

Entrepreneurs, Intuition, and Small-Business Performance

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Abstract

The recognition by Western nation governments of the increasingly important role of small and medium-sized enterprises (SMEs) in job creation in post-Fordist economies has led to an expansion of public sector funding for training programs for owners or managers. Research into the cognitive style of entrepreneurs reflects that some researchers conclude that the more effective owners or managers are intuitive decision-makers. Based on these findings, researchers are recommending emphasis on intuitive thinking in government-funded owner or manager training programs. This study involved using research on small UK firms to gain further empirical evidence of the validity of the view that intuitive thinking is a preferred business style and relates to superior small-firm performance. Results illustrate that some owners or managers are intuitive thinkers but that individuals exhibiting an analytical decision-making style run successful firms. The results partially contradict earlier studies.

Keywords: entrepreneurship, intuition, rational decision making, small firms, creative industries

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European Western governments, such as France, Germany, and the United Kingdom, began to recognize the small and medium-sized enterprise (SME) sector as an important component of their economies in the 1980s. With large companies closing down or moving their operations offshore, politicians realized that persuading people to start new small businesses was an excellent method of reducing unemployment levels. Thus, governments in most European Union (EU) member states allocated large sums of money to underwrite the creation of a diverse range of new forms of small-business support. In the United Kingdom, for example, the focus of a significant proportion of government resources was on business start-up schemes that sought to persuade unemployed people to become self-employed through the provision of free training and business support grants.

Some research illustrates that small-business support schemes are successful in assisting participants in both

start-up and existing businesses (Brown, 1990; Leaman, Cook, & Stewart, 1992; Todtling & Kaufman, 2002). Storey (2002) noted that questions exist about the published findings on the actual effectiveness of support provision because the published studies may involve a support scheme from which the researchers or their organizations have received funding. Additionally, according to Van Stel and Storey (2004), analysis of the outcomes of business support initiatives indicates that the long-term impact has been minimal. Van Stel and Storey contrasted the UK government's emphasis on stimulating new business start-ups with the situation in the early 1990s during which the government achieved real new job creation by focusing their attention on providing support for existing growth-orientated small firms.

Alanrape (2007) indicated that some small-business support services in a number of countries, such as Australia, New Zealand, and the United Kingdom, accept the view that new job creation in the SME sector is more likely to occur through focus upon assistance to existing

growth-orientated organizations. In terms of the nature of assistance required for existing firms, a primary area of focus tends to be further developing the management skills of the owners or managers through the provision of training in areas such as business analysis and strategic planning (Schaper, Campo, & Kimuluka, 2005). The philosophy underlying these schemes reflects the prevailing view of most training providers that the owners or managers of existing small firms are rational thinkers. Therefore, the programs tend to involve acquiring new skills through the analysis and interpretation of data as the best method for making informed decisions.

Somewhat more recently, evidence emerged that small-business owners or managers, similar to some senior managers in large firms, rely heavily on intuition to reach decisions (Allison, Chell, & Hayes, 2000). Assuming this to be a common behavioral trait across the SME sector, researchers have questioned whether the focus of government-funded management development training for growth-orientated owners or managers in existing small firms should be on further enhancing their intuitive decision-making skills. A common suggestion has been to reduce the emphasis on training in business planning and to instead, provide coverage on improving individuals' intuitive decision making skills.

A limited amount of empirical research exists on whether an intuitive cognitive style is a widespread phenomenon among owners or managers in existing small firms. Consequently, further research is required before government-funded training schemes introduce any significant change in the nature of management development training in the SME sector on a national scale. The aim of this paper, therefore, was to stimulate additional research and greater debate on this matter.

Entrepreneurship

In the early 19th century, Jean-Baptiste Say, a French economist, defined entrepreneurship (i.e., the practice of the entrepreneur) as a process involving the shifting of economic resources from an area of low productivity to an area of higher productivity and greater yield. Schumpeter (1934), an Austrian, investigated the role of the entrepreneur. Schumpeter perceived entrepreneurship to be a "meta-economic event" (p. 4) such as the introduction of a new technology, which causes a major market change. For example, a meta-economic event could be the impact of the development of airplanes on the world's oceangoing passenger liner industry. In the Schumpeterian model of economics, managers in large firms typically continue to use traditional conventional approaches where demand is stable, and they remain confident of having an accurate understanding of customers' needs. Schumpeter posited that entrepreneurship is the process most likely to prevail in those circumstances where the market is in disequilibrium and customers have unfulfilled needs.

Schumpeter emphasized that the distinguishing attribute of the entrepreneur was not risk taking but the willingness to exploit innovation to succeed when competing with existing firms. According to Schumpeter, innovation could include a range of possible alternative actions: (a) developing a new product or service, (b) creating a new production process, (c) identifying new markets, (d) discovering new sources of supply, and (e) creating new organizational forms. Since World War II, a broader view of entrepreneurship and the characteristics that define the entrepreneur emerged amongst management theorists. Hisrich and Peters (1992) redefined entrepreneurship as the process of "creating something different by devoting the necessary time and effort, assuming the accompanying financial, psychological, and social risks and receiving the resulting rewards of monetary and personal satisfaction" (p. 7).

Miller (1983) proposed that the extent to which top managers take risks, favor change, and exploit innovation to achieve a competitive advantage demonstrates the entrepreneurial orientation of a firm. Hills and LaForge (1992) echoed this definition. On the basis of a review of research, they concluded that being a successful entrepreneur requires the presence of certain attributes, especially an ability to create a new organization that exploits innovation and develops a unique operation to support business growth.

Georgelli, Joyce, and Woods (2000) described "being entrepreneurial" (p. 9) as being willing to take risks, being innovative, and having an ambition to grow. Georgelli et al. suggested that the core competencies for entrepreneurship are a capacity for changing business processes, the launching of new products or services, and a capacity for planning. They noted that not all small businesses are equipped with these capabilities and that not all owners or managers are necessarily predisposed towards them.

Covin and Slevin (1988) defined an entrepreneurial style in terms of the extent to which "managers are inclined to take business-related risks, favour change and innovation, and compete aggressively with other firms" (p. 221). A nonentrepreneurial (or conservative) style includes being risk-averse, noninnovative, passive, and reactive. Covin and Slevin developed a measure of entrepreneurial style based upon previous theories and research by Khandwalla (1977) and Miller and Friesen (1982). The research by Covin and Slevin led to the development of one of the first fully validated tools for empirically measuring entrepreneurial orientation.

Although widespread agreement exists that entrepreneurs engage in innovative activities, one area of ongoing debate within the literature is the degree to which entrepreneurs can also be characterized as risk takers. Brockhaus, for example, echoed the views of Schumpeter. Brockhaus confirmed the findings of other researchers by being unable to identify any statistically significant difference between the risk-taking propensity

of a group of entrepreneurs and a group of managers working in the large-firm sector. Brockhaus suggested that some researchers might have reached an erroneous conclusion about risk taking because of either reliance on anecdotal information or failure to recognize that a multitude of factors influence risk taking. The factors include variables such as the nature of the industry, prevailing economic conditions, the age of the business, the size of the firm, and the educational or experiential levels of the respondents.

Within the field of SME research, the factors influencing the performance of firms have attracted widespread interest among researchers. One area of accepted consensus in the entrepreneurship literature is the perspective that high-growth firms are entrepreneurial organizations that have enjoyed success due to the development and launch of new products. Chaganti and Chaganti (1983) conducted a study that illustrated support for this perspective. They determined that the highest level of market performance in small manufacturing firms is among those organizations that offer a broad range of products, use innovation to update their product line frequently, and are prepared to respond positively to market demands for product customization.

Romano (1990) posited that the entrepreneur's key skill is using product innovation to achieve advantage over competitors. Iansiti (1995) concluded that new products are the key source of momentum by which to achieve sustained market growth. Similarly, Zanra and Nielsen (2002) perceived the success of the entrepreneur as being the ability to launch new products that attract new customers or permit entry into new markets. Hence, based on their work and the various other research studies which have been undertaken, it seems reasonable to propose the following hypothesis, namely that:

H1: Small entrepreneurial firms will achieve higher business growth than will their more conservative counterparts.

Intuition

The preeminent paradigm in management theory is that managers are rational decision-makers who resolve problems or select actions based on careful analysis of available information. Research supports the perspective that rational thinking can lead to effective decision making (Daft & Lengel, 1986; Dean & Sharman, 1993). In recent years, however, an alternative view has emerged: Executives, when facing highly volatile environments, overwhelming volumes of information, and the need to make a rapid decision about a complex problem, use intuition instead of rational deliberation (Hayashi, 2001).

Only quite recently have academics become more interested in the role of this alternative cognitive style (Hodkinson & Sparrow, 2002). Intuition is a difficult process to understand or explain. Many researchers

have drawn upon developments in cognitive and social psychology to reach a reasonable consensus about the mental processes associated with intuitive decision making (Klein, 1998). The research indicates that intuition is an experiential phenomenon involving a subconscious utilization of implicitly stored knowledge linked to rapid processing of information as the basis for reaching an apparently immediate decision.

One area of management theory where researchers have examined intuition in relation to cognitive style is the area of decision making by small-firm entrepreneurs (Krueger, 2000). Khatri and Alvin (2000) demonstrated that in the face of uncertainty or limited information, senior managers in large organizations tend to rely heavily on intuition. Given that small firms often operate in uncertain environments and have limited access to information, entrepreneurs may also tend to utilize an intuitive cognitive style. Sadler-Smith (2004) sought to validate this concept and determined that senior managers in high-growth small firms in the United Kingdom exhibited an intuitive cognitive style.

Based on the research in the field, proposing the following hypotheses seemed reasonable:

H2: Owners or managers of entrepreneurial small firms will exhibit an intuitive cognitive decision style.

H3: Entrepreneurs exhibiting an intuitive decision style are more likely to achieve a high business growth rate for their small businesses.

Research Quality

The SME sector has attracted the widespread attention of academics since about 1980. The causes of this increase in interest include recognition of the growing importance of small firms in the economies of Western nations, academics participating in projects to develop or evaluate the provision of government-funded small-firm support schemes. Another cause of the heightened academic interest in small business management is that students are increasingly interested in studying this subject. In many cases this is because they plan to enter self employment following graduation.

In a relatively young field of management where methodologies are still developing and evolving, some researchers may make mistakes in research design, which cause errors in data collection that can result in incorrect conclusions. According to Laforet and Tann (2006), a common error is the assumption that the SME sector is a homogeneously constituted group of businesses. This perspective is evident in the practice of researchers using a sample frame of small firms and generalizing to a diverse range of industrial sectors. The outcome of such thinking could result, for example, in consolidating data from small craft shops and generalizing to firms in high-technology industries.

Even when researchers do focus the study on a single industrial sector, some projects may include a broad sectoral definition, reflecting a lack of concern that industrial behavior within the sector might be highly varied (Chaston, 2002). For example, in a study about small manufacturing businesses, the researchers may not seem to recognize that management practices in an engineering company making standard industrial fasteners may be somewhat different from practices in a company building customized electronic sensors. The potential outcome of such thinking is evident in the findings by Zinger, LeBrasseur, and Zanibbi (2001). These researchers studied Canadian firms within the engineering industry and used the conclusions to propose small-business support action for the entire industrial sector.

The managerial priorities and managerial behavior in a one-person small-business start-up will be somewhat different from those in a company employing in excess of 200 staff (Holtman & Idson, 1991; Morganosky, 1988). Thus, Rutherford, McMullen, and Oswald (2001) proposed that classification of small firms into multiple groups based on employee numbers was virtually mandatory before drawing any meaningful conclusions about research data. Despite such findings, researchers often provide no breakdown of the number of employees within the respondent firms in their analysis of data. Such papers could be indicating conclusions and generalizations about small firms based on responses from firms ranging in size from 1 to 249 employees (or, in the case of the United States, up to 500 employees).

Research, such as the study by Covin and Slevin (1988), has demonstrated the very different managerial behavior of conservative versus entrepreneurial firms. Nevertheless, the tendency to treat small firms and entrepreneurial firms as synonymous entities remains. The outcome of failing to differentiate between various types of small firms is that some researchers acquire data without attempting to measure the entrepreneurial orientation of the respondent organizations.

The researchers then present conclusions that they propose validate a theory concerning the managerial practices of small-business entrepreneurs. An example of this practice is evident in the Global Entrepreneurship Monitor (GEM) study managed by Babson College and London Business School. In this transnational project, which has been running for some years, the measure of entrepreneurial activity within a country relates to the number of individuals considering starting a small business over the next 12 months (Sternberg & Wennekers, 2005).

Research Methodology

A mail survey of small firms in the creative-industries sector aided in data collection for the study. The reason for the selection of this sector was the strong tendency for creative firms to exhibit innovative behavior,

thereby increasing the possibility of a large number of entrepreneurial organizations being included in the sample (Wilson & Stokes, 2005). To minimize the potential influence of variance caused by location and firm size further, the sample frame was confined to creative-sector firms located in the South West of the United Kingdom with between 10 and 49 employees.

The firm-size criterion was appropriate because the focus of the study was small firms. Small firms are organizations that, under the EU definition, contain between 10 and 49 individuals. Thus, a much broader sample of firms would be required before generalizing the results of this study to either microenterprises (i.e., 1-9 employees) or medium-sized firms (i.e., 50-249 employees).

The owner or manager of each of the 500 businesses included in the study's sample frame received the questionnaire by mail. To avoid the possible data variance created by differences in the views of owners or managers in a start-up situation versus the situation of those who having been operating for some years, only firms trading for at least 3 years participated in the study. The search criteria available within a commercial database software tool aided in selecting the appropriate firms.

In the survey, Covin and Slevin's (1988) entrepreneurial orientation research tool (see the Appendix B) aided in measuring entrepreneurial orientation. Respondents indicated their views on a 5-point scale ranging from *very strongly disagree* to *very strongly agree*. An assumption of this scale is that a conservative versus an entrepreneurial orientation exists as a continuum. Hence, only respondents that reported a mean score greater than the mean score for the entire sample were considered entrepreneurial organizations. This scale and variants have a long tradition in strategic management literature (Atuahene-Gima & Ko, 2001) and have consistently demonstrated reliability and validity.

The study involved measuring business performance using the technique validated by Chaston and Mangles (1997) through which the firm comments on sales growth over the last 3 years on a 5-point scale: *sales declined by more than 10%*, *sales declined by 1-10%*, *no change in sales*, *sales increased by 1-10%*, and *sales increased by more than 10%*. (see the Appendix A). The Rational Experiential Inventory (REI) developed by Epstein, Pacini, Heir, and Denes-Raj (1996) aided in measuring entrepreneurial cognition. The questions posed in this tool appear in the Appendix C. The reason for selecting this technique was that Epstein et al. undertook an extensive validation of the scale to examine the intuitive and rational information-processing modes used by individuals engaged in making a business decision.

Researchers have long recognized that SME-sector research can generate information that exhibits a high level of data variance. Despite this understanding, few small-firm studies reflect any attempt to control for this situation by including some form of data triangulation (Opperman, 2000). In those cases where high data variance

is likely, a useful research philosophy is triangulation (Scandura & Williams, 2000). Researchers can achieve triangulation through practices such as concurrently using alternative methodologies, acquiring both quantitative and qualitative data or using a measurement tool assessing an issue known to generate a certain response or relationship. In the case of this project, triangulation was achieved by including a data generation tool in the survey measuring the relationship between the internal capabilities of the firm and market performance.

During application of the RBV of the firm to the SME sector, most researchers have sought to avoid the view strongly articulated by academics, such as Hamal and Prahalad (1996), that internal competencies are the only reason some organizations outperform their competitors. Instead, researchers focused on competencies being one of a number of key variables that can influence small-business performance. Sanchez and Sanchez (2006) posited that a small firm's internal resources and capabilities constitute a much more stable point of reference in terms of providing a primary source of benefits and crucial determinants in formulating an effective organizational strategy capable of sustaining business growth. Sanchez and Sanchez supported their viewpoint by demonstrating that internal capability can have an important influence on the market performance of Spanish SMEs. Hadjimanolis (2000) reached a similar conclusion, but expressed the view that one of the most critical internal resources in smaller firms is the entrepreneurial capability of the owner or manager.

Results

Of the small firms that received the mailed questionnaires, 137 returned completed, usable surveys, which represent a response rate of 27.4%. To assess the potential influence of nonresponse, a variance analysis was undertaken to compare the responses of the first 70 respondents to the responses of the 67 respondents whose forms were received later. No indication of significant variance emerged between these two groups, which, to a limited degree, lessens concerns about whether nonresponse undermines the validity of the conclusions drawn from the data acquired. The average number of employees per respondent firm was 22.6. Although visual inspection of the data suggested some differences existed between smaller and larger organizations, a variance analysis in relation to the size of respondent firms reflected no significance.

Computing internal consistency using the value generated for Cronbach's alpha aided in investigating the properties of the entrepreneurship and the intuition scales. For entrepreneurship, the overall internal consistency score was 0.79. For the intuition scale, the analysis revealed three items that were reducing overall internal consistency to below the 0.70 minimum value suggested by Nunally (1978)

The analysis resulted in the decision to remove the three items. The recalculated Cronbach alpha score for the

intuition scale was 0.72, which indicated an acceptable level of internal consistency. The modified scale was used in subsequent data analysis.

The calculated mean values for entrepreneurial orientation and intuition were 2.96 and 3.57 respectively. A *t* test for business growth in relation to entrepreneurial orientation and intuition yielded *t* values of 1.629 and 0.993, neither of which were statistically significant at $p < 0.05$. A *t* test for business growth (having divided the sample into two subgroups, conservative and entrepreneurial firms, based upon entrepreneurial orientation) yielded *t* values of -2.42 and 4.06 respectively, both of which were significant at $p < 0.05$. The results of a *t* test in relation to intuition indicated values of -1.806 and 1.454 respectively.

To gain further understanding of the possible relationship between sales performance and managerial orientation, the sample formed two groups: firms exhibiting a conservative orientation and firms exhibiting an entrepreneurial orientation. A logistic regression aided in examining sales growth (positive or negative) as a binary outcome in relation to being a predictor of managerial orientation. Tests of the model for conservatively and entrepreneurially orientated firms were not statistically significant. The results seem to indicate that no certain conclusions are apparent concerning evidence in the data of whether a conservative or an entrepreneurial orientation will influence the sales performance of small firms.

The calculated mean value for internal capability was 3.71. A test for business growth in relation to internal capability yielded a value of 8.36, which was significant at $p < 0.05$. Analysis included a *t* test for growth in relation to internal capability for the subgroups of conservative and entrepreneurial firms. The resultant *t* values were 4.963 and 6.75, both of which were significant at $p < 0.05$.

The influence of capability functioned as a benchmark to support data triangulation. The *t*-test results appear to illustrate that the research design generated data that are reasonably accurate and minimized data variance problems. Based on this conclusion, a reasonable assumption is that the study is reliable in terms of providing a meaningful measurement of the relationship that exists among entrepreneurial orientation, business performance, and intuition.

Discussion and Implications of Results

The results of the *t* test for business growth in relation to managerial orientation and the outcome of the logistic regression analysis indicate that the study does not provide support for H1 (small entrepreneurial firms will achieve higher growth than will their more conservative counterparts). Nevertheless, the significant *t* values generated for the analysis of the two subgroups, entrepreneurial and conservative firms, appear to be supportive of the view that the stronger the orientation of either type of firm, the higher will be its business growth. This conclusion is at variance with the prevailing

view within the literature that entrepreneurial firms exhibit higher growth relative to their more conservative counterparts, which raises the question of whether the results in this study are incorrect. One way to examine this issue is to pose an alternative question: Do other factors identified in the literature exist that can also assist higher growth in conservative firms? In a recent review article on small-firm growth, Chaganti, Cook, and Smeltz (2002) concluded that key influencing factors identified by researchers include strategy, management style, and organizational structures. Other factors include employee productivity (Muse, Rutherford, Oswald, & Raymond, 2005), quality (Kaldenberg & Gobeli, 1995), and market orientation (Pelham, 1997). Furthermore, considering real-world scenarios in virtually every business community, one will encounter individuals across a diverse range of industrial sectors (e.g., tourism, retailing, and replacement windows) whom one would not consider highly innovative owners or managers, but they have created successful, growing businesses.

Another possibility concerning entrepreneurs and business growth in this study versus other published findings is that some researchers' data may contain research design errors, such as selecting a sample frame across numerous industrial sectors, including businesses ranging in size from 1 to 500 employees in the sample frame, or assuming that all small firms are entrepreneurial businesses. Hence, in relation to small-business theory concerning entrepreneurship and high growth, a safer generalization would be a contingency theory. The contingency theory could indicate the following: (a) some entrepreneurial firms may exhibit high growth, but growth rates may vary in and between sectors and (b) other factors may influence the observed business growth rate within both entrepreneurial and conservative SME-sector businesses.

The statistically nonsignificant *t* value for intuition in relation to entrepreneurial orientation indicates that the study does not provide support for H2 (owners or managers of entrepreneurial small firms will exhibit an intuitive cognitive decision style), and H3 (entrepreneurs exhibiting an intuitive decision style are more likely to achieve a high business growth rate for their small businesses). Although the *t* values generated for the analysis of the two subgroups, entrepreneurial and conservative firms, were not significant at $p < 0.05$, visual inspection of the data does appear to illustrate that the stronger the orientation of either type of firm, the greater the use of an intuitive decision style. Hence, some of the studies that have indicated entrepreneurs as intuitive decision-makers running high-growth businesses may contain research design errors resulting in an incorrect conclusion.

For example, in one study of small-business cognitive style, Hoy and Hellgriegal (1982) selected their sample frame to include any small firm listed in the database of manufacturing or retail firms and located within a 150 mile radius of the researchers' university. If the number of employees exceeded 50 or the firm operated as a partnership, the firm did not participate in the study. Not

surprisingly, the researchers reported some "paradoxical conclusions," which were "serendipitous in nature" (p. 321) Nevertheless, their overall conclusion was still that intuitive thinking was a "commendable concept" (p. 322) for describing owners or managers' decision making.

Sadler-Smith (2004), in an attempt to generate further understanding of small-firm cognitive style, used a sample frame drawn at random from two sectors (machinery manufacturing and computing services) with the organizations employing between 5 and 249 staff members. Sadler-Smith did not specifically attempt to identify which respondent firms were entrepreneurially orientated but instead examined cognitive style in relation to a firm's rate of business growth. The researcher agreed that business growth rate is not an absolute indication of an entrepreneurial orientation but suggested that "an intention to grow" (p. 163) can be a probable indicator of such an orientation. Sadler-Smith concluded that faster growing small firms are more intuitive in their cognitive style. Given both the nature of the sample frame and the propensity for growth as an indicator of entrepreneurial behavior, mediating the conclusion with the statement "causality remains ambiguous" (p. 179) is perhaps understandable and indicates that further research is advisable.

Cool and Van den Broeck (2007) in their study of cognitive thinking style, recognized the benefits of using the Covin and Slevin (1988) scale to identify the degree of entrepreneurial orientation of respondents. However, their decision in terms of their sample frame appears based upon the assumption that all owners or managers are entrepreneurs, and to gain insight into nonentrepreneurial thinkers, they included managers working in the healthcare sector. The researchers e-mailed the survey to 1,797 firms with up to 500 employees and 422 healthcare managers. Because the small-business owners or managers on average recorded a higher score on the Covin and Slevin (1988) scale than healthcare workers, the researchers concluded that all small-firm owners or managers are entrepreneurs. Additionally, because the healthcare workers reported a much stronger bias towards a rational, planning-orientated approach to decision making than owners or managers, the researchers concluded that entrepreneurs are intuitive thinkers.

Some of the papers on intuitive decision making among small businesses may indicate conclusions strongly influenced by poor research design. In view of this situation, and because of the conflicting results from this study in relation to small-business theory concerning entrepreneurs as intuitive thinkers, an alternative contingency theory is probably more appropriate. The proposed theory is that (a) some entrepreneurs are intuitive thinkers; (b) this behavior trait may vary between industrial sectors or by size of firm; and (c) in some situations, no difference probably exists between small-firm entrepreneurs and nonentrepreneurs in terms of a bias towards exhibiting a more intuitive thinking style.

Conclusions

The recent resurgence of interest in intuitive decision making has led to the publication of papers, such as those by Sadler-Smith (2004) and Cool and Van den Broeck (2007) that include the proposal of providing business managers with training to enhance their skills in types of cognitive thinking. In view of previous studies' findings that entrepreneurial firms achieve higher growth rates and rely heavily upon intuition, it is also not surprising that authors, such as Hugo and Garnsey (2005), have proposed that training in intuitive thinking would improve the performance of the small firm. Voicing concern is necessary before such proposals lead to governments funding training programs, which focus heavily upon developing owners or managers' skills as intuitive thinkers, for existing small firms because, as indicated in this study, not all entrepreneurs are intuitive thinkers. Furthermore, the study illustrates that both entrepreneurial and nonentrepreneurial owners or managers run successful small businesses using rational decision making.

An associated issue is whether training programs concerned with developing intuitive thinking skills would be productive in terms of assisting those owners or managers who exhibit rational analysis as their dominant thinking style. A possible risk is that training schemes about intuition may cause rational owners or managers to doubt incorrectly whether they should continue to rely on their current dominant problem-solving style. Hence, prior to such recommendations being adopted, there is need for a more detailed assessment of how best to present the concept of intuitive thinking to rational owners and managers. This is necessary in order that any future training programs can ensure these individuals continue to utilize an approach to decision making which best suits their management style.

Areas for Further Research

In view of the conflicting results from this study versus previous published studies, a strong case exists for more research before reaching solid conclusions about launching new business training schemes concerned with persuading all owners or managers in existing small firms to adopt a cognitive thinking style reliant upon intuition. Additionally, future researchers could possibly avoid some of the design errors, which may have generated biased data in the past leading to inappropriate conclusions. There are also a number of areas that exist where the nature of the research design in this study would benefit from further research. To reduce variance, the focus of the study was constrained to organizations with between 10 and 49 employees. Hence, further research on microenterprises with 1 to 9 employees and medium-sized firms with 50 to 249 employees are required before any of the study's conclusions are applicable to the entire SME sector.

Extending this type of research to gain further insights into the decision-making style of owners or managers still operating at the start-up phase of their new ventures would be beneficial.

The study involved examining only five service market categories and was restricted to acquiring data from small firms located in the south west of the United Kingdom. Hence, the need for further research exists to examine a broader range of market sectors served by small firms and to extend the study to other geographic regions across the United Kingdom. Additionally, the primary focus of this study involved a positivist approach to acquire data. Future research is required concerning the factors influencing owners or managers in relation to being analytical or intuitive decision-makers, but a purely quantitative research methodology will probably not generate appropriate data on this issue. Thus, researchers could consider a broader ranging, in-depth, qualitative methodology to acquire a more insightful understanding of decision-making styles within entrepreneurial small firms.

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Footnotes

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Appendix

Scales Used in the Research Study

Scale To Measure Business Performance

On average over the last 3 years, sales have:

- | | | | |
|-------------------------------|--------------------------|-------------------------------|--------------------------|
| a) Decreased by more than 10% | <input type="checkbox"/> | d) Increased by 1-10% | <input type="checkbox"/> |
| b) Decreased by between 1-10% | <input type="checkbox"/> | e) Increased by 11-30% | <input type="checkbox"/> |
| c) Not changed | <input type="checkbox"/> | f) Increased by more than 30% | <input type="checkbox"/> |

Source: Chaston & Mangles, (1997)

Scale To Measure Entrepreneurship

- 1 Strong emphasis within business on innovation
- 2 Business has launched numerous new products or services in recent years
- 3 Our new products or services are always dramatically different from any existing offerings in the market
- 4 The business is always first to introduce new products/services or operating technologies into the market sector
- 5 The business is always first to initiate innovation to which competitors then respond

Source: Covin & Slevin (1988).

Scale To Assess Intuitive Versus Analytical Decision Style

- 1 I believe in trusting my hunches
- 2 I make decisions in a logical and systematic way
- 3 I can usually feel when a person is right or wrong even if I can't explain how I know
- 4 I don't like to have to do a lot of thinking
- 5 I double-check my information sources to be sure I have the right facts before making a decision
- 6 I generally make decisions that feel right to me
- 7 I prefer complex to simple problems
- 8 I prefer to do something that challenges my thinking abilities rather than something that requires little thought
- 9 I trust my initial feelings about people
- 10 I try to avoid situations that require thinking in depth about something
- 11 I usually have a rational basis for the decisions that I take
- 12 My decision-making requires careful thought
- 13 My initial impressions of people are almost always right
- 14 Thinking hard and for a long time about something gives me little satisfaction
- 15 When I make a decision, it is more important for me to feel the decision is right than to have a rational reason for it
- 16 When I make decisions, I tend to rely on my intuition
- 17 When it comes to trusting people, I can usually rely on my "gut feelings"
- 18 When making a decision, I trust my inner feelings and reactions
- 19 When making a decision, I consider various options in terms of a specified goal
- 20 When making decisions, I rely upon my instincts

Source: Epstein, Pacini, Heir & Denes-Raj (1996).