 5 – Commitment to and importance of networking activities

		All	Secondary	Tertiary
Time spent on networking per month by sector	Less than 5 hours	68.4%	70.0%	67.6%
	5 to 10 hours	20.2%	25.0%	17.6%
	More than 10 hours	11.4%	5.0%	14.9%
		Micro	Small	Medium
Time spent on networking per month by firm size	Less than 5 hours	75.0%	61.3%	58.3%
	5 to 10 hours	17.9%	22.6%	25.0%
	More than 10 hours	7.1%	16.1%	16.7%
		All	Secondary	Tertiary
Importance of networking activities by sector	Very important	17.1%	12.2%	19.7%
	Quite important	25.6%	26.8%	25.0%
	Slightly important	35.0%	36.6%	34.2%
	Not important	22.2%	24.4%	21.1%
		Micro	Small	Medium
Importance of networking activities by firm size	Very important	17.2%	19.4%	0%
	Quite important	27.6%	29.0%	25.0%
	Slightly important	34.5%	25.8%	50.0%
	Not important	20.7%	25.8%	25.0%

Table 6 – Nature of networking activities

	Type of network	Proportion of residents
Membership of networking associations	Trade association	36.4%
	Business clubs	24.8%
	Chamber of commerce	15.7%
	Supplier association	5.0%
	Other	14.0%
Motivation for network membership	Market information	24.0%
	Customer relations	33.9%
	Supplier relations	6.6%
	Investor relations	4.1%
	Employee relations	2.5%
	To socialise	6.6%
	Other	9.9%

Table 7 – Networking and planning activities influence on growth

Models	**1**		**2**	
	GZLM		**GZLM (robust)**	
Formal plans	**2.25E+00**	**(0.029)**	**2.25E+00**	**(0.093)**
Welsh growth by SIC4 sectors	-9.56E-02	(0.519)	**-9.56E-02**	**(0.022)**
Recession effect	**-2.16E+00**	**(0.016)**	-2.16E+00	(0116)
Composition of range of products or services	5.45E-01	(0.460)	5.45E-01	(0.431)
Ways of operating	-5.63E-01	(0.489)	-5.63E-01	(0.591)
Methods of marketing	-6.89E-01	(0.393)	-6.89E-01	(0.403)
Trade association membership	-8.04E-01	(0.272)	-8.04E-01	(0.198)
Constant/intercept	1.64E+00	(0.110)	1.64E+00	(0.116)
Observations	78		78	
Log-likelihood	-1.99E+02		-1.99E+02	
Regression (*df*)	7		7	
Residual	70		70	
Total	77		77	

Notes: p-values significance levels in parentheses; emboldened values significant at 10 percent level

Table 8 – Planning and budgets associated with training

	Respondent group	Proportion of respondents
Proportion with a training budget	Secondary	40.5%
	Tertiary	39.5%
	Micro	23.7%
	Small	58.1%
	Medium	100%
Size of training budget (mean)	2005/06	£10,024
	2008/09	£24,252
	Secondary 2008/09	£25,987
	Tertiary 2008/09	£23,347
	Micro 2008/09	£5,587
	Small 2008/09	£21,731
	Medium 2008/09	£46,595
Important of skills training	Very important	40.5%
	Quite important	26.7%
	Slightly important	24.1%
	Not important	8.6%
Training moderate or highly important	Secondary	73.4%
	Tertiary	63.5%
	Micro	61.1%
	Small	83.9%
	Medium	91.6%