Understanding business performance. Exploring the relative contribution of context, strategy and owner managers' characteristics.

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The objective of this paper is to examine the ways in which entrepreneurial characteristics interact with the organizational context and strategy of the enterprise to influence the performance of businesses. This builds on a growing body of literature seeking to understand the relative importance of structural and agency factors in business performance. This area has received a number of multivariate quantitative approaches, including principal components analysis of managerial behaviour. Earlier research found that entrepreneurial style, not management behaviour, was positively associated with the probability that a firm would be a high-growth type.

Following the conceptual framework the paper outlines the factors for investigation into three areas: *business characteristics*, *owner manager characteristics* and *business strategy*. With regard to *business characteristics*, it was anticipated that there would be major differences in the performance of firms according to sector, size and age of enterprise. The influence of the *owner-manager* over the performance of the enterprise is

debatable. Whilst qualitative studies emphasise the overwhelming influence of owners on business goals, processes and performance, quantitative surveys continue to strive to account for the multidimensional nature of the phenomenon. Conventional factors within this area include demographic characteristics such as age of business owner, educational levels and gender. This paper includes entrepreneurship factors, captured through a series of statements which included, for example, whether business owners considered themselves to be ‘21st Century entrepreneurs’ or a ‘traditional business owner’, and whether they were ‘happy to take risks provided the rewards were high’ or they ‘make decisions based on known facts’. Our research here was to some extent exploratory since no prior studies had covered owner-manager characteristics in this manner. Some of these factors it may be argued will influence the choice of strategy and its implementation significantly. What constitutes *business strategy* is of course open to discussion. We cover the notion of business strategy through a range of variables to embrace the way in which businesses plan resource use (marketing, human resource), evidence of the take-up of new technologies in their products and processes and involvement in external collaboration. It was anticipated that there would be a positive relationship between evidence of these factors and business performance.

One methodological problem in this research there are problems of establishing causality with quantitative studies and the relationships are not simply linear. This paper will use 'path analysis' to explore an original data set of 360 business employing 5 – 249 employees. We utilise three main measures of business performance including, employment change over the previous two years (2000-2002); turnover change for the previous three years (in real terms, 1999-2002); and profitability (whether or not the business had made profits over each of the previous two years).

The objective here is to make the ‘right hand side’ of a more traditional regression analysis approach work a little harder by exploring the anticipated complex set of relationships between the independent variables and to understand more clearly the ways in which the different types of entrepreneurial traits, demographics (age, gender), attributes (education), business strategy and firm characteristics (age, size, sector) impact upon firm performance. The purpose of a regression analysis is to estimate the individual *causal* influences each regressor exerts on the outcome. What we are seeking to do with the causal modelling approach proposed here is to identify which variables are direct causes and which are direct effects – an exploration of the full set of causal structures in the dataset. With this information causal regressor can be selected whose *precise* influence can then be estimated with any regression.

The results suggest that size and age of enterprise dominate performance and are more important than strategy and entrepreneurial characteristics of the owner. The outcomes of the paper have both theoretical and policy implications contributing particularly to the policy debate on how state interventions may influence business performance.

INTRODUCTION

The objective of this paper is to examine the ways in which entrepreneurial characteristics interact with the environment of the business to affect business performance. This builds on a growing body of literature and should also contribute to the policy debate on how government agencies can help small firms achieve faster rates of growth. The analysis contributes to earlier work which seeks to develop and test conceptual frameworks for an understanding of the determinants of small firm growth (see for example, Storey, 1994; Barkham *et al.*, 1996; Hart and Gudgin, 1999; Westhead and Wright, 2000; Roper *et al.*, 2001; Hart and Roper, 2004). Sadler-Smith et al. (2003) using principal components analysis of management competence inventory identified six broad categories of managerial behaviour. They found that entrepreneurial style, not management behaviour, was positively associated with the probability that a firm would be a high-growth type. Alternatively, Wiklund and Shepherd found mixed results when examining the effects of 'entrepreneurial orientation' on business performance. The main point to note from this brief overview of research is that there are problems of establishing causality with quantitative studies and the relationships are not simply linear.

Nevertheless, researchers tend to agree on the need to consider both organisational *and* owner manager characteristics in understanding business growth. For example, the multi-variate model of small firm growth, developed from an UK inter-regional study (Barkham, *et al*, 1996), identified six characteristics of managers and 11 aspects of managerial strategy which, along with variables controlling for size, sector and region, accounted for half of the difference in turnover growth between small firms. This paper seeks to assess the relative contribution of firm, strategy and owner-manager characteristics to business performance. The novelty of the analysis is within the area of owner-manager characteristics that are developed to include a typology of entrepreneurial styles, generated from the self-definitions of respondents. These variables are then utilised within a series of multivariate logit models of small firms' growth, which have the advantage of controlling for firm, strategy and owner-manager characteristics to offer some indication of relative importance of these different factors on business performance.

BUSINESS PERFORMANCE: CONTEXT

It is may be argued that a certain size of business represents a significant break point in the structure of enterprise where a minimum efficient size is more likely to have been met and more systematic methods of management and operations have to take place. It is also arguable that these enterprises may play a more important role in economic growth and are run by employers with aspirations of growth and who are prepared to take on employees. This paper is therefore based on a study that targeted small firms employing between 5 and 249 people. However, even within this size cohort, there will be vast differences in performance and it is this variation that we seek to explore.

In seeking to classify the causes of this variation in performance, the paper will discuss a range of personal, organisation and strategic factors. Following a discussion of these relationships the paper will then discuss the results within a multivariate framework. We utilise three main measures of business performance:

1. employment change over the previous two years (2000-2002);

2. turnover change for the previous three years (in real terms, 1999-2002);
3. and profitability (whether or not the business had made profits over each of the previous two years).

Following the conceptual framework outlined earlier, the paper groups the factors for investigation into three linked areas: *business characteristics*, *owner manager characteristics* and *business strategy*.

With regard to *business characteristics*, it was anticipated that there would be major differences in the performance of firms according to sector, size and age of enterprise. Enterprises in services, as in the overall economy, were expected to show higher levels of performance in this period than those in manufacturing. The UK manufacturing sector has declined dramatically in the past decade and has been subject to massive cost competition from overseas. In line with all major studies of small firm growth the size and age of business were expected to be negatively associated with business growth with larger and older firms in the sample expected to display lower levels of growth. Much of the economic literature on the determinants of small firm growth and development has tended to focus on a combination of a life cycle effect (i.e., younger small firms grow faster than older small firms) and economic variables, especially financial variables, for an explanation of growth (see for example, Acs and Audretsch, 1990; Dunne and Hughes, 1990; Reid, 1993).

The influence of the *owner-manager* over the performance of the enterprise is debatable. Within economics there persists an allegiance to a model of small firm growth which tends to deny the role to the owner-manager or entrepreneur. Consequently, the discipline tends to engage in empirical enquiry into the growth of small firms which fails to address the key questions of entrepreneurial characteristics and motivations and how they may be translated into business strategy (Barkham *et al.*, 1996). There also appears to be mixed results regarding the influence of the owner-manager phenomenon. Whilst qualitative studies of small firm emphasise the overwhelming influence of owners on business goals, processes and performance, as discussed earlier, quantitative surveys have struggled to adequately capture the multidimensional nature of the phenomenon. Conventional factors within this area include demographic characteristics such as age of business owner, educational levels and gender (for a review, see Westhead and Wright, 2000). Our study sought to embrace a methodological 'innovation' in this area by including owner-manager self-definitions of business style. This was captured through a series of statements which included, for example, whether business owners considered themselves to be '21st Century entrepreneurs' or a 'traditional business owner', and whether they were 'happy to take risks provided the rewards were high' or they 'make decisions based on known facts'. Our research here was to some extent exploratory since no prior studies had covered owner-manager characteristics in this manner. Some of these factors it may be argued will influence the choice of strategy and its implementation significantly.

What constitutes *business strategy* is of course open to discussion. Storey for example defines this "…to be the actions which are taken by the small business owner once in business" (1994: 144). We sought to cover the notion of business strategy through a range of variables which attempt to embrace the way in which businesses plan resource use (marketing, human resource), show evidence of the take-up of new technologies in their products and processes and involvement in external collaboration. It was anticipated that there would be a positive relationship between evidence of these factors and business performance.

Overall, whilst the paper seeks to contribute to the accumulation of knowledge on the factors influencing business performance based on *a priori* reasoning, it also introduces new issues to the research agenda. Further, our study sought to gauge the relative strength of the above three areas (i.e., firm characteristics, business owner traits and choice of business strategy) on business performance.

METHODOLOGICAL CONSIDERATIONS

Macro surveys of small firms in the UK are now relatively plentiful (e.g. Small Business Service, 2004; Bank of England, 2002; ESRC Centre for Business Research, 2003). This paper draws on a telephone survey of 360 businesses employing between 5-249 people selected randomly within a stratification criteria based on employment size, age of business and sectorAlthough this size cohort constitutes 10.6 per cent of all enterprises in the UK, it is argued that it comprises a dynamic segment as it excludes part-time and one-person firms. If businesses with no employees are discounted, the segment makes up approximately one third of all UK firms and one third of private sector employment (SBS, 2003). The sample of enterprises was stratified to cover a range of sectors chosen on the grounds of meeting aims of understanding diversity within a dynamic business population and having a sufficient level of coherence for analysis (Table 1). . The sample was drawn from Southern England, a region that has been shown to be particularly dynamic. Firms in agriculture were excluded from the survey.

TABLE 1 BUSINESS CHARACTERISTICS

Financially, the businesses showed a broad range of turnover (Table 2). Approximately half of the businesses had a turnover of less than £500,000 and a half over £500,000. Over a half of the enterprises in the sample were Private Limited Companies (53.3per cent compared with 21 per cent in the UK as a whole) and just over a quarter (25.8 per cent cf 29 per cent) as Partnerships. The over-representation of Limited companies is most probably a reflection of the omission of firms employing less than five people in the sample.

TABLE 2

Often the age of an enterprise influences its organisational, process and product characteristics. In this sample, less than one-third of the businesses were less than five years old and a third more than 20 years old, and had averages of 12 (median) and 24.4 (mean) years. This reflects the deliberate sampling strategy that aimed to investigate older as well as younger enterprises. Only a small percentage of businesses survive in the long-term; for example, less than one-third of business start-ups survive for five years (SBS, 2003). This means that random samples of small firms will contain a large proportion of young firms. As expected, there was a strong positive correlation between age of owner-manager and age of business confirming the commonly held view that business owners stick with their enterprise if successful.[1]

[1] Chi-square 51.824, df. 2, sig <0.000.

In this sample the average employment size of enterprise was 15.6 (mean) and 10 (median) people. The distribution of males and females in the enterprises was even, reflecting the higher than average employment of females in small firms compared with the labour force as a whole. The majority of those employed by the sample were full-time staff, although approximately one-third were part-time. As expected, the composition of those employed in the enterprise varied according to business sector (Table 3). This is likely to be influenced by the minimum efficient scale necessary to operate in the sectors (i.e. business context factors) as well as strategic and more personal owner manager influences.

TABLE 3

The larger SMEs were in Manufacturing and Creative and Marketing whilst the smallest were in Wholesale, Retail and Distribution and Consumer Services, reflecting the characteristics of businesses in these sectors. However, there were also major differences in the gender composition of the labour force of these businesses. Enterprises in Consumer Services and Hotels and Catering were much more likely to employ females and in Creative and Marketing they were the majority of staff in the enterprise. In contrast females contributed to less than a third of those in manufacturing firms. An examination of the average per cent of staff who are full-time also showed some major differences (Table 3). Manufacturing firms were much more likely to have full-time staff (87.9 per cent of all their staff) in contrast to Hotels and Catering (39.1 per cent). These comparisons of mean scores show the diversity in employment needs of SMEs and their contribution to the economy through the variations in employment patterns.

On average, a small percentage of *total* customers (5.9 per cent) were classified as international, although over one-third of respondents (34.3 per cent) claimed to have *some* international trade. This is above the percentage of international trade carried on by small firms reported in other studies and can be partly explained by the omission of very small firms in the sample (employing less than five) and the focus on specific sectors. However, international clients generally accounted for a low percentage of the customer base. In only 2 per cent of businesses did international customers account for more than 50 per cent of the base, and for most (92.3 per cent) it was less than 10 per cent.

OWNER-MANAGER CHARACTERISTICS

Age of Owner-managers

Just over one-third of owner-managers were in their 40s, and the sample overall had an average age of 46 (Table 4). This reflects the age distribution of owner-managers in the business population as a whole. In the UK, common age-windows for business start-ups are middle-age and post-retirement (Curran *et al.,* 1991). Two-thirds of the respondents in the survey were founders or co-founders of the business. This adds significant validity to the findings, in that respondents were able to answer most of the questions in the survey with authority.

TABLE 4

Gender composition

The importance of women business ownership has been shown to be increasing both in the UK and internationally (Carter *et al.*, 2001). Although detailed aggregate data on the female business ownership is inadequate, estimates suggest that they constitute around 26 per cent of all SMEs (Carter *et al.*, 2001:17). Over a quarter of the respondents in the sample were females thus ensuring a fair representation of female business owners in the analysis.

Educational Qualifications of Business Owners

Recently, the educational levels of business-owners have been shown to be on the rise (compared with that of the working population as a whole). The educational levels of business owners have also been shown to have a positive association with business performance and growth. In this sample of business owners, there was diversity in the reported highest educational qualification (Table 5).

TABLE 5

The results of the survey are significant in the finding that over a quarter of the sample hold a degree or higher qualification. Professional qualifications included those that entailed an examination or assessment such as accountants, hotel management (HCIMA) and electrical and civil engineers. In contrast, only just over one in 10 business owners held no educational qualifications. These findings compare favourably with the business population as a whole and are probably a result of the focus on larger small firms and on particular sectors. The results also confirm the rise in the education level of business owners. A detailed analysis revealed that younger business owners were more likely to have experienced education than older owner managers.[2]

Membership of professional organisations and trade bodies has been shown to be an important aspect of business owners' networking activities particularly in certain sectors (North *et al.*, 1997). Others have suggested that networking is also related to the

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[2] An analysis of age group of owner-manager by education levels showed younger business owners to be more likely to have a formal qualification. Chi-square 13.646, df 4, sig 0.009.

performance of the enterprise. In this survey, a third of respondents were members of a professional organisation or trade association ranging, for example, from the ICAEW, ACCA, the British Institute of Innkeeping, the Guild of Master Craftsmen, the Chartered Institute of Marketing and the Law Society.

Owner-Managers' Business Style

Whether or not business owners consider themselves to be trail-blazing entrepreneurs or more sedate life-style owner-managers is a subject that has received much attention and debate. Certainly, research to date has shown that businesses are started for a variety of reasons and that their owners have a diversity of motivation and management styles. Owner-managers in this survey were asked to rate themselves against either/or statements that reflected their likelihood to innovate, act opportunistically and independently, use new technologies, take risk, become bored easily, or seek out publicity. The heterogeneity of the SME population is displayed further in the results (Table 6).

Overall, the majority of these respondents consider themselves traditional business owners, taking opportunities whenever they can but basing decisions on known facts and retaining a low profile. The majority of respondents also show some element of conservatism in the use of new technologies, instead preferring to wait for systems to be tried and tested. The adoption of new technologies was not associated with the age of the owner (see Blackburn and Stokes, 2002: Table 3.9). The results also confirm the stereotypical view of business owners having a desire for independence and a reluctance to plan well in advance. The relatively high percentage (43.6 per cent) classifying themselves as ‘restless’ and ‘easily bored’ are also confirming another common entrepreneurial trait.

TABLE 6

BUSINESS STRATEGY

Business Planning

Advice given to new owner-managers in textbooks, by consultants and support agencies tends to emphasise the need to carefully plan business ventures. Yet, few owners formally plan their business unless required to do so to raise finance. Some research evidence also cast doubts on the value of planning, as it is difficult to establish causal links between formalised strategic planning in small firms and improved performance. Other studies have however linked planning to growth, particularly after the start-up phase, with fast growing firms more likely to have a business plan than more stagnant businesses (Smallbone and Wyer, 2000). Whether such planning actually helps small firms develop into larger ones, or whether it is just a characteristic they tend to adopt when they become bigger, is less clear.

TABLE 7

The findings of this research are interesting in the context of this conventional wisdom in that a significant proportion of owners claimed to have a plan (Table 7). Over two-thirds (67.8%) claimed to have a business plan, although many (31.4%) said this was informal, with 36.4% answering that they had a written plan.

Use of Computers and New Technologies

Use of computers throughout the sample of enterprises was widespread although one in 10 has resisted the IT ‘revolution’ and do not use a computer (Table 8). The most popular use for the computer was for word processing followed by book-keeping and accounts. What is interesting here is the high use of computers for email, which is more common than the use for more conventional systems including sales ledgers, personnel records, payroll and a client database.

TABLE 8

The figures in Table 8 also reflect the inexorable rise in the use of the internet by SMEs for both buying and selling goods and services. Six out of 10 businesses claimed to have a website and almost a third (31.2 per cent) of respondents said that customers could order their goods and services on the internet. This provides some validation for government initiatives promoting the use of information and communication technology (ICT) in small firms (such as UK Online for Business). However, what is not investigated here is the proportion of turnover generated by sales via the internet. Businesses not using a computer were more likely to be run by females (19.4 per cent did not have a computer compared with 8.8 per cent males), owners who considered themselves to prefer to 'stick to what they know best' and be operating in hotels and catering and consumer services.[3]

There were distinctive characteristics of firms using computers for particular reasons. In many cases, size of firm showed a strong correlation with the specific use for computers. Larger firms were much more likely to use computers for accounting, payroll and client database. They were also more likely to use email. Firms in manufacturing and business and professional services were also much more likely to have computers embedded in their day-to-day business activities. However, no relationship was found between the age of the respondent or enterprise and the use of ICT, refuting the stereotype that it is younger business owners and younger enterprises that are more likely to use newer technologies.

We have already suggested that there are inevitable connections between how business owners defined themselves (the self definitions) and business strategy. Table 9 shows that there were distinctive relationships between those businesses having a 'plan' and these self-definitions of business style.

TABLE 9

A break down of the self-definitions of management style show that is it those who regard themselves as '21st Century Entrepreneurs', 'Innovative', 'Using the latest technologies' and 'Risk takers' who are also significantly more likely to have a business plan (Table 9). Those businesses that have a plan are also more likely to be larger and older. Those in Business and Professional Services and the Creative industries were also more likely to have a plan.

The above patterns to some extent confirm expectations. It is the businesses that are more likely to be undergoing change which appear to be following a plan. Planning also appears more important for the larger enterprises in the sample although it is not clear whether this is a result of the ability to plan because of more resources, or of a greater need to plan because of the complexity of these enterprises.

Collaborative Activity by Owner-Managers

[3] All these variables were statistically significant using the chi-square test of association ($p < 0.01$).

As well as the evidence on owner-managers' membership activity, we also sought to establish the extent of strategic collaboration with other organisations for specific purposes. Almost six out of 10 businesses were involved in some form of external collaboration. Clearly the reasons for external collaboration were market and resource based. For some, collaboration allows the extension into new markets without the commitment of valuable resources. For each of the activities cited, around a third of respondents were undertaking collaboration. These findings are in contrast to some descriptions of small business owners as isolationists who prefer to work on their own rather than seeking to collaborate with others. When examined further, a strong relationship between external collaboration and entrepreneurial type is revealed.

TABLE 10

Table 10 summarises a range of statistically significant patterns found in the data. As is expected those respondents who said that they were 'happy to work through joint ventures and share business with others' were much more likely to actually be involved in external collaboration. Across all the types of collaboration there appeared a statistical significant relationship with this self-defined business style and collaborative behaviour. The second most important relationships were found between the educational levels of business owners and collaborative activity. More highly educated business owners were more likely to be involved in collaboration involving developing joint ventures, extending network contacts and showing good business practice. Although the reasons for this higher level of activity is not apparent in the data, it is likely to be related to the networking confidence of these business owners as a result of education as well as the types of businesses that they are running. The results also reveal that it is younger business owners who were much more likely to be involved in joint ventures owners and to collaborate to share good business practice than older business owners. These findings add further weight to the theme that younger business owners not only have different self-definitions, but also put these into practice.

What was counter intuitive in the results was the absence of relationships between age of enterprise and size of enterprise. As a business matures it may be expected that the amount of external collaboration would increase. The analysis here shows no such relationship. There was, however, a strong positive relationship between the employment size of the firm and collaboration on joint ventures. Although the data cannot identify causality, it may suggest that firms are collaborating in order to expand. Owners seemed to be collaborating in order to expand their customer base (e.g. through networking), optimise their resources (e.g. by sharing workload), improve their business processes (e.g. sharing good practice), or exploit an opportunity (e.g. joint ventures).

BUSINESS PERFORMANCE

Measurements

As has been pointed out elsewhere, measuring business performance is complex because of the absence of tangible asset and profitability data as well as the subject nature of the phenomenon (Wang and Aug, 2004). In our sample, we expected to observe a great deal of variation in firm performance because of the different aspirations and capabilities of the owner-managers and the market context of these enterprises. Performance in this survey will be measured in three ways: turnover and employment growth and profits. Data on actual change in these measures was not obtained but rather owner-managers were asked to indicate the category into which their business performance fell. The majority of the SMEs surveyed reported that over the last three years, the value of their sales had grown consistently (Table 11) and only one in 10 had experienced decline. This is in contrast to the less than positive reports we have been given about the UK economy in that period (i.e., 1999 to 2002).

TABLE 11

TABLE 12

An analysis of employment changes over the past two years and five years confirm some variation in the employment performance of the enterprises (Table 12). Over the past two years almost six out of 10 businesses have expanded their workforce, while one in 10 have declined. The average employment gain by each enterprise was around two people (median 1.0, mean 2.8). Over the previous five years the data suggests a widening in the gap between a few fast growth enterprises and those in decline: the margins between the maximum employment gains and employment losses were greater. However, the average employment gain per firm was 4.9 (mean) or 2.0 (median) highlighting the fact that employment gains outweighed any losses.[4]

A third measure of business performance, showed that almost three-quarters of businesses reported making a profit in each of the last two years (Table 13).

TABLE 13

[4] Given the focus on firms employing five or more people, the employment growth figures are to be expected as we will be capturing micro-enterprises that have moved into this size band. The figures therefore appear a relatively healthy sample compared with surveys of small firms as a whole and so caution should be exercised when discussing the job generation capabilities of such enterprises. Care should also be exercised since this is an analysis of surviving firms and we are unable to take account of those that have closed.

However, the proportion of enterprises <u>not</u> making a profit in each of the past two years is higher than those reporting a decline in employment or turnover. On this analysis profitability appears to be the 'hardest' measure of business performance. Growing turnover and numbers employed was more commonly reported than increases in profitability. This shows that owner-managers must not just rely on growing the size of their business, but also on keeping overheads as low as possible.

A final measure of the performance of the enterprise was a subjective judgement of the owner-manager on the status of their enterprise. Interestingly, these self-assessments tended to suggest a marginally healthier picture than those based on actual results (or in this case the reporting of actual results). This may be a reflection of the often inherent optimism of business owners combined with an attempt to put a brave face on the situation when talking to outside researchers.

Table 14

In terms of sales and profits, the performance of the businesses in the sample has been relatively good. Over half (57.8 per cent) of owners reported that their businesses had grown overall over the previous three years, and one third (33.9 per cent) said that sales had increased consistently. Most (74.4. per cent) were profitable in each of the previous two years. When asked to sum up the financial status of their business, on a five point scale between 'thriving' and 'ailing', few respondents felt that they were doing badly or ailing (Table 14). These results contrast to more pessimistic news that emanated from larger businesses and equity markets at the time of the survey.

Analysis of the sample dataset revealed that there were a number of statistically significant relationships between business performance and both firm characteristics and traits of the owner-manager and the strategies they adopt in their businesses. In summary, those factors having a positive impact on business performance are, as might be expected from other studies, younger owner-managers (less than 50 years of age) and more recently established businesses (established since 1995). In addition, the attempt to introduce variables which captured the style of business management revealed that those owner-managers describing themselves as "innovators and creating change " and "risk takers" were more likely to be associated with a stronger business performance.

In contrast, owner-managers who described themselves as embracing new technologies as soon as possible were more likely to be negatively associated with growth in profits. There is little indication of the direction of causality, that is, whether businesses with low profits like to use new technologies as soon as possible or that using the latest technologies involves a cost that reduces profits.

A MULTIVARIATE ANALYSIS OF BUSINESS PERFORMANCE

A range of dichotomous Logit regression models were developed for the purpose of controlling for the range of determining variables affecting business performance as measured by growth in employment, turnover and profits. The advantage of this approach is that it can test the relationship between each variable and the dependent variable whilst controlling other key variables affecting firm growth. In this modeling the dependent variable is a dichotomous one. It takes the value of "1" if the business had grown and "0" otherwise. In estimating the coefficients of Logit, the maximum likelihood procedure is used.[5] Interpreting Logit regression output in terms of odds rather than probabilities confers certain advantages. Most important among these is that exp (β) is a single summary statistic for the partial effect of a given predictor on the odds, controlling for other predictors in the model. Logit is simply the log of the odds of being in one versus another category of the dependent variable. Table 15 summarises all the variables used in the modeling process and how these are coded for analysis. The structure of the models derive from the earlier discussion and are divided into '*Firm characteristics', 'Owner-manager characteristics' and Strategy'*.

TABLE 15

Table 16 presents the dichotomous logit model for ***employment growth***. In this model, employment growth (the dependent variable) takes the value of '1' if the business has grown and '0' otherwise. We would particularly like to focus on the odds ratios shown in the second column. The odds ratio associated with each coefficient is presented in Table 16. The odds ratio is a multiplicative coefficient which means that "positive" effects are greater than 1 while "negative" effects lie between 0 and 1. The odds ratio is the number by which one would multiply the odds of a business experiencing employment growth for each one unit increase in the independent variable. An odds ratio greater than 1 indicates that the odds of a business recording employment growth increases when the independent variable increases. In this case, an odds ratio of less than 1 indicates that the odds of a business growing in employment terms decreases when the independent variable increases, while estimates close to 1 indicate no effect on the odds. Table 16 presents the estimated odds ratios associated with the different explanatory variables. The chi-square

[5] Intuitively, the Logit model is easy to grasp given that the odds ratio represent the partial effects of predictors and are, therefore, analogous to partial slopes in regression.

statistic for the joint impact of all the explanatory variables on the dependent variable is significant (0.0032).

TABLE 16

When examining ***employment growth*** in relation to *business characteristics*, the results show that younger (established after 1995), smaller businesses and those in manufacturing are positively and significantly associated with growth in employment in the previous two years. There were no statistically significant differences in relation to owner-manager characteristics. However, in relation to *business strategy*, existence of a written business plan and having plans to expand the business in the next 5 years is positively associated with employment growth. The odds ratios of these variables are positive and exceed one. These results tend to downplay the significance of owner-manager characteristics in favour of situational factors. The finding that businesses in manufacturing have an odds ratio of 1.9 does suggest that there are some small firms that are expanding in employment. This may be a result of the sub-contracting of large firms production or indeed the establishment of new products and markets by such enterprises.

TABLE 17

Following a number of explorations in the data set, Table 17 presents the equation with the greatest explanatory power for ***turnover growth***. This model is relatively weak compared with the employment and profit models but is statistically significant. In this model, *firm characteristics* show no significant results. In relation to *owner-manager characteristics*, those who considered themselves to be ‘a 21st Century Entrepreneur’ were 1.5 times more likely to run businesses that actually experienced turnover change. However, it was the *strategy* area which showed the strongest statistically significant odds ratios in relation to turnover growth. Those that had plans to expand the business in the next five years were 2.5 times more likely to experience growth over the previous two years. Other factors were also important in contributing to the overall significance of this model, including those firms that were outside manufacturing and professional and business services, owner-managers with a degree and those not having problems in accessing finance. However, these variables were not statistically significant within the model.

A final measure of business performance is if the business had ***made a profit in each of the last two years*** (Table 18). In this model there appears to be a spread of influences between the three areas. In relation to *firm characteristics*, it appears to be firms that are older which are more likely to be making a profit. Profitability is also associated with smaller businesses and those in Professional services (although not stat. sig). This lends support to the notion that it is the owners who develop the most profitable businesses are those who are content to grow their businesses at a steady, unspectacular rate over a relatively long period. If we examine *owner-manager characteristics*, those that 'use new technology as soon as possible' are less likely to be making a profit (odds ratio 0.53). However, the most significant odds appear when we examine business strategy. Those businesses with plans to introduce new products or services and those who have little problems over accessing finance have statistically significant odds ratios. Indeed, within the model having plans to introduce new products or services increases the odds of having profits over the previous two years by 1.7 times. This relationship may be explained by the notion that it is those businesses that are making profits that are looking to invest and have little difficulty in securing funding. In contrast, those firms that are not making profits may be having to seek external finance and therefore are more likely to experience difficulties in raising finance.

CONCLUSIONS

This paper began by presenting a three-fold classification of the characteristics that, *a priori*, influence growth: business characteristics, owner-manager characteristics and business strategy. After a description of the variables and a bivariate analysis, Logit models were used to investigate possible relationships between the performance of the business (measured by changes in employment, turnover and profits) and the characteristics of the business, the owner manager and business strategy. The results showed different emphases according to different measures of performance. In other words the model has detected the complexity of understanding the contributions of differing factors to different business performance measures.

For *employment growth*, firm characteristics were dominant. Younger, larger businesses, with a written business plan, in manufacturing and run by owners who consider themselves to be '21st century entrepreneurs', were much more likely to have experienced higher employment growth. However, more *profitable businesses* tended to be older businesses, run by owner managers who were less likely to use new technology, had a business plan and access to finance. Owners who develop the most profitable businesses seem to be those who are prepared to grow their businesses at a steady, unspectacular rate over a relatively long period. The analytical approach was weakest in relation to understanding the factors associated with turnover change. Although the turnover model was statistically significant, only ‘plans to invest in the business’ came out as having a statistically significant odds ratio.

No variable emerged across all three models as dominant, although age of business was interesting. Younger businesses were more likely to grow in employment terms (odds ratio 3.3 if established after 1996) but older businesses were more likely to be profitable (odds ratio of 0.6 if established after 1996). Clearly the analysis shows that different constellations of factors are related to different performance outcomes.

What this paper has demonstrated is that there are clear structural *firm characteristic* constraints on small firm growth (age, size, and sector) which combine with some *strategic factors* and other, notoriously difficult to measure, *owner-manager characteristics*, to produce different performance outcomes. Such combinations of factors do not readily lend themselves to simple theories, such as Gibrat’s Law, or obvious and well-defined policy interventions. Further, whilst we would concur with the view that entrepreneurial orientation is important for business performance a greater emphasis made in relation to the environment in which the business operates and how this interacts with this environment (see eg Wiklund and Shepherd, 2005). An important conclusion to merge from the analysis that whilst owner-manager characteristics and business style are important, it appears that the structural conditions within which the enterprise operates, determine the parameters of the enterprise to perform in terms of employment growth. However, in relation to profitability, a broader range of factors are significant. The implications of these results underline the complexity of the process of small firm performance and growth and poses a challenge for those seeking to theorise on this phenomenon. Finally, the analysis would also suggest that there is a need to be careful about classifying businesses according to their ‘growth potential’ based on what may appear to be well-established measurable factors since the factors determining growth can change very rapidly.

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Table 1		
Distribution of Firms by Standard Industrial Classification (SIC)**		
Description	**SIC**	*Per Cent*
Manufacturing	15 – 37 inclusive	17.8
Retail, Wholesale and Distribution	50 – 52	20.6
Hotels and Catering	55	17.8
Professional Services	70, 72, 73, 74, excl 7412, 7413, 74142, 7415, 7482	17.2
Creative and Marketing Industries	74141, 7440, 92 excl 925, 926, 927	12.2
Consumer Services	93, 85113	14.4
Total		**100**
N = 360		
** For definitions of SIC see Blackburn and Stokes, 2002		

Table 2	
Financial Turnover of Businesses	
	Per Cent
Under £100,000	9.4
£100,000 - £500,000	42.2
£500,001 - £1m	22.5
£1.1m +	25.8
N = 320	
Note: 40 respondents were unable or refused to divulge their business turnover.	

Table 3			
Employment Size and Characteristics by Business Sector			
Sector	**Average Size**	**% Females**	**% of Full-Time Staff**
Manufacturing	19.7	24.6	87.9
Wholesale, Retail and Distribution	12.5	39.5	65.0
Hotels and Catering	14.9	62.3	39.1
Professional Services	14.9	39.4	73.9
Creative and Marketing	21.9	53.9	75.4

Consumer Services	11.0	74.8	57.4
Whole Sample	15.6	47.8	66.5

Table 4	
Age of Owner-Manager*	
	Per Cent
Under 30	4.7
30 – 39	22.5
40 – 49	35.0
50 – 59	29.4
60 – 64	6.4
65 or older	1.7
Median age** Mean age**	46.0 years 45.8 years
N = 359* N = 318**	
Note: *One person refused to offer their age group. **42 respondents refused to give their absolute age.	

Table 5	
Highest Educational Qualification of Owner-Managers	
	Per Cent
No formal qualification	12.8
GCSE	6.4
O levels	12.5
A levels	12.2
BTEC or Diploma	10.3
Undergraduate Degree	19.2
Masters Degree	3.3.
PhD	0.8
Professional Qualification	7.2
Other	15.3
N = 360	

Table 6					
Respondents' Self-Definitions of Business Style					
	Per Cent			Per Cent	(Neither)
I am a Traditional Business Person	60.3	*Or*	I am a 21st Century Entrepreneur	37.2	(2.5)
I like to innovate and create change	60.0	*Or*	I stick to what I know best	38.6	(1.4)
I plan my business strategy well in advance	34.2	*Or*	I take opportunities whenever I can	62.8	(3.1)

I use new technologies as soon as possible	30.3	*Or*	I like to wait for systems to be tried and tested before using them	67.8	(1.9)
I am restless and easily bored	43.6	*Or*	I am happy just doing my job	52.5	(3.9)
I prefer to keep my head down and avoid publicity	62.2	*Or*	I am a high-profile image maker	33.9	(3.9)
I am happy to take high risks, providing the rewards are high	22.8	*Or*	I take decisions based on known facts so they are less risky	75.3	(1.9)
I prefer my firm to work independently	68.1	*Or*	I am happy to work through joint ventures and share business with others	30.8	(1.1)
I regard myself a risk taker	42.8	*Or*	I prefer to avoid risks	55.8	(1.4)
Note: The percentages show the statements to which respondents would describe their business style.					

Table 7	
Do You Have a Business Plan?	
	Per Cent
Written down	36.4
Informal	31.4
Do not have a plan	32.2
N = 360	

Table 8	
Computer Use in the Enterprises	
	Per Cent
Word processing/Desk Top Publishing	79.4
Book-keeping/Accounting	76.1
Email	73.6
Sales ledger	65.0
Payroll	61.1
Client database	60.8
Use of Internet/www for other purpose	57.2
Use of Internet for Procurement or Buying	43.9
Stock Control	38.6
Computer Aided Design	30.8
Use of Internet for Selling Goods or Services	27.8

Other Use of Computers	8.1
Firm Does Not Use a Computer	11.7
Firms Having a Website	60.6
N = 360	
Note: Percentages do not add to 100 because of multiple response.	

Table 9

Business Planning: Enterprise and Owner-Manager Characteristics

	Nature of Relationship with business planning *
21st Century Entrepreneur	Positive
Likes to innovate	Positive
Plan strategy in advance	Positive
Uses new technologies	Positive
Easily bored	None
Publicity seeker	None
Happy to take risks for rewards	None
Prefers to work independently	None
Regard myself as a risk taker	Positive
Gender	None
Age of owner-manager	None
Size of business in employment	Positive
Age of business	Positive
Sector	Varies

* Statistical relationships using the chi-square test of significance (at p<.01).

Table 10

Collaborative Behaviour and Owner-Manager or Business Characteristics: Summary of Statistical Relationships

	Per Cent				
Characteristic	Share Workload or Customers	Develop Joint Ventures	Extend Network Contacts	Share Good Business Practice	Does Not Collaborate
% of firms	31.1	30.3	35.3	30.6	43.9
Age of Business	No	No	No	No	No
Employment Size	No	Yes	No	No	No
Gender	No	No	No	No	No
21st Century Entrepreneur	No	Yes*	No	No	No
Innovative	No	No	No	No	Yes

Planner	No	No	No	No	No
Early User of Technology	No	No	No	No	No
Easily Bored or Restless	Yes*	No	No	No	No
Avoid Publicity	No	No	No	No	No
Happy to Take Risks if Reward's High	No	No	No	No	No
Happy to Work Through Joint Venture and Share Business with Others	Yes**	Yes**	Yes**	Yes**	No
Risk Taker	No	No	No	No	No
Age of Respondent	No	Yes	No	Yes	No
Educational Level	No	Yes	Yes	Yes	Yes
Notes: Statistical significance indicated where chi square <0.005 * 1 cell has expected count less than 5 ** 2 cells have expected count less than 5					

Table 11

Over the Last Three Years, in Real Terms, has the Value of your Sales:	
	Per Cent
Grown consistently	33.9
Been patchy but grown overall	23.9
Stayed about the same	21.7
Been patchy but declined overall	9.4
Declined consistently	1.4
Can't say/in business less than three years	9.7
N = 360	

Table 12

Employment Change
Past Two Years and Five Years

	Per Cent	
	Two Years	Five Years
Declined	11.0% of firms	18.1% of firms
Stayed the same	31.9	39.9
Expanded	57.1	48.0
Mean	+2.8 people	+4.9 people

Median	+1.0	+2.0
Maximum growth	+35	+75
Maximum decline	-29	-40
Total net change	983	1189
	N = 345	N = 238

Table 13

Did You Make a Profit in Each of the Last Two Years?	
	Per Cent
Yes	74.4
No	19.4
Not prepared to say	1.4
Don't know/Not applicable	4.7
N = 360	

Table 14

Financial Status of Business	
	Per Cent
Thriving	11.9
Doing rather well	34.4
Neither	43.9
Doing rather badly	5.8
Ailing	2.2
Other	1.7
Total	100
N = 360	

Table 15: Definition of Variables used in the Logit Analyses

Variable Name	**Definition**
Firm Characteristics	
Size	Size of Business (employment) (1= 1-9 emps; 0= 10+ emps)
Agebus	Age of the business (1= 1996+; 0= 1995 and older)
Manuf	Manufacturing Activity (1= Yes; 0=Not)
Profbus	Professional and Business Service Activity (1= Yes; 0=Not)
Structure	Business has functional departments 1=Yes; 0=No)
Owner-Manager Characteristics	
Gender	Gender of the Owner-Manager (1= Male; 0= Female)

Ageown	Age of the Owner-Manager (1= 40 years or less; 0= 40+ years)
Educ	Highest Educational Achievement of the Owner-Manager (1= Degree and above; 0= Not)
Enttype	Owner-Manager a "21st Century Entrepreneur" (1= Yes; 0= No)
Innovate	Owner-Managers "likes to innovate and create change" (1= Yes; 0= No)
Planner	Owner-Manager "likes to plan strategy in advance" (1= Yes; 0= No)
Technol	Owner-Manager "uses new technology as soon as possible" (1= Yes; 0= No)
Restless	Owner-Manager becomes "restless and easily bored" (1= Yes; 0= No)
Publicit	Owner-Manager is "high profile image maker" (1= Yes; 0= No)
Risks	Owner-Manager is "happy to take risks, providing the rewards are high" (1= Yes; 0= No)
Indept	Owner-Manager is "happy to work through joint ventures and share business with others" (1= Yes; 0= No)
Strategy	
Business	Existence of a written business plan (1= Yes; 0= No)
Market	Existence of a Marketing Budget (1= Yes; 0= No)
Coljv	Business has undertaken collaborative joint ventures (1= Yes; 0= No)
Innov	Plans to introduce new products or services (1=Yes; 0=No)
No invest	No plans to invest in next 5 years (1=Yes; 0=No)
Expand	Plans to expand the business in the next 5 years (1=Yes; 0=No)
Noben	No fringe benefits for staff in the business (1=Yes; 0=No)
ProfPay	Has profit related pay scheme (1=Yes; 0=No)
Finance	Access to finance is a problem (1=Yes; 0=No)
External	Has used external advisors in previous year (1=Yes; 0=No)

Table 16 Dichotomous Logit Regression for Employment Growth				
Number of observations = 345 **$\chi^2(27)$ = 49.96** **Prob > χ^2 = 0.0032** **Log Likelihood = -204.58448** **Pseudo R^2 = 0.1318**				
Y	**Odds Ratio**	**Std. Err.**	**z**	**P>z**
Firm Characteristics				
Size of Business (1=1-9 emps; 0= 10+ emps)	.5419056	.1375225	-2.41**	0.016
Age of the business (1=1996+; 0= 1995 and older)	3.368738	.962813	4.25***	0.000
Manufacturing Activity (1= Yes; 0=Not)	1.868569	.6083226	1.92*	0.055
Professional and Business Service Activity (1= Yes; 0=Not)	1.541075	.5088924	1.31	0.190
Business has functional departments (1=Yes; 0=No)	.787559	.234373	-0.80	0.422
Owner-Manager Characteristics				
Gender of the Owner-Manager (1= Male; 0= Female)	.8733324	.2464186	-0.48	0.631
Age of the Owner-Manager (1= 40 years or less; 0= 40+ years)	1.234914	.3645439	0.71	0.475
Highest Educational Achievement of the O-M (1= Degree and above; 0= Not)	1.117932	.31919	0.39	0.696
Entrepreneurial Traits				
Owner-Manager a "21st Century Entrepreneur" (1= Yes; 0= No)	1.226304	.2947168	0.85	0.396
Owner-Managers "likes to innovate and create change" (1= Yes; 0= No)	.9908714	.2445735	-0.04	0.970
Owner-Manager “likes to plan strategy in advance” (1= Yes; 0= No)	1.030756	.2777222	0.11	0.910
Owner-Manager “uses new technology as soon as possible” (1= Yes; 0= No)	.9344848	.1969997	-0.32	0.748
Owner-Manager becomes “restless and easily bored” (1= Yes; 0= No)	.8774857	.1607377	-0.71	0.476
Owner-Manager is “high profile image maker” (1= Yes; 0= No)	.7610926	.132707	-1.57	0.117
Owner-Manager is “happy to take risks, providing the rewards are high” (1= Yes; 0= No)	.791112	.18389	-1.01	0.313
Owner-Manager is “happy to work through joint ventures and share business with others” (1= Yes; 0= No)	1.22089	.3364166	0.72	0.469
Strategy				
Existence of a Marketing Budget (1= Yes; 0= No)	.9891608	.274751	-0.04	0.969
Existence of a written business plan (1= Yes; 0= No)	1.662956	.5062817	1.67*	0.095
Business has undertaken collaborative joint ventures (1= Yes; 0= No)	1.036719	.3067578	0.12	0.903
Plans to introduce new products or services (1=Yes; 0=No)	.8834561	.2572702	-0.43	0.670
No plans to invest in next 5 years (1=Yes; 0=No)	.8243406	.3270447	-0.49	0.626
Plans to expand the business in the next 5 years (1=Yes; 0=No)	1.821369	.5732521	1.91*	0.057
No fringe benefits for staff in the business (1=Yes; 0=No)	.9224242	.2842229	-0.26	0.793
Has profit related pay scheme (1=Yes; 0=No)	.7437665	.2516089	-0.88	0.382
Access to finance is a problem (1=Yes; 0=No)	.5865624	.2403903	-1.30	0.193
Has used external advisors in previous year	.8585305	.3177177	-0.41	0.680

(1=Yes; 0=No)				
Constant				
*Notes: * denotes significance at the 0.10 level; ** denotes significance at the 0.05 level; *** denotes significance at the 0.01 level*				

Table 17 Dichotomous Logit Regression for Turnover Growth

Number of observations = 360
$\chi^2(26)$ = 38.62
Prob > χ^2 = 0.0529
Log Likelihood = -209.74613
Pseudo R^2 = 0.0901

Y	Odds Ratio	Std. Err.	z	P>z
Firm Characteristics				
Size of Business (1=1-9 emps; 0= 10+ emps)	1.006548	.2609689	0.03	0.980
Age of the business (1=1996+; 0= 1995 and older)	1.10052	.3029391	0.35	0.728
Manufacturing Activity (1= Yes; 0=Not)	.7749512	.2620144	-0.75	0.451
Professional and Business Service Activity (1= Yes; 0=Not)	.7826385	.2558527	-0.75	0.453
Business has functional departments (1=Yes; 0=No)	.6699542	.2004404	-1.34	0.181
Owner-Manager Characteristics				
Gender of the Owner-Manager (1= Male; 0= Female)	1.290478	.3598879	0.91	0.360
Age of the Owner-Manager (1= 40 years or less; 0= 40+ years)	.8652435	.2533116	-0.49	0.621
Highest Educational Achievement of the O-M (1= Degree and above; 0= Not)	1.542672	.4344211	1.54	0.124
Entrepreneurial Traits				
Owner-Manager a "21st Century Entrepreneur" (1= Yes; 0= No)	1.495311	.3341477	1.80*	0.072
Owner-Managers "likes to innovate and create change" (1= Yes; 0= No)	1.39824	.3303358	1.42	0.156
Owner-Manager “likes to plan strategy in advance” (1= Yes; 0= No)	.6877847	.1765127	-1.46	0.145
Owner-Manager “uses new technology as soon as possible” (1= Yes; 0= No)	.9447195	.1894497	-0.28	0.777
Owner-Manager becomes “restless and easily bored” (1= Yes; 0= No)	.7923107	.1620555	-1.14	0.255
Owner-Manager is “high profile image maker” (1= Yes; 0= No)	.9513449	.1820272	-0.26	0.794
Owner-Manager is “happy to take risks, providing the rewards are high” (1= Yes; 0= No)	1.045701	.2531449	0.18	0.854
Owner-Manager is “happy to work through joint ventures and share business with others” (1= Yes; 0= No)	1.371922	.3422021	1.27	0.205
Strategy				
Existence of a Marketing Budget (1= Yes; 0= No)	.7605769	.2222347	-0.94	0.349
Existence of a written business plan (1= Yes; 0= No)	1.116983	.3330168	0.37	0.711
Business has undertaken collaborative joint ventures (1= Yes; 0= No)	.8318428	.2502566	-0.61	0.541
Plans to introduce new products or services (1=Yes; 0=No)	1.409405	.3942995	1.23	0.220
No plans to invest in next 5 years (1=Yes; 0=No)	.9986441	.4326002	-0.00	0.998
Plans to expand the business in the next 5 years (1=Yes; 0=No)	2.519484	.8382075	2.78***	0.005

No fringe benefits for staff in the business (1=Yes; 0=No)	.6572641	.2028566	-1.36	0.174
Has profit related pay scheme (1=Yes; 0=No)	.6926553	.2386075	-1.07	0.286
Access to finance is a problem (1=Yes; 0=No)	.6061853	.2276062	-1.33	0.182
Has used external advisors in previous year (1=Yes; 0=No)	.7238845	.2834198	-0.83	0.409
Constant				
*Notes: * denotes significance at the 0.10 level; ** denotes significance at the 0.05 level; *** denotes significance at the 0.01 level*				

Table 18 Dichotomous Logit Regression for Profits in Past Two Years

Number of observations = 360
$\chi^2(26)$ = 40.63
Prob > χ^2 = 0.0338
Log Likelihood = -183.2735
Pseudo R^2 = 0.1043

Y	Odds Ratio	Std. Err.	z	P>z
Firm Characteristics				
Size of Business (1=1-9 emps; 0= 10+ emps)	1.148171	.3184665	0.50	0.618
Age of the business (1=1996+; 0= 1995 and older)	.5781079	.1867919	-1.70*	0.090
Manufacturing Activity (1= Yes; 0=Not)	.9009353	.3421623	-0.27	0.784
Professional and Business Service Activity (1= Yes; 0=Not)	1.250444	.4228692	0.66	0.509
Business has functional departments (1=Yes; 0=No)	.7047643	.2097492	-1.18	0.240
Owner-Manager Characteristics				
Gender of the Owner-Manager (1= Male; 0= Female)	1.130457	.3513428	0.39	0.693
Age of the Owner-Manager (1= 40 years or less; 0= 40+ years)	.7995433	.2640249	-0.68	0.498
Highest Educational Achievement of the O-M (1= Degree and above; 0= Not)	.6676023	.1963373	-1.37	0.169
Entrepreneurial Traits				
Owner-Manager a "21st Century Entrepreneur" (1= Yes; 0= No)	1.037846	.2143909	0.18	0.857
Owner-Managers "likes to innovate and create change" (1= Yes; 0= No)	1.274177	.3377608	0.91	0.361
Owner-Manager “likes to plan strategy in advance” (1= Yes; 0= No)	.9811131	.2930587	-0.06	0.949
Owner-Manager “uses new technology as soon as possible” (1= Yes; 0= No)	.5269814	.1287134	-2.62***	0.009
Owner-Manager becomes “restless and easily bored” (1= Yes; 0= No)	1.253609	.2474425	1.15	0.252
Owner-Manager is “high profile image maker” (1= Yes; 0= No)	1.232731	.2355987	1.09	0.274
Owner-Manager is “happy to take risks, providing the rewards are high” (1= Yes; 0= No)	.9271237	.2067192	-0.34	0.734
Owner-Manager is “happy to work through joint ventures and share business with others” (1= Yes; 0= No)	1.131912	.3721384	0.38	0.706
Strategy				
Existence of a Marketing Budget (1= Yes; 0= No)	1.026139	.3152523	0.08	0.933
Existence of a written business plan (1= Yes; 0= No)	1.222282	.418422	0.59	0.558

Business has undertaken collaborative joint ventures (1= Yes; 0= No)	1.017313	.3569995	0.05	0.961
Plans to introduce new products or services (1=Yes; 0=No)	1.714708	.5478085	1.69***	0.091
No plans to invest in next 5 years (1=Yes; 0=No)	.8187056	.3394133	-0.48	0.629
Plans to expand the business in the next 5 years (1=Yes; 0=No)	.6189249	.2378311	-1.25	0.212
No fringe benefits for staff in the business (1=Yes; 0=No)	.915138	.2929848	-0.28	0.782
Has profit related pay scheme (1=Yes; 0=No)	.9574209	.3465386	-0.12	0.904
Access to finance is a problem (1=Yes; 0=No)	.2194651	.0777765	-4.28***	0.000
Has used external advisors in previous year (1=Yes; 0=No)	.7216335	.2860158	-0.82	0.410
Constant				
*Notes: * denotes significance at the 0.10 level; ** denotes significance at the 0.05 level; *** denotes significance at the 0.01 level*				