

INDIVIDUAL INTENTIONS TOWARDS ENTREPRENEURSHIP VS. INTRAPRENEURSHIP

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ABSTRACT

The formation of entrepreneurial intentions should be expected to depend upon the nature of the entrepreneurial behaviour contemplated. Self-employed entrepreneurship and corporate employment as an intrapreneur should be expected to differ in terms of potential incomes, decision-making autonomy, degree of ownership and risk exposure. Accordingly, we should expect the choice between these alternative career paths to be related to differences in the individual's attitudes to these issues. We hypothesize and find empirically that there are significant differences in the attitudinal variables that determine entrepreneurial intentions as compared to intrapreneurial intentions.

Key words: entrepreneurial intentions, intrapreneurship, corporate entrepreneurship

INTRODUCTION

Entrepreneurial behaviour is important for national employment, the growth of national economies and global competitiveness. Preceding the act of entrepreneurial behaviour is the formation of the intention to behave entrepreneurially. If we can identify and predict the antecedents of entrepreneurial behaviour, governments would be able to focus attention and resources on those individuals who are more likely to form entrepreneurial intentions and subsequently engage in entrepreneurial behaviour. But entrepreneurial behaviour can take place either in the context of newly formed business ventures, where the entrepreneur is the self-employed owner-manager of the firm, or in existing business ventures where the 'intrapreneur' (Pinchot, 19XX) behaves entrepreneurially as an employee of the firm. Thus we need to consider both self-employed entrepreneurship and employee intrapreneurship as desirable behaviours for national employment, growth and global competitiveness.

The formation of entrepreneurial (or intrapreneurial) intentions by the individual depends on the perceived desirability and the perceived feasibility of the entrepreneurial behaviour (Krueger, 1993; Krueger & Brazeal, 1994). Perceived desirability of an action depends upon the individual's attitudes towards the outcomes of that action. In the case of entrepreneurial action, the outcomes include income, autonomy, ownership, risk taking and work effort required. Since these outcomes of entrepreneurial action as a self-employed entrepreneur, as compared with an employed intrapreneur, are generally different in degree, we should expect the choice of one over the other, and the formation of intention to become one rather than the other, to be related to differences in the attitudinal make-up

of individuals, in particular to their attitudes to income, autonomy, ownership, risk taking and work effort.

Regarding the perceived feasibility of entrepreneurial action, this has been shown to depend on the individual's self-efficacy (Bandura, 1982; Ajzen, 1991; Krueger & Brazeal, 1994; Boyd & Vozikis, 1994; Markman, Balkin & Baron, 2002). Self-efficacy is related to one's human capital (Becker, 1964) which may be general or specific to the tasks contemplated (Davidsson & Honig, 2001). Self-employed entrepreneurship is likely to require different tasks, or similar tasks that are different in complexity, scope or duration, as compared to employed intrapreneurship. Foreseeing this, we should expect the individual to consider one's own self-efficacy (and underlying human capital) when contemplating entrepreneurial action, and for self-efficacy to be instrumental in the subsequent formation of the intention to become a self-employed entrepreneur rather than an employed intrapreneur, or oppositely.

While substantial research has focused on the antecedents and the formation of entrepreneurial intentions, very little attention has been allocated to the formation of intrapreneurial intentions. Little is known about what motivates the individual to behave intrapreneurially, and thus, little is known about how managers and policy makers might motivate increased intrapreneurial behaviour. In this study we examine the dependence of both entrepreneurial and intrapreneurial intentions on attitudinal differences and self-efficacy differences among individuals. This paper offers the following main contributions to the literature. First, we find that preference for income is positively and significantly related to entrepreneurial intentions but is insignificantly related to intrapreneurial intentions. Second, we find that preference for decision-making autonomy is positively and significantly related to both forms of entrepreneurial behaviour, but is more strongly related to entrepreneurial intentions than to intrapreneurial intentions. Third, we find that preference for ownership (of the firm in which one works) is positively and significantly related to entrepreneurial intentions but negatively and significantly related to intrapreneurial intentions. Fourth, we find that attitude to risk is not related to entrepreneurial intentions but is significantly negatively related to intrapreneurial intentions. Finally, entrepreneurial self-efficacy is positively and significantly related to both forms of entrepreneurial behaviour, but has a stronger relationship with entrepreneurial intentions than with intrapreneurial intentions.

In the following section we examine the prior research into the formation of entrepreneurial intentions. Next we consider the different outcomes that are likely to exist in self-employed entrepreneurship as compared with employed intrapreneurship, and establish hypotheses that will test for impact of these differences given the attitudes of nascent entrepreneurs. In the fourth section we introduce our sample and methodology, and our results are presented in the fifth section. In the final sections we discuss our findings, implications for policy, limitations of this study, and suggest avenues for further research.

PRIOR RESEARCH ON ENTREPRENEURIAL INTENTIONS

The intention to behave entrepreneurially has been examined from three main viewpoints, which focus, respectively, on the individual's human capital, individual cognitions and motivations, and perceived self-efficacy. Human capital is characterised as general or specific (to the intention under review). General human capital is commonly measured by age, experience, education, and gender. (see, for example, Becker, 1964; Gifford, 1993; Gimeno, Folta, Cooper, & Woo, 1997; Shane, 2000; Davidsson & Honig, 2003). Specific human capital, such as prior business experience, prior self-employment, and having relatives who have been self-employed, is also argued to be a determinant of the intention to behave entrepreneurially (see, for example, Shane, 2000; Davidsson & Honig, 2003; Dimov & Shepherd, 2005). Social capital, such as networks of people and membership of organisations, is also associated with individuals forming a predilection for entrepreneurship. (see for example, Coleman, 1990; Birley, 1985; Greene & Brown, 1997; Aldrich, 1999; Shane, 2000). The underlying premise is that some individuals possess the knowledge, skills, and contacts that should allow them to be 'good' at entrepreneurship, and, recognising this they form the intention to become an entrepreneur. In effect they form the impression that they possess the human resources required and can gain access to the other resources needed to behave entrepreneurially.

Shane (2003) suggests that psychological factors influence the likelihood that people will exploit new venture opportunities. These factors may be categorised into three general areas, viz: motivational factors, core self-evaluation, and cognitions. Motivational factors include need for achievement, risk

taking propensity and desire for independence. Core self evaluation factors include locus of control and self-efficacy. Cognitions are beliefs and attitudes that influence how a person thinks and makes decisions, and are largely situational specific and much less stable over time than are motives or core self-evaluation (Shane, 2003: 97). In specific situations, the causation runs from beliefs to attitudes, to intentions, to behaviour. (Fishbein & Ajzen, 1975; Bird, 1994). Conversely, behaviour can be predicted by intentions, which in turn is predictable by attitudes and beliefs (Drnovsek & Erikson, 2005).

A stream of research incorporating individual cognitions and motivating factors has examined entrepreneurship as a utility-maximizing response (Eisenhauer 1995, Douglas & Shepherd, 2000, 2002). This literature argues that an individual will form an intention to become an entrepreneur based on his/her 'entrepreneurial attitudes' these being the attitudes held towards the greater decision-making autonomy, firm ownership, risk, hard work, and perquisites that tend to be associated with entrepreneurship (as compared to employment within a firm). Empirical studies have demonstrated that some entrepreneurial attitudes (preference for autonomy and tolerance for risk) are related to entrepreneurial intentions but that other supposed entrepreneurial attitudes (preference for income, perquisites, and tolerance for hard work) are not significant determinants of entrepreneurial intentions, also being possessed by those who intend a corporate career (Douglas & Shepherd, 2002; Fitzsimmons & Douglas, 2005).

Finally, entrepreneurial intentions have been shown to depend on perceived self-efficacy (Boyd & Vozikis, 1994; Crick, Greene & Chen, 1998; de Noble, Jung & Erlich, 1999; Markman, Balkin & Baron, 2002). Self-efficacy is measured by the strength of an individual's belief that he/she can accomplish a specific task or series of related tasks. It is related to self-confidence and individual capabilities, and these are dependent on prior experience, vicarious learning, social encouragement, and physiological issues (Bandura, 1982; Bandura & Wood, 1989). The stronger a person's self-efficacy in relation to a specific task or series of tasks, such as those involved in starting a new venture, the greater the probability that the individual will subsequently engage in that specified behaviour (Crick, Greene & Chen, 1998).

Previous studies have examined the individual's choice between self-employment and employment (Douglas & Shepherd, 2002; Fitzsimmons & Douglas, 2005). In this paper we go beyond this simple dichotomy to recognise intermediate cases where the individual as an intrapreneur, although not fully independent as a decision maker, nonetheless is able to have some degree of 'ownership' of a new venture and is permitted to behave entrepreneurially to some degree. We speculate that the lesser decision-making autonomy and lesser risk exposure of franchises and intrapreneurship might appeal to individuals with lesser preference for autonomy and lesser tolerance for risk, while employment in a non-entrepreneurial role may appeal more to a person with lesser preference (or aversion) to autonomy and greater aversion to risk bearing.

Previous research has investigated the various economic and psychological motivations of individuals to seek self-employment (Baumol, 1990; Eisenhauer, 1995; Douglas & Shepherd, 2000). The motivation to engage in entrepreneurial behaviour has generally been investigated in terms of entrepreneurial intentions, with intentions conceptualised as being a function of beliefs that in turn can lead to subsequent behaviour (Fishbein & Ajzen, 1975). In general, the greater the intention, the stronger is the motivation to engage in entrepreneurial behaviour (Ajzen, 1991).

A number of models have been proposed to explain the relationship between an individual's personal characteristics and subsequent intentions (eg. Ajzen, 1987; Shapero, 1982; Bird, 1988; Krueger & Brazeal, 1994; Boyd & Vozikis, 1994). Ajzen's theory of planned behaviour (Ajzen, 1991) suggests three key attitudes that predict intentions being attitudes towards the act, social norms and perceived behavioural control. Krueger & Brazeal (1994) suggest that the perceived behavioural control construct overlaps with the self-efficacy construct of Bandura (1986), and outlined a model of potential entrepreneurship that incorporated entrepreneurial intentions. Basing their model on Ajzen's theory of planned behaviour and Shapero's model of the entrepreneurial event (Shapero, 1982), their model included potential for both new ventures and corporate ventures and was comprised of three constructs, these being perceived desirability, perceived feasibility and propensity to act. Perceived desirability was seen to be related to intrinsic rewards associated with entrepreneurship and includes the 'attitude towards the act' and 'social norms' (Krueger & Brazeal, 1994). Perceived desirability is related to the motivational factors to engage in entrepreneurial behaviour and can therefore be considered a function

of entrepreneurial attitudes held by the individual. Perceived feasibility on the other hand, is related individuals perceptions of their ability to implement the required behaviour and is seen by Kreuger & Brazeal (1994) to overlap with Bandura's construct of self-efficacy. Krueger (1993) cites persuasive evidence that perceived credibility, perceived desirability and propensity to act explain over half the variance in intentions towards entrepreneurship, with feasibility perceptions being the most influential.

An alternative model of entrepreneurial intentions was proposed by Bird (1988). Based on established theory in cognitive psychology, the model suggests that an individual's entrepreneurial intention is based on a combination of personal and contextual factors. Personal factors include prior experience as an entrepreneur, personality characteristics and abilities while contextual factors consist of social, political and economic variables (Bird, 1988). An individual's intention is further structured by both rational or analytic thinking (goal-directed behaviour) and intuitive or holistic thinking (vision). Boyd and Vozikis (1994) expand on this model to incorporate the perceived behavioural control aspect of Ajzen's theory of planned behaviour through the inclusion of the concept of self-efficacy. Perceived behavioural control describes the perceived ease or difficulty of performing a task, and as pointed out by Ajzen (1991) is closely related to the concept of self-efficacy. Boyd and Vozikis (1994) proposed self-efficacy to be an important explanatory variable in determining the strength of entrepreneurial intentions and the likelihood that those intentions will result in entrepreneurial actions. The revised model of Boyd and Vozikis (1994) based on Bird's (1998) model suggests that intentions are a function of self-efficacy in addition to attitudes and perceptions regarding the creation of a new venture through rational and intuitive thought processes.

The motivation to behave entrepreneurially is related to the perceived desirability of behaving entrepreneurially and can be explained by the utility-maximizing theory of entrepreneurial behaviour where an individual is motivated to become self-employed (or otherwise behave entrepreneurially) because that course of action promises the greatest psychic utility (Eisenhauer, 1995; Douglas & Shepherd, 2000). Underlying this motivation is the strength of the individual's abilities (human capital) and his/her attitudes to elements provided by entrepreneurship, which include autonomy, risk, work effort, income, and net perquisites. In general, individuals desiring more income, more independence, and more net perquisites are more likely to want to engage in entrepreneurial behaviour. Likewise, an individual with a higher tolerance for risk and less aversion to work effort should be expected to be more likely to want to engage in entrepreneurial behaviour (Douglas & Shepherd, 2000). Fitzsimmons and Douglas (2005) distinguish between an individual's attitude towards decision-making autonomy (reflecting need for independence) and the individual's attitude toward ownership (reflecting need for achievement and/or need for recognition) and find that attitude to ownership is a better predictor of entrepreneurial intentions than is independence.

Empirical evidence has shown that the above mentioned attitudes impact to varying extents when individuals form the intention to be a self-employed entrepreneur. Substantial research indicates that entrepreneurial individuals are generally more risk tolerant and desire more independence than less entrepreneurial individuals (e.g. Caird, 1991; Begley, 1995; Sexton and Bowman, 1984). Douglas and Shepherd (2002) found that attitudes to independence, risk and income are related to the individual's intention to be self-employed. Similarly, Fitzsimmons and Douglas (2005) found evidence that attitudes to ownership, independence and income were related to the individual's intention to engage in entrepreneurial behaviour. Some evidence was found that suggested more-risk-tolerant individuals are more likely to form the intention to be self-employed, while no evidence was found to suggest that more-work-tolerant individuals have greater intentions to be self-employed.

HYPOTHESIS DEVELOPMENT

Entrepreneurial behaviour can, of course, occur within the confines of a corporate career. Corporate entrepreneurship requires individuals within the firm to behave as intrapreneurs and to introduce new products, new services and/or new business processes. Individuals contemplating their careers have a choice of three broad options, viz: behave entrepreneurially by starting one's own business, behave intrapreneurially as a manager within a firm, or seek an employment position that requires little or no entrepreneurial behaviour. Straddling entrepreneurship and intrapreneurship there is the option to behave entrepreneurially as a franchisee of the parent organisation.

Prior studies have suggested and in some cases demonstrated that the individual's attitude toward income, autonomy, perquisites, risk taking and work effort will influence the formation of the intention

to become self-employed (Douglas & Shepherd, 2000, 2002). Fitzsimmons & Douglas (2005, 2007) demonstrated that attitude to ownership of the firm is a significant determinant of entrepreneurial intentions, in conjunction with attitudes to income, autonomy, risk and work effort.

We will now consider the potentially differential impact on intentions of four of these attitudes, viz: towards income, autonomy, ownership and risk, when the object of the intentions is employed intrapreneurship as compared to self-employed entrepreneurship. Starting with attitude to income, we note that preference for income relates to a derived demand for goods and services that can be purchased from income. Basic economics says that individual's wants are effectively unlimited, that fulfilment of those wants provides well-being, and consequently that more income will be preferred to less income. The question of interest is whether the individual might expect more income from self-employment or from intrapreneurial employment. We know that as a self-employed entrepreneur the individual would be the residual claimant of all profits made by the firm, whereas as an employed intrapreneur, the individual can expect a salary and perhaps a bonus related to the success of the firm, but that the firm's shareholders are the residual claimants of the profits that arise from the intrapreneur's efforts. For a given wealth-creating opportunity, therefore, the individual will anticipate greater income as an entrepreneur than as an intrapreneur. Accordingly, the stronger the individual's preference for income, the more we would expect them to prefer self-employed entrepreneurship over employed intrapreneurship, other things being equal. This suggests the following hypotheses:

H1a: Attitude to income will be positively related to self-employment entrepreneurial intentions

H1b: Attitude to income will be positively related to corporate intrapreneurial intentions

H1c: Attitude to income will be more strongly related to entrepreneurial intentions than to intrapreneurial intentions.

Concerning independence, or decision-making autonomy, we know from prior research that the individual's attitude to independence is likely to be positively related to the intention to become an entrepreneur. Will this also hold for intrapreneurial intentions? Intrapreneurship typically allows the employee more independence than would be allowed to employees who are not involved in entrepreneurial projects. But self-employed entrepreneurship is likely to offer the greatest independence of all, since the entrepreneur is the owner-manager of the firm. Accordingly, individuals seeking independent decision making are likely to prefer entrepreneurial self-employment over intrapreneurial employment, and both of these over non-intrapreneurial employment, other things being equal. This suggests the following hypotheses:

H2a: Attitude to independence will be positively related to individual entrepreneurial intentions

H2b: Attitude to independence will be positively related to corporate intrapreneurial intentions

H2c: Attitude to independence will be more strongly related to entrepreneurial intentions than to intrapreneurial intentions.

Now considering the individual's attitude to ownership, we know from prior research that attitude to ownership is positively related to entrepreneurial intentions. Ownership brings more than decision-making autonomy, which may be available to intrapreneurial employees in any case. Ownership also satisfies the individual's need for achievement and recognition, and it has been found to be a distinct construct from attitude to independence (Fitzsimmons & Douglas, 2005, 2007). In intrapreneurial employment situations the individual, by definition, does not obtain a majority ownership position. But in some cases intrapreneurs may be awarded a minority shareholding derived from stock options provided as a performance incentive. If the trapping of ownership are important to the individual they are more likely to seek entrepreneurial self-employment rather than intrapreneurial employment, and the latter will be preferred over non-intrapreneurial employment, other things being equal. This suggests the following hypotheses:

H3a: Attitude to ownership will be positively related to entrepreneurial intentions

H3b: Attitude to ownership will be positively related to intrapreneurial intentions

H3c: Attitude to ownership will be more strongly related to entrepreneurial intentions than to intrapreneurial intentions.

Attitude to risk has been shown to have mixed results in the context of entrepreneurial intentions. While Douglas & Shepherd (2002) found risk tolerance to be positively related to entrepreneurial intentions, many others have found it to be unrelated to entrepreneurial intentions or behaviours (see

for example, Brockhaus, 198X, Palich & Bagby, 1995; Busenitz, 1997; Fitzsimmons & Douglas, 2005, 2007). These mixed results indicate that the issue of risk is more complex than a simple relationship between attitude and intentions. Palich & Bagby (1995) and others argue that risk perceptions, rather than risk propensity, is the operative issue. We ask the question whether risk attitudes are related differently to entrepreneurial intentions as compared to intrapreneurial intentions, and whether past studies have confounded the effect by not distinguishing between entrepreneurial and intrapreneurial intentions. Certainly an entrepreneur must face all the risk that is faced by the firm, whereas an intrapreneurial employee is largely sheltered from that risk to some extent because the shareholders bear the business risk. The employee's base income is likely to remain the same with the impact of risk being felt only on bonuses, if at all. Thus a risk-averse individual would be expected to prefer non-intrapreneurial employment over intrapreneurial employment and the latter over entrepreneurial self-employment, other things being equal. This suggests the following hypotheses:

- H4a: Attitude to (tolerance for) risk will be positively related to entrepreneurial intentions*
H4b: Attitude to (tolerance for) risk will be positively related to intrapreneurial intentions
H4c: Attitude to (tolerance or) risk will be more strongly related to entrepreneurial intentions than to intrapreneurial intentions.

The impact of entrepreneurial self-efficacy on the intention to behave entrepreneurially has been well-discussed in the context of entrepreneurial self-employment (see Chen, Greene & Crick, 1998), but little research has investigated the relationship between entrepreneurial self-efficacy and the intention to behave intrapreneurially. Self-efficacy is an individual's confidence in his/her ability to successfully complete specific tasks (Bandura, 1997). We note that a self-employed entrepreneur is less likely (than an intrapreneur) to be able to gain help from others within the firm (in the completion of complex or difficult tasks) since the entrepreneur is the most senior manager in the organisation while the intrapreneur will necessarily report to more-senior managers. Thus the greater the individual's entrepreneurial self-efficacy the more likely they are to prefer self-employed entrepreneurship to employed intrapreneurship, other things being equal. Nonetheless, the greater the individual's entrepreneurial self-efficacy the more likely they are to seek intrapreneurial employment over non-intrapreneurial employment. This suggests the following hypotheses:

- H5a: Entrepreneurial self-efficacy will be positively related to entrepreneurial intentions*
H5b: Entrepreneurial self-efficacy will be positively related to intrapreneurial intentions
H5c: Entrepreneurial self-efficacy will be more strongly related to entrepreneurial intentions than to intrapreneurial intentions.

In addition to the attitudes and perceived abilities in explaining entrepreneurial intentions, other individual level characteristics have also been shown to be associated with the decision to engage in entrepreneurial behaviour. Individual human capital has been shown to be associated with the decision to exploit an entrepreneurial opportunity, with individuals having greater human capital being more likely to have the intention and to exploit an entrepreneurial opportunity (Davidsson & Honig 1993; Dimov & Shepherd, 2005). At an individual level, human capital factors such as age, education and career experience have been shown to be associated with the decision to exploit an opportunity (Shane, 2003). Studies have shown that individuals with more education than the general population are more likely to exploit entrepreneurial opportunities (Story, 1994; Reynolds, 1997). Education, for example, can increase the individuals' stock of knowledge and can improve entrepreneurial judgement given the increased understanding of the entrepreneurial process (Casson, 1995). Faced with a new venture opportunity this can lead to less uncertainty in evaluating the value of an opportunity and hence lead to increased likelihood that the individual will have the intention to pursue self-employment. Accordingly, human capital measures need to be utilised as control variables in the analysis.

The question of interest here is whether human capital variables will be more or less important for entrepreneurial intentions as compared to their importance for intrapreneurial intentions. Starting with age, we expect older individuals to be more likely to form intrapreneurial intentions than entrepreneurial intentions since they are likely to be unwilling to risk their accumulated assets (retirement income) in a self-employment venture where they would bear the entire risk of unsuccessful outcomes. Education has been shown to be positively related to entrepreneurial intentions, but we expect it to be less strongly related to intrapreneurial intentions because intrapreneurship provides access to the knowledge of others (senior managers) within the firm. Prior business experience is known to relate positively to entrepreneurial intentions, and we conjecture that

it will have a lesser positive relationship with intrapreneurial intentions because the individual can learn on the job while being protected from risk by the employer. This suggests the following hypotheses:

- H6a: Age will be more negatively related to entrepreneurial intentions than to intrapreneurial intentions.*
- H6b: Education will be more positively related to entrepreneurial intentions than to intrapreneurial intentions.*
- H6c: Prior business experience will be more positively related to entrepreneurial intentions than to intrapreneurial intentions.*

SAMPLE AND METHOD

The sample consists of 414 students surveyed at the beginning of their first entrepreneurship class in MBA programs in Australia (n = 46), China (n = 39), India (n = 204) and Thailand (n = 125) between late 2003 and late 2004. These students may reasonably be considered potential entrepreneurs, since they are approaching a career decision point at which they might either enter into employment or seek self-employment (Shepherd & DeTienne, 2005). In each case the survey was completed during the first hour of the first class before any instruction in entrepreneurship was undertaken, although some students may have completed the assigned pre-reading materials for the first class (which concerned opportunity recognition). The sample for each country was generally similar in characteristics such as age, work experience and prior educational background which allowed us to focus on other aspects relating to their attitudes, perceived entrepreneurial abilities and entrepreneurial intentions.

We measured entrepreneurial intentions of the students in the sample using a 7-point scale ranging from very unlikely ("1") to very likely ("7") over eight items measuring intentions to engage in a range of entrepreneurial behaviour. The range of intentions included those related to self-employment options as well as intrapreneurial options within an existing firm. In addition to asking how likely it was that they would start their own firm within two years or at any time in the future, several items related to entrepreneurial and intrapreneurial intentions involving the exploitation of a radical innovation or the exploitation of an incremental innovation. While the items in the survey to some extent mirrored the spectrum of management behaviour from 'Promoter' to 'Trustee' (Stevenson, 1983; see also Davidsson & Wiklund, 2001), we employed factor analysis to investigate the underlying structure of the items in the survey. Using principal components analysis with varimax rotation resulted in three factors with eigenvalues above 1.00 and accounting for 73.3% of the cumulative variance. The three factors were found to be related to individual entrepreneurial intentions (four items), corporate intrapreneurial intentions (three items) and franchising intentions (one item). For the present study we used the averages of the items for individual entrepreneurial intentions ($\alpha = 0.79$) and corporate entrepreneurial intentions ($\alpha = 0.77$). Subsequent analysis found that the attitude to ownership was the only variable related to the franchising intention (a positive relationship), and therefore for the purposes of the present study we concentrated on relationships to the individual entrepreneurship and corporate intrapreneurial intentions. Individual items used in the study and factor analysis results are shown in Table 1.

Table 1. Factor analysis results (Factor loadings less than 0.30 suppressed)

Item	Factor 1 (Individual Entrepreneurship Intentions)	Factor 2 (Corporate Entrepreneurship Intentions)	Factor 3 (Franchise Intentions)
How likely is it that you would want to be self-employed within two years after graduation, assuming you had a good new business opportunity and you could raise the funding necessary to start your own business?	0.83		
How likely is it that you would want to be self-employed at some later point in the future, assuming you had a good opportunity and could raise the funding necessary?	0.80		
How likely is it that you would want to start your own business to exploit a radical innovation?	0.79		
How likely is it that you would want to manage (within your employer's business) a new division (or branch) that is set up to exploit a radical innovation?		0.89	
How likely is it that you would want to start your own business to introduce a new variant of an existing product or service?	0.71		0.32
How likely is it that you would want to manage (within your employer's business) a new division set up to introduce a new variant of an existing product or service?		0.84	
How likely is it that you would want to buy a franchise (of an existing firm) to market an existing product into a defined geographic area?			0.89
How likely is it that you would want to manage (within your employer's business) a new division (or branch) set up to introduce an existing product into a new market?		0.65	0.52

Conjoint analysis was used to obtain measures for the entrepreneurial attitudes of individuals in the sample. The individuals were asked to evaluate a series of hypothetical career profiles and decide on the attractiveness of each profile presented, following Douglas & Shepherd (2002). Based on a career scenario provided, respondents were asked to rate the attractiveness of that career alternative (assumed to be available within two years of graduation) on a seven point Likert scale anchored by very low attractiveness ('1') to very high attractiveness ('7'). The hypothetical scenarios presented were based on five attributes, these being income, risk, work effort, independence and ownership. Further details on the experimental method can be found in Douglas and Shepherd (2002).

The entrepreneurial self-efficacy scale developed by Chen, Greene and Crick (1998) was used for the present study. This scale consists of 22 items measuring an individual's abilities in performing entrepreneurial tasks with each item measured on a 5 point Likert scale ranging from completely unsure ('1') to completely sure ('5'). Following Chen et. Al. (1998), we calculated the total entrepreneurial self-efficacy score by taking the average of the 22 items.

As individual-level characteristics have previously been shown to impact on entrepreneurial intentions we included demographic characteristics such as age and gender as well as general human capital

variables measuring education and business experience as control variables. A dummy variable was also included for those individuals who were currently self-employed.

ANALYSIS AND RESULTS

The descriptive statistics and inter-correlations for the sample are given in Table 2. The mean level of individual entrepreneurial intentions was 5.38 (s.d. 1.26) while the mean level of the corporate intentions was 5.58 (s.d. 1.12). The mean score for entrepreneurial self-efficacy was 3.79 (s.d. 0.53). The inter-correlation matrix indicates several interesting observations between entrepreneurial attitudes and the individual entrepreneurship and corporate entrepreneurship intentions. A positive correlation was found between the attitude to independence and both individual and corporate employment intentions, indicating that individuals with greater individual and also corporate employment intentions prefer greater independence. In contrast, opposite effects were noted in the correlations between individual and corporate intentions and the entrepreneurial attitudes to ownership and risk tolerance differed. A positive correlation was found between individual entrepreneurial intentions and the attitude to ownership whereas a negative relationship was found between corporate entrepreneurial intentions and this attitude. Similarly a positive relationship was found between individual entrepreneurial intentions and their attitude to risk (more risk tolerant) while a negative relationship was found between corporate entrepreneurial intentions and their attitude to risk (more risk averse). Positive correlations were found between entrepreneurial self-efficacy and both measures of intentions.

Table 2. Descriptive statistics and Inter-correlation matrix (* $p < 0.05$, ** $p < 0.01$)

	Mean	S.D.	1	2	3	4	5	6	7
1. Individual Entrepreneurial Intentions	5.38	1.26							
2. Corporate Intrapreneurial Intentions	5.58	1.12	0.08						
3. Income	2.74	0.91	0.03	-0.02					
4. Independence	1.10	0.72	0.11*	0.14* *	- 0.35**				
5. Ownership	0.33	0.63	0.39**	- 0.13*	- 0.25**	0.00			
6. Risk Tolerance	-0.51	0.60	0.13**	-0.06	- 0.17**	0.29* *	0.15* *		
7. Work Effort	-0.13	0.62	-0.01	0.08	- 0.19**	0.23* *	-0.00	0.33* *	
8. Entrepreneurial Self-Efficacy	3.79	0.53	0.21**	0.16* *	0.04	0.12* *	0.01	0.09	0.13* *

We used hierarchical regression analysis to investigate the relationships between the dependent variables of (entrepreneurial and intrapreneurial) intentions and entrepreneurial attitudes and entrepreneurial self-efficacy. The control variables of age, gender, education, total experience and self-employment were first entered into the base model. In the following step we added the various attitude and entrepreneurial self-efficacy variables. The model using individual entrepreneurial intentions as the dependent variable is shown in Table 3.

Table 3. Dependent variable : Individual Entrepreneurial Intentions
 (* p<0.05, ** p<0.01, *** p<0.001, n=372)

	Base Model		Full Model	
	B	Standardised	B	Standardised
Constant	4.57***		3.41***	
Age	0.06	0.23	0.08**	0.30
Sex	-0.09	-0.03	-0.05	-0.02
Education	-.29**	-0.11	-0.30*	-0.12
Income	0.02	0.03	-0.01	-0.02
Self-Employed	0.76***	0.19	0.45*	0.12
Total Experience	-0.05	-0.19	-0.07*	-0.27
ESE			0.47***	0.20
Income			0.24**	0.18
Independence			0.27**	0.16
Ownership			0.86***	0.43
Risk Tolerance			0.14	0.07
Work Effort			-0.08	-0.04
R2	0.06		0.29	
Adjusted R2	0.05		0.26	
Change in R2			0.21	

We found the human capital variables of age, education, total experience and currently self-employed to be significant, with age and currently self-employed being positively related to their self-employment intentions while individuals with greater education and more experience being less likely to have the intention to be self-employed. Adding the attitude and self-efficacy variables in the second step led to a significant contribution over and above the base model ($\Delta R^2 = 0.21$). Significant positive relationships were found between entrepreneurial attitudes to income, independence and ownership and self-employment intentions. Risk and work effort were not found to be significant. In addition, the measure of entrepreneurial self-efficacy was found to be positive and significantly related to an individual's self-employment intention.

The model using intrapreneurial intentions as the dependent variable is shown in Table 4. The human capital variable of age was found to be significantly related to an individual's corporate entrepreneurship intention, with older individuals being less likely to have a corporate entrepreneurship intention. Adding the attitudes and the self-efficacy variables made only a modest contribution over and above the base model ($\Delta R^2 = 0.05$). In contrast to the entrepreneurial intentions model, where we found older individuals to be more likely adopt a preference for self-employment, for intrapreneurial intentions we found older individuals to be less likely to prefer intrapreneurial employment.

Table 4. Dependent variable : Corporate Intrapreneurial Intentions
 (* p<0.05, ** p<0.01, *** p<0.001, ^a p<0.10 ; n=372).

	Base Model		Independent Effects Only	
	B	Standardised	B	Standardised
Constant	7.23***		7.09***	
Age	-0.06*	-0.26	-0.06*	-0.27
Sex	-0.31*	-0.12	-0.24	-0.10
Education	-0.10	-0.04	-0.13	-0.06
Income	0.04	0.09	0.05*	0.11
Self-Employed	-0.10	-0.03	0.30	-0.00
Total Experience	0.04	0.18	-0.04	0.20
ESE			0.30**	0.14
Income			-0.04	-0.04
Independence			0.18*	0.11
Ownership			-0.21*	-0.12
Risk Tolerance			-0.25*	-0.14
Work Effort			0.12	0.06
R2	0.04		0.10	
Adjusted R2	0.02		0.07	
Change in R2			0.05	

Similar to individual entrepreneurial intentions, a significant positive relationship was found between an individual's attitude to independence and their corporate entrepreneurship intentions. In contrast, we find significant negative relationships between attitudes to ownership and risk and corporate entrepreneurial intentions. Interestingly, while more risk-averse individuals were found to have greater intrapreneurial intentions, an individual's attitude to risk was not found to impact on entrepreneurial intentions. Thus it appears that an individual's risk tolerance is a better predictor of corporate intrapreneurial intentions than it is for individual entrepreneurial intentions. Table 5 presents a summary of the results in terms of the hypotheses posed.

Table 5: Summary of Hypotheses and Results

No.	Hypothesis	Supported or not	Comments
1a	Attitude to income will be positively related to entrepreneurial intentions	Supported	
1b	Attitude to income will be positively related to intrapreneurial intentions	Not supported	
1c	Attitude to income will be more strongly related to entrepreneurial intentions than to intrapreneurial intentions.	Supported	Significant for entrepreneurs and insignificant for intrapreneurs
2a	Attitude to independence will be positively related to entrepreneurial intentions	Supported	
2b	Attitude to independence will be positively related to intrapreneurial intentions	Supported	
2c	Attitude to independence will be more strongly related to entrepreneurial intentions than to intrapreneurial intentions.	Supported	Higher significance level and larger coefficient for entrepreneurial intentions
3a	Attitude to ownership will be positively related to entrepreneurial intentions	Supported	
3b	Attitude to ownership will be positively related to intrapreneurial intentions	Not supported	Significantly negative relationship
3c	Attitude to ownership will be more strongly related to entrepreneurial intentions than to intrapreneurial intentions	Supported	Positive relationship for entrepreneurs and negative for intrapreneurs
4a	Attitude to (tolerance for) risk will be positively related to entrepreneurial intentions	Not supported	
4b	Attitude to (tolerance for) risk will be positively related to intrapreneurial intentions	Not supported	Significantly negative relationship
4c	Attitude to (tolerance for) risk will be more strongly related to entrepreneurial intentions than to intrapreneurial intentions	Not supported	Insignificant for entrepreneurs, negative for intrapreneurs
5a	Entrepreneurial self-efficacy will be positively related to entrepreneurial intentions	Supported	
5b	Entrepreneurial self-efficacy will be positively related to intrapreneurial intentions	Supported	
5b	Entrepreneurial self-efficacy will be more strongly related to entrepreneurial intentions than to intrapreneurial intentions	Supported	Higher significance level and larger coefficient for entrepreneurial intentions
6a	Age will be more negatively related to entrepreneurial intentions than to intrapreneurial intentions.	Not supported	Insignificantly related to entrepreneurs, significantly negative for intrapreneurs
6b	Education will be more positively related to entrepreneurial intentions than to intrapreneurial intentions.	Not supported	Insignificantly related to both entrepreneurial and intrapreneurial intentions
6c	Prior business experience will be more positively related to entrepreneurial intentions than to intrapreneurial intentions	Not supported	Significantly negative for entrepreneurs, insignificant for intrapreneurs

DISCUSSION AND IMPLICATIONS

This study investigated the role of entrepreneurial attitudes and entrepreneurial self-efficacy on an individual's intention to engage in entrepreneurial behaviour, either as a self-employed entrepreneur or as an organisationally-employed intrapreneur. Founding our arguments on existing models of entrepreneurship intentions, we find evidence that the relationship between attitudes and abilities and entrepreneurial intentions may differ when the object of the intentions is corporately employed intrapreneurship rather than self-employed entrepreneurship. By investigating the intention to engage in both individual entrepreneurial behaviour as well as corporate intrapreneurial behaviour we have uncovered different relationships between motivations and abilities and entrepreneurial intentions across a range of entrepreneurial behaviour.

Our results are generally consistent with previous work by Douglas and Shepherd (2002) and Fitzsimmons and Douglas (2005). In general we found that individuals who prefer more income, more independence and more ownership will have higher individual entrepreneurial intentions. In contrast to Douglas and Shepherd (2002) and in common with Fitzsimmons and Douglas (2005) we find no evidence that more-risk-tolerant individuals will have higher individual entrepreneurial intentions. Instead we find that less-risk-tolerant individuals will have a preference for corporate intrapreneurship. This difference may explain the conflicting results in previous studies of the dependence of entrepreneurial intentions on attitude to risk (or risk propensity) – it seems that the impact of risk attitude depends importantly on the type of entrepreneurial behaviour contemplated by the individual.

Whereas Fitzsimmons & Douglas (2005, 2007) found attitudes to ownership to be significantly and positively related to entrepreneurial intentions, our separation of individual entrepreneurial intentions from corporate intrapreneurial intentions found that attitudes to ownership were strongly positive for individual entrepreneurial intentions, but significantly negative for corporate intrapreneurial intentions. Again, this is a significant result, since it demonstrates that the formation of entrepreneurial intentions depends upon the type of entrepreneurial behaviour contemplated. This result also provides further evidence for independence and ownership as distinctly separate entrepreneurial attitudes as suggested by Fitzsimmons and Douglas (2005).

Significant positive relationships were also found between entrepreneurial self-efficacy and both individual and corporate entrepreneurial intentions, which provides further evidence for the importance of self-efficacy and its relationship to intentions as suggested in the entrepreneurial intentions models and as found by Chen et al. (1998). As hypothesised, our findings suggest that self-efficacy is more strongly significant with a larger coefficient for individual entrepreneurship than for corporate intrapreneurship. In other words, individuals who perceive themselves as having greater entrepreneurial self-efficacy may be slightly more likely to form the intention to engage in self-employed entrepreneurial endeavours rather than corporate intrapreneurial employment.

Consistent with previous studies we found human capital variables to be significant in explaining variance in entrepreneurial intentions. But by considering individual entrepreneurship versus corporate intrapreneurship we have uncovered several interesting features in the relationships between human capital and entrepreneurial intentions, although some of these may be due to the characteristics of the sample used. We find age influences both individual entrepreneurial and corporate intrapreneurial intentions with older individuals having greater self-employment intentions but lower corporate employment intentions. While in general a curvilinear relationship is suggested (Shane, 2003: 89), we suspect that in the current sample, younger individuals starting out on a career path may have a preference for corporate employment (where they can gain relevant experience) in comparison to older individuals who may be returning to study in order to ready themselves for self-employment after substantial prior experience in corporate employment. In addition, we find negative relationships between education level and total business experience with respect to individual entrepreneurial intentions. Similar to the arguments for age, we suspect this is also a characteristic of the particular sample being used.

SUMMARY AND LIMITATIONS

In this paper we examined the attitudinal antecedents of the intention to behave entrepreneurially, where this intention can be directed towards actuality either as self-employment or as employment within a firm as an intrapreneur. Using human capital measures as control variables, and

entrepreneurial self-efficacy as a co-determining variable, we demonstrated that for the sample of 414 individuals contemplating career choice upon completion of their MBA program, the drivers of intentions differ between those contemplating self-employment versus employment as an intrapreneur. Those intending to pursue self-employment generally have more favourable attitudes to income, independence and ownership whereas those with a preference towards a corporate intrapreneurial role tended to desire less independence, have lower attitudes to ownership, and be more risk averse. We found entrepreneurial self-efficacy to be positively related to an individual's intention to act entrepreneurially whether in self-employment or in a corporate environment.

This study is not without its limitations. Our measures for individual entrepreneurship and corporate intrapreneurship intentions may be overly simplified – we used the average score of the responses to questions (each anchored on a 7-point Likert scale, about the intention to behave entrepreneurially). For individual entrepreneurship the questions related to the strength of intention to become self-employed to exploit a radical (disruptive) innovation, and secondly, and the intention to become self-employed to exploit an incremental (imitative) innovation. For corporate entrepreneurship the questions related to the strength of intention to join a company and manage the exploitation of a radical (disruptive) innovation, and secondly, and the intention to join a company and manage the exploitation of an incremental (imitative) innovation. In order to check for bias, we performed further analysis using each of these items individually and subsequently found the results to be remarkably robust in comparison to the respective dependent variables actually used in the study, with similar results being obtained in each case.

In the middle ground between self-employment and corporate employment sits the franchise. Respondents were asked about their intention to purchase a franchise to exploit the geographic expansion of an existing business, but this issue was not pursued further since it rested on a single questionnaire item. Further analysis was performed using this single item as the dependent variable with the attitude to ownership being the only significant independent variable and positively related to the franchise intention. We suggest that further work should be done to investigate the relationship between attitudes and abilities and the intention to become a franchisee. Thus, there appears to be scope for future studies to ask a series of Likert-type questions about entrepreneurship in the context of self-employment, franchises and within corporates, such that reliable measures of intentions are obtained rather than relying on single item measures.

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