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ENTREPRENEURIAL ATTITUDES AND ENTREPRENEURIAL  
INTENTIONS: A CROSS-CULTURAL STUDY OF POTENTIAL  
ENTREPRENEURS IN INDIA, CHINA, THAILAND AND AUSTRALIA.

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# ENTREPRENEURIAL ATTITUDES AND ENTREPRENEURIAL INTENTIONS: A CROSS-CULTURAL STUDY OF POTENTIAL ENTREPRENEURS IN INDIA, CHINA, THAILAND AND AUSTRALIA.

## ABSTRACT

The intention of an individual to behave entrepreneurially arises because the entrepreneur perceives self-employment (or entrepreneurial behaviour within an organization) to be utility-maximizing, and thus forms the motivation to behave entrepreneurially. As argued elsewhere, the intention to behave entrepreneurially depends on the human capital of the individual. Here we argue that human capital includes not only personal abilities and social capital but also innate attitudes to aspects of entrepreneurship, such as independence, firm ownership and risk. Thus the motive for pursuing self employment (or any other entrepreneurial behaviour) is considered as a function of an individual's abilities and attitudes. This study investigated the relationship between entrepreneurial attitudes and abilities and entrepreneurial intentions across four countries, viz: India, China, Thailand and Australia. We find that entrepreneurial attitudes are significant in explaining career decisions in all four countries with some variation in the relative importance of each of these attitudes. We also find cross-cultural differences in the degree to which entrepreneurial attitudes explain entrepreneurial intentions.

## INTRODUCTION

A great deal of research has investigated the reasons for the creation of new enterprises and the entrepreneurial characteristics of those individuals responsible for the emergence of new firms. An important question is why some individuals decide to pursue entrepreneurial endeavours while others do not. Research has investigated the possible reasons behind this behaviour from the perspective of the individual themselves as well as economic and other factors in their environment (Acs, Audretsch and Evans, 1994; Hofstede, 2004). Recent work has also investigated the utility derived from choosing self employment over traditional career opportunities - it is argued that individuals will choose self-employment as a career option if the utility derived from this choice exceeds the utility derived from employment (Eisenhauer, 1995; Douglas & Shepherd, 2000).

While the utility derived from self-employment may exceed that derived from other career alternatives it is generally not a sufficient condition for an individual to engage in entrepreneurial behaviour. Rather, entrepreneurial behaviour has three necessary conditions, these being (i) the motive to pursue self-employment (or other entrepreneurial behaviour); (ii) the perception of an apparently lucrative entrepreneurial opportunity; and (iii) access to the means to pursue that opportunity. Without the simultaneous existence of these three pre-requisite conditions entrepreneurial behaviour will not eventuate.

The motivation to behave entrepreneurially is explained by the utility-maximizing theory of entrepreneurial behaviour – viz: that the 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).

The means to pursue an opportunity is that combination of resources required to successfully create a new organisation, and includes financial and human capital. Our concern here is confined to the individual's human capital. Specifically we are concerned with the human capital required to pursue an entrepreneurial venture, and following Douglas and Shepherd (2005), we define entrepreneurial human capital in terms of an individual's entrepreneurial abilities and entrepreneurial attitudes.

Entrepreneurial human capital is composed of general human capital (for example, age or business experience), social capital, and entrepreneurship-specific human capital such as the abilities to perceive opportunities, raise capital, expand a business and so on, and the attitudes to independent decision-making, risk, and hard work.

The presence and accessibility of an apparently lucrative opportunity is also a necessary condition for the creation of a new organisation, and an important consideration in the entrepreneurial process (Shane & Venkataraman, 2000; Venkataraman, 1997). Again, the perception of a new venture opportunity is likely to depend at least in part on the individual's human capital. In this paper we are primarily concerned with the human capital issues underlying the motivation to engage in entrepreneurial behaviour. This motivation must of course be held in abeyance until there is the simultaneous availability of the opportunity and the means. In investigating motivation we must therefore focus on the 'readiness' of individuals to behave entrepreneurially if and when the other two necessary elements fall into place. This readiness can be approximated by the espoused intentions of individuals to become self-employed (or to engage in another form of entrepreneurial behaviour). Research has demonstrated the relationship between intentions and behaviour (e.g. Ajzen, 1991; Madden, Ellen, Ajzen, 1992; Krueger & Carsrud, 1993). Thus, this paper is primarily concerned with the individual's intention to behave in an entrepreneurial manner, and it is argued that this intention will be greater if the individual has greater entrepreneurial human capital.

It is also known that there are differences in entrepreneurial behaviour between national cultures, with some cultures having a higher propensity to start new ventures (Light, 1984). Culture in this sense is defined as a set of shared values, beliefs and expected behaviours (Hofstede, 1980). National cultures that value and reward entrepreneurial behaviour are considered more likely to have a higher incidence of innovation and new venture creation. On the other hand, cultures that emphasise group conformity are generally less likely to exhibit high rates of entrepreneurship (Hofstede, 1980). Baumol (1990) argued that entrepreneurship rates also depend on the economic rewards available to entrepreneurs in different national economies.

In this paper, we use data from a four-country study (Australia, China, India and Thailand) of potential entrepreneurs and investigate the degree to which entrepreneurial attitudes and abilities relate to the individuals' intentions towards entrepreneurial behaviour (of various types) and whether these attitudes and intentions vary between countries.

## THEORY AND HYPOTHESES

### Human Capital and Entrepreneurship

Human capital theory asserts that individuals with more or higher levels of human capital achieve higher performance in executing relevant tasks (Becker, 1964). From an entrepreneurship perspective, it has also been suggested that individuals with greater human capital would be more likely to pursue and be successful in entrepreneurial endeavours (Greene, 2000; Douglas and Shepherd, 2000). The specific human capital relevant to entrepreneurship also needs to be distinguished from the more general concept of human capital. Aldrich, Renzulli and Langton (1998) define the concept of "entrepreneurial capital" as the experience and skills associated with business ownership and managerial experience. Douglas and Shepherd (2005) define entrepreneurial capital as the composite of the individual's entrepreneurial attitudes and abilities. Entrepreneurial attitudes are those toward autonomy, risk, work, income and (other net) perquisites, while entrepreneurial abilities include opportunity recognition, viability screening, and creative problem solving skills.

The decision to act entrepreneurially has been argued to be related to the utility derived from self-employment (Eisenhauer, 1995) with individuals' with more positive entrepreneurial attitudes and stronger entrepreneurial abilities being more likely to attain higher levels of utility in self-employment than in employment (Douglas and Shepherd, 2000). Previous research has identified the role of risk tolerance, income and preference for independence as being significant in the decision to be self-

employed (Douglas and Shepherd, 2002). Individuals with more tolerance for risk and stronger positive attitudes toward income and independence are more likely to want to pursue an entrepreneurial endeavour. Note that Douglas & Shepherd (2002) did not find attitude to work effort to be significantly related to entrepreneurial intentions, although their sample (MBA students) may not have been representative of the population in this respect. While individual attitudes to income, independence, risk, work effort and net perquisites may vary, we would expect that individuals indicating higher expected utility (or lower disutility) from these factors would be more likely to have greater entrepreneurial intentions. This suggests the following hypotheses:

*H1: The intention to behave entrepreneurially is positively related to the individual's attitudes toward ownership, income, independence, risk tolerance and work effort tolerance.*

We propose that the individual's attitude towards the "independence" of entrepreneurship encompasses two main and separate attitudes towards entrepreneurial independence. First and foremost among these is the desire to "be my own boss" or to have decision-making autonomy, a concept rampant in the textbooks (Barringer & Ireland, 2006, p.6; Hisrich, Peters & Shepherd, 2005, p.63) and emphasized by Douglas & Shepherd (2000). This is about control of the decision-making process, and can of course be achieved at senior management level in employment situations as well, not to mention at lower levels of employment in those organizations which empower individuals to make their own decisions in the context of the organization's mission and objectives. The span of control is generally taken to be total in self-employment and substantially curtailed in employment. But in reality the span of control might be quite limited in self-employment situations due to the oversight of investors, lenders, creditors, labour unions, and customers. Conversely within employment situations, empowerment of employees might be considerable and might range toward near-total for some intrapreneurs and senior managers.

We contend that even in situations where decision-making power is effectively quite limited, individuals might prefer to be independently self-employed for a group of reasons relating to business ownership, *per se*. Business ownership might be expected to deliver significant utility to the individual in terms of his/her need for achievement, desire for societal recognition, the perceived or imagined status of ownership, pride at being able to depict oneself as owner-manager, and so on. Accordingly, we consider "ownership" as a separate variable to "independence", and ask whether individual's expect to gain utility from the ownership of their own business, as separate and distinct from the utility expected from being one's own boss. Our analysis suggests the following hypothesis:

*H2: Attitudes to "decision-making independence" and "ownership" are conceptually separate elements underlying the individual's intention to be self-employed.*

In addition to having favourable entrepreneurial attitudes, an individual also needs a variety of skills or abilities in order to be successful in self-employment. Many studies have investigated the relationship between human capital and the incidence of entrepreneurship or the performance of entrepreneurs (see most recently Davidsson & Honig, 2003; Dimov & Shepherd, 2005). These studies have been largely concerned with the entrepreneurial abilities of entrepreneurs and have neglected the entrepreneurial attitudes of the entrepreneurs (Douglas & Shepherd, 2005). Results have been contradictory and somewhat inconclusive, although significant correlations have commonly been found for example between entrepreneurial behaviour and age (Evans and Leighton 1989; Kim, Aldrich, Keister, 2003), gender and prior business experience (Kim, Aldrich, Keister, 2003), or relatives in self-employment (Altonji and Dunn, 1991; Aldrich, Renzulli, and Langton, 1998).

Gifford (1993) distinguishes entrepreneurial ability (the ability to recognise an opportunity and acquire the necessary resources to exploit that opportunity) from managerial ability (the ability to maintain the profitability of a business). She demonstrates that an individual's skill in these areas determines their choice of career as either an entrepreneur, entrepreneurial manager or as a salaried employee or manager. Douglas and Shepherd (2005) expand on this concept and suggest that entrepreneurial abilities are comprised of a hierarchy of skills with entrepreneurial skills being the

higher order management skills which include opportunity recognition, viability screening and creative problem solving.

Closely related to the concept of entrepreneurial abilities is Entrepreneurial Self-Efficacy (ESE) which as discussed by Chen, Greene and Crick (1998) refers to the strength of an individual's belief that he or she is capable of successfully performing the roles and tasks of an entrepreneur (Boyd and Vozikis, 1994; Scherer, Adams, Carley, and Wiebe, 1989). Therefore we would expect that self-efficacy scores as well as measures of human capital such as age, gender and prior work experience can assist in explaining entrepreneurial attitudes and preferences for self-employment.

### National Culture and Entrepreneurship

Of interest in this study is whether entrepreneurial attitudes vary across cultures and whether cross cultural differences are apparent in entrepreneurial intentions. Much of the literature on cross-cultural differences in entrepreneurial behaviour has focussed on the work of Hofstede (1980) and the cultural dimensions of individual-collectivism, uncertainty-avoidance, power distance and masculinity-femininity. In general, researchers have proposed that entrepreneurial behaviour is facilitated by cultures that are high in individualism, low in uncertainty avoidance, low in power distance and high in masculinity (Hayton, George and Zahra, 2002).

The empirical evidence on the relationship between national culture and entrepreneurial behaviour is mixed and it is generally agreed that an important issue that needs to be considered is the interactions between cultural values, social institutions, industry characteristics and outcomes such as entrepreneurship (Hayton et al., 2002). Shane (1993) investigated the relationship between national culture and rates of innovation across countries and found that uncertainty avoidance was negatively associated with innovation over two time periods considered. Some evidence was also found that cultures higher in individualism and power distance had higher levels of innovation. Davidsson and Wiklund (1997) examined new firm formation rates in six regions in Sweden with distinct characteristics in values and beliefs and attempted to control for several structural factors including economic factors such as unemployment levels. Their study found only marginal evidence for the influence of cultural values on new firm formation rates in these areas.

In contrast, Baum et al. (1993) hypothesised a reversed role of individualism arguing that in less-individualistic cultures, individuals with entrepreneurial intentions might be more inclined to seek self-employment given that their needs are not satisfied within existing organisations. Acs, Audretsch and Evans (1994) and Hofstede, Noorderhaven, Wennekers, Uhlaner and Wildeman (2004) examined the relationship between culture and self-employment and found some evidence that higher uncertainty avoidance and lower levels of individualism are related to higher levels of self employment. Hofstede et al. (2004) suggests the "dissatisfaction hypothesis" where entrepreneurial individuals are pushed towards self-employment because of dissatisfaction in their corporate environment. They found evidence that levels of self-employment are positively related to the dimensions of power distance, uncertainty avoidance and masculinity but negatively related to individualism.

Overall, the empirical literature seems to indicate that entrepreneurial behaviour across nations is dependent on more than cultural values and beliefs, and that other structural factors must also be taken into account. Etzioni, (1987) suggests that culture influences the supportiveness of the environment and hence it may make it more legitimate to for a new business. Davidsson and Wiklund (1997) also suggest that supportive cultures influence the psychological characteristics of individuals within a given population resulting in a higher proportion of potential entrepreneurs. Hayton et al. (2002) suggest that national culture does have a role to play in entrepreneurship since it influences the motives, values and beliefs of individuals. They develop a model where culture is considered a moderating variable between contextual factors and entrepreneurial outcomes. Their model proposes national culture as a catalyst rather than a causal agent of entrepreneurial outcomes. They further suggest that since some studies did find significant relationships between national culture and

entrepreneurial outcomes, the role of culture is to transform and complement the institutional and economic contexts to influence entrepreneurship.

In addition to national culture, the role of economic and institutional contexts have been identified as key drivers of entrepreneurship (Leff, 1979). Economic factors such as level of economic development, tax rates, unemployment, competition and female labour participation have been proposed as being related to entrepreneurship (Blau, 1987; Evans and Leighton, 1989; Acs, Audretsch and Evans, 1994). A relationship between unemployment and entrepreneurship has been suggested although the relationship is complex (Hofstede et al., 2004). Given that the opportunity costs for an unemployed individual are lower, it can be expected that unemployment might push some individuals into self employment (Evans and Leighton, 1990; Acs, Audretsch and Evans, 1994; Foti and Vivarelli, 1994). But higher levels of unemployment might be related to an economic downturn, in which case self-employment for individuals might be less profitable. Tax rates could also become an increasingly important factor influencing the level of entrepreneurship as populations age and the tax burden falls onto the younger, current working generation. High marginal tax rates in Australia for example, possibly deter individuals from working excessive hours (OECD, 2004). In this case, individuals with a high tolerance for work effort might be more likely to gain utility from self-employment.

Given the impact of national culture and economic environments on entrepreneurship, we also expect that cultural differences may impact on individuals' entrepreneurial attitudes. The attitude to income, for example, might be expected to positive and significantly related to lower levels of prosperity, suggesting that countries with lower levels of per-capita income should place more emphasis on income in their career decisions. Similarly, economic influences might impact on an individuals' attitude to work effort, in which case we might expect individuals' in countries with lower prosperity to place more emphasis on their attitude to work effort given the relationship between work effort and income. We would also expect the entrepreneurial attitudes toward independence and risk to overlap with Hofstede's cultural dimensions of individualism and uncertainty avoidance, in which case we would expect that cultures high in individualism and high in uncertainty avoidance to place more emphasis on independence and risk avoidance (respectively) in their career decisions. Finally, an individuals' attitude to ownership indicates the relative importance individuals place on the perceived benefits of being a business owner. As such we would expect that cultures high in individualism would place more emphasis on ownership in their career decisions. Thus we hypothesise that:

*H3a: Attitudes to income will be more strongly positive in those countries with lower per-capita income.*

*H3b: Attitudes to independence will be more strongly positive in those countries with higher scores on Hofstede's Individualism index.*

*H3c: Attitudes to ownership will be more strongly positive in those countries with higher scores on Hofstede's Individualism index.*

*H3d: The degree of risk tolerance will be more strongly negative in those countries with lower scores on Hofstede's Uncertainty Avoidance index.*

## Conceptual Model

The foregoing analysis allows a schematic representation of a model of the antecedents of entrepreneurial behaviour as depicted in Figure 1. We contend that entrepreneurial human capital, comprising both entrepreneurial abilities and entrepreneurial attitudes, are a determinant of each of the three necessary conditions for entrepreneurial behaviour, viz: motivation, opportunity, and means. In this paper we have argued only the relationship between entrepreneurial human capital and motivation, but others have argued the links between human capital and opportunity (e.g. Davidsson & Honig, 2003) and social capital and opportunity (e.g. Chen et al., 1998). Similarly the link between entrepreneurial human capital and the means is argued elsewhere (Becker, 1964; Kim, Aldrich, & Keister, 2003). Social capital might be particularly important in gaining access to the financial capital necessary to perceive or exploit a new venture opportunity. We argue that all three of the necessary conditions are moderated by the social and economic circumstances impinging on the individual.

[INSERT FIGURE 1 NEAR HERE]

The heavy lines in Figure 1 indicate the focus of this paper – i.e. we confine this paper to investigating the impact on the individual's intention to behave entrepreneurially of the various components of entrepreneurial human capital (entrepreneurial abilities and entrepreneurial attitudes) and expect these to be moderated by the different social/cultural values and economic conditions that prevail in the individual's locality.

## METHOD

### Sample

The sample consists of 414 students surveyed at the beginning of their first entrepreneurship class in MBA programs in Australia, China, India and Thailand. These individuals may be considered potential entrepreneurs, since they are approaching a career decision point at which they might either enter into employment or seek self-employment. In any case, since the actualisation of entrepreneurship must await the simultaneous occurrence of the motivation, means and opportunity, our interest was solely with their intentions to behave entrepreneurially at a later point in time. In the latter three countries the entrepreneurship course was ostensibly an elective, but in fact almost all students elected for this course due to the limited number of electives offered and/or revealing a strong interest in entrepreneurship relative to the other electives offered. The surveys were undertaken between late 2003 and late 2004 by one of the co-authors who taught virtually the same entrepreneurship course at all four institutions. In each case the survey was completed during the first hour of the first class before any "instruction" in entrepreneurship was undertaken, although in all cases the students had access to the Study Materials and some may have completed the assigned pre-reading materials. The sample for each country was generally similar in characteristics such as age, work experience and prior educational background (see below), which allows us to focus on other aspects of their human capital in which there was greater diversity.

### Analysis of Individuals' Entrepreneurial Attitudes

Conjoint analysis was used to obtain measures for the entrepreneurial attitudes of individuals in the samples with individuals from each country being asked to evaluate a series of hypothetical career profiles and decide on the attractiveness of each profile presented. 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 ownership attribute was included here for the first time.

### Post Experiment Questionnaire

A post-experiment questionnaire was also administered. This questionnaire was designed to measure entrepreneurial abilities and collect personal details as well as providing a measure of the individuals' intention to start a business. Our measure of entrepreneurial intention was the individuals' response to the question "How likely is it that you will start your own business within two years after graduation". Their response was measured on a seven point Likert scale from very unlikely ("1") to very likely ("7").

### Human Capital and Entrepreneurial Self Efficacy.

Items to measure general human capital included age, gender, level of education, education specialty, business experience and personal income. Scores on the Graduate Management Admissions Test

(GMAT) were also collected from those possessing such data. The entrepreneurial self-efficacy scale developed by Chen et al. (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").

## ANALYSIS AND RESULTS

The descriptive statistics for each of the four samples in the study are shown in Table 1. The average age of individuals in the Australian, Chinese and Thai samples was approximately 30 years with the Indian sample being slightly lower at 26.7 years. Education levels and the proportion of females in each group were similar, apart from the Thailand sample which had a somewhat higher proportion of females (40.2%). We also noted some differences in educational backgrounds in each group, with the Thailand and Chinese individuals having a higher proportion of students with a Business education background, and the Chinese and Indian students having higher proportions with and engineering backgrounds.

[INSERT TABLE 1 NEAR HERE]

Some differences were also noted in the proportion of students with general business experience and the proportion of students reporting that they were recently self-employed. Overall, the Australian and Thailand students had a larger number of years of general business experience with 9.39 and 7.14 years respectively, while the Chinese and India students had a less general business experience (5.62 and 4.70 years respectively). Thai students also indicated more direct business experience, with 17.8% reporting that they were recently self employed, as compared to the Chinese with 2.56% reporting that they were recently self employed. No significant differences were found between the average Entrepreneurial Self-Efficacy score for each of the four samples (scores ranging from 3.65 to 3.92 on a scale of 1 to 7).

### Entrepreneurial Attitudes and Career Decisions

Regression analysis of the entrepreneurial attitudes on the individual's career intentions explained a significant proportion of the variance in entrepreneurial intention across the four samples. Hierarchical Linear Modelling (HLM) was used to determine the effect of attitudes to income, risk, independence, work effort and ownership on the career decisions for each country in the study. The models also include entrepreneurial self-efficacy and the human capital variables of age, gender and total business experience in order to further explain the variance in individual's desirability attitudes. These results are given in Tables 2 to 5.

[INSERT TABLES 2,3,4,5 NEAR HERE]

The first column of Table 2 specifies the variables in the model including the intercept, entrepreneurial self-efficacy and the human capital variables. Across the top of the table are the model intercept variable and the career attributes of ownership, income, work effort, independence and risk. The model intercept specifies the extent to which entrepreneurial self efficacy and human capital variables explain individual differences in career decisions over and above the impact of these variables on the individual's decision policies. Coefficients and p-values are provided for each entrepreneurial attitude and the entrepreneurial self-efficacy and human capital variables. The coefficients for each entrepreneurial attitude (in the columns) represent the degree to which entrepreneurial self-efficacy and human capital variables can explain the differences in the individual's attitudes towards the particular attitude of interest.

For example, the first row of Table 2 provides coefficients for the intercept and indicates whether the entrepreneurial attitudes of ownership, income, independence, work effort and risk were significantly used by the sample as a whole in their career decisions. In the Australian sample, attitudes to ownership (coefficient = 0.514; p = 0.000), income (coefficient = 2.471; p = 0.000), independence

(coefficient = 0.860;  $p=0.000$ ) and risk (coefficient = -0.607;  $p=0.000$ ) were significant in explaining career decisions in the sample as a whole. The impact of work was not significant. The results for entrepreneurial self-efficacy for each attitude are given in the second row and indicate that entrepreneurial self-efficacy can explain variance in work effort (coefficient = 0.676;  $p<0.01$ ) and risk (coefficient = 0.329;  $p<0.05$ ). The coefficients are positive and indicate that individuals with greater self-efficacy place less emphasis on work effort required and are less risk averse than individuals with lower entrepreneurial self efficacy. The results for the Australian sample also indicate that entrepreneurial self efficacy is not significant in explaining the variance in attitudes to ownership, income and independence.

The overall results for the Australian sample indicate that after controlling for entrepreneurial self efficacy, age, gender and business experience the individuals in the sample significantly used ownership, income, independence and risk in their career decisions. The individuals' desired more ownership, more income, more independence and less risk, while work effort was not significant. Entrepreneurial self-efficacy and gender were also found to explain variance in work effort attitudes for the sample.

The results for the Chinese sample (Table 3) indicate that ownership, income, work effort, independence and risk are significant in explaining variance in career decisions. In this case, the Chinese sample desired more ownership, more income, more independence, less work effort and less risk. Entrepreneurial self-efficacy and the human capital variables were not found to be significant in explaining variance in any of the entrepreneurial attitudes.

The results for the Indian sample (Table 4) indicate that ownership, income, independence and risk are significant in explaining variance in career decisions. Work effort was not significant. Overall, the Indian sample desired more ownership, more income, more independence and less risk. The individuals total business experience was significant in explaining variance in risk tolerance (coefficient = 0.071;  $p<0.05$ ). Entrepreneurial self-efficacy and the human capital variables were not significant in explaining variance in any of the entrepreneurial attitudes.

The results for the Thailand sample (Table 5) indicate that ownership, income, work effort, independence and risk are significant in explaining variance in career decisions. Overall, the Thais desired more ownership, more income, more independence, less work effort and less risk. Entrepreneurial self-efficacy was not found to be significant in explaining variance in any of the entrepreneurial attitudes. The human capital variables of age and total business experience was however significant in explaining attitudes towards risk, with older individuals and individuals with more business experience being less risk averse.

Our results from the HLM analysis indicate that attitudes to income, independence, risk and ownership are significant in explaining an individual career decisions across all four countries in the study. Differences were noted with respect to the significance in attitudes to work effort with work effort being significant for an individuals' career decisions in the Thailand and Chinese samples only.

#### Cross-country comparisons

In order to investigate whether there was a difference in entrepreneurial attitudes between the different countries in the study, the models were re-run with dummy variables to allow pair-wise comparisons.

#### *Ownership*

The Indians placed less emphasis on ownership than did the Australians. No significant differences were found in comparisons between the other countries although it was noted that the Australians in general placed the most emphasis on ownership and the Indians the least. Given that the ownership dimension relates to the utility of owning ones own business we would expect that all else being equal Australians should have higher intentions to be self employed, while Indians would have a preference

for employment. The result also provides support for hypothesis *H3c* given the much higher individualism index for Australia (Table 8).

#### *Income*

The Chinese and Thai samples placed more emphasis on income than either the Australians or Indians. Overall, the Thais were found to place the most emphasis on income, followed by the Chinese and the Indians, while the Australians placed the least emphasis on income. The results offer support for hypothesis *H3a* in that Australians (with the highest per capita gross national income of US\$19,530) did tend to place less emphasis on income as compared to the Chinese, Indians and Thais with per capita gross national incomes of US\$960, US\$470 and US\$2000 respectively (see Table 8).

#### *Work Effort*

The Chinese and Thais were found to be more work averse than either Australians or Indians. In summary, the Australians were found to be the least work averse, followed by the Indians then the Chinese then the Thais.

#### *Independence*

Indians were found to place more emphasis on independence than either Australians or Thais. The Chinese placed less emphasis on independence than the Indians, while the Chinese were found to place more emphasis on independence than the Thais. In summary, the Indians placed the most emphasis on independence, followed by Chinese, then Australians, then Thais. Thus hypothesis *H3b* is not supported which suggests that the entrepreneurial attitude of independence may not be associated with Hofstede's individualism index.

#### *Risk*

Indians were found to be less risk averse than the Thais. No other significant differences were found between the countries in the study. While not significant, Australians were generally the most risk averse while the Indians were the least risk averse. The result also indicates that hypothesis *H3d* is not supported given the uncertainty avoidance scores for Australia, China, India and Thailand being 51, 40, 40, and 64 respectively (Table 8).

### Entrepreneurial Attitudes and Entrepreneurial Intentions

The descriptive statistics for the entrepreneurial attitudes and entrepreneurial intentions are shown in Table 6. The Thai and Chinese samples were found to have higher intentions on average to start a business within the next two years (5.62 and 5.59 respectively) compared to the Australians or Indians (5.36 and 4.79 respectively). The difference in entrepreneurial intentions for the Thailand and Indian samples was statistically significant ( $p < 0.001$ ).

Individual attitudes were regressed onto entrepreneurial intentions for each country in the study (Table 7). These models indicated the relative importance of each attitude in the decision to starting a new business within the next two years. In the Australian sample, the intention to start a new business within two years was positively and significantly related to ownership, income and risk tolerance. Interestingly, more work averse individuals in the Australian sample had higher intentions to start a new business within two years, apparently perceiving self-employment as having less onerous work effort implications.

[INSERT TABLES 6 & 7 NEAR HERE]

The Indian sample indicated that ownership, income and independence were significant in their decision to start a new business within the next two years, with those individuals desiring more ownership, more income and more independence indicating a higher intention to start a new business within the next two years.

In contrast, only the ownership attitude was significant in the Thai sample, with the individuals who wanted more ownership indicating a higher intention to start a new business within two years. None of the other attitudes were significant. For the Chinese, ownership, income, independence, work effort and risk were not significantly related to their intention to start a new business within two years.

Overall, the results for each country in the study indicated differences in the degree to which entrepreneurial attitudes explained variance in entrepreneurial intentions, with attitudes to ownership being the most significant indicator of entrepreneurial intentions. In general though, we found that the intention to behave entrepreneurially is positively associated with attitudes to ownership, income, independence and risk tolerance providing some support for hypothesis *H1*.

## DISCUSSION

Our results indicated that entrepreneurial attitudes influence an individual's assessment of career attractiveness. Entrepreneurial attitudes and to some extent human abilities were also found to be associated with an individual's entrepreneurial intentions. Cross-cultural differences were also found in entrepreneurial attitudes and entrepreneurial intentions.

The relative importance of entrepreneurial attitudes in career decisions was generally consistent across the four countries in the study, with ownership, income, independence, and risk being significant in explaining variance in career decisions. As expected, individuals desired more ownership, income, independence and less risk in choosing a career. Work effort was not significant for the Australian and Indian samples, while being significant and negative for the Chinese and Thailand samples.

Cross-cultural differences were also apparent on the emphasis that each sample placed on entrepreneurial attitudes. As expected, the coefficients for income indicated that individuals placed most emphasis on income in making career decisions. The Chinese and Thai samples were found to place the most emphasis on income while the Australian sample placed the least emphasis on income in their career decisions. This might indicate the relative importance on income in these countries if a reasonable quality of life is to be obtained. Australians with a higher per-capita income might well be expected to place less emphasis on this attribute in career decisions.

Emphasis on independence was significant for all countries in the study with the Chinese placing the most emphasis on this attitude followed by Indians, Thais and Australians respectively. Risk was significantly related to career decisions for all countries in the study with Australians and Chinese being the most risk averse. In the cross country comparisons, only the differences between the Indians and Thais were found to be significant with the Indians being less risk averse than the Thais. No relationship between attitudes to risk and the cultural dimension of uncertainty avoidance was found. Presuming that less risk averse individuals should have higher entrepreneurial intentions, we would expect that the Indian sample as a whole should have a higher intention to be self-employed. Likewise we would expect that individuals placing a higher emphasis on ownership would be more likely to have higher entrepreneurial intentions. In fact, the Indian sample on average was found to place less emphasis on ownership in comparison to the other countries. Our discussion on this is left to the intentions section below.

In general we found some evidence of human capital variables influencing the strength of the relationship between entrepreneurial attitudes and career decisions. In several countries, age, total experience and entrepreneurial self-efficacy explained some of the variance in attitudes to risk. It was noted that the coefficients for age in these cases was negative suggesting that older individuals were more risk averse in making career decisions.

We were particularly interested in the ability of entrepreneurial attitudes to explain entrepreneurial intentions. The results indicated that the ownership attitude was the most influential in explaining entrepreneurial intentions, with individuals desiring more ownership having greater entrepreneurial

intentions. Conversely, independence was a significant factor in explaining entrepreneurial intentions for the Indian sample only. Separating the ownership aspects of entrepreneurship from the independence aspects thus seems to have uncovered a distinctively separate motivator for self-employment in the Indian sample at least. Income to some extent explained variance in entrepreneurial intentions (significant and positive for the Australian and Indian samples), while risk and work effort were only significant for the Australian sample, with less risk averse individuals and more work averse individuals having greater entrepreneurial intentions. The cross-cultural results suggest that entrepreneurial attitudes can to some extent explain differences in entrepreneurial intentions, although the inconsistent results raises questions about the generalisability of the findings to other countries. Our results indicate that the relative importance of entrepreneurial attitudes may vary across cultures with culture and economic factors explaining some of the variance. The results indicate that while income is significant in explaining career decisions, in general it is not a driving factor in influencing entrepreneurial intentions across all cultures. In addition, attitudes to risk and work effort seem to influence entrepreneurial intentions to differing degrees across cultures.

Limitations of this study include the relatively small sample sizes in Australia and China, the use of MBA students to represent potential entrepreneurs, and the potential 'priming' of respondents who may have actually completed the assigned pre-readings for the entrepreneurship course in which the survey was conducted. Further, the sampling period differed by almost a year across the four samples, potentially introducing differences due to the passage of time or the occurrence of global events impacting on the responses of the latter samples.

Suggested directions for further research include a similar study of potential entrepreneurs more generally, to include a wider dispersion of prior education, age, human capital, social capital, and financial capital. A wider spectrum of countries might be investigated to include non-Asian nations and economies that are not developed or rapidly developing.

## CONCLUSIONS

We find that entrepreneurial attitudes to ownership, income, independence, risk and work effort are likely to be significant in explaining an individual's entrepreneurial intentions. In general, individuals in all four countries in the study desired more income, more ownership, more independence and less risk in making a career decision. Income was identified as the most important attribute in an individuals' choice between self-employment or employment. Cross-cultural differences were found in the emphasis individuals made on each of these attitudes with some evidence that cultural and economic factors impact on career decision policies.

We also found some evidence that individuals with higher levels of entrepreneurial human capital had higher entrepreneurial intentions. Entrepreneurial attitudes were found to be significant in explaining entrepreneurial intentions with cross-cultural differences apparent. Attitudes to ownership were found to be the most important predictor of entrepreneurial intentions across all four countries in the study.

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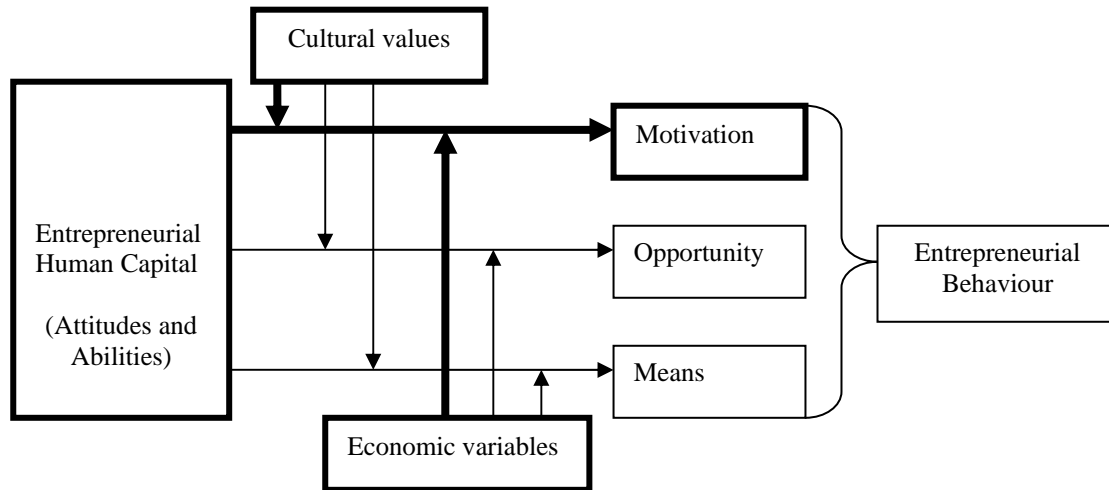
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TABLES AND FIGURES

Figure 1: Schematic View of the Determinants of Entrepreneurial Behaviour



	Australia		China		India		Thailand	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Age	30.3	6.0	29.5	3.2	26.7	3.2	30.5	6.1
Education	2.14	0.46	2.23	0.48	2.34	0.53	2.27	0.45
Gender (% Female)	27.3	-	25.6	-	20.6	-	40.2	
Business (%)	27.3	-	38.5	-	24.5	-	46.7	
Science (%)	4.6	-	2.6	-	9.3	-	15.6	
Engineering (%)	20.5	-	41.0	-	53.9	-	18.9	
GMAT	-	-	-	-	689	62	590	110
Previous Income	4.38	2.28	1.89	1.48	2.64	2.20	3.48	2.53
Business Experience	9.39	7.03	5.62	2.59	4.70	2.96	7.14	5.57
Recently Self-Employed (%)	7.14	-	2.56	-	11.4	-	17.8	
Entrepreneurial Self-Efficacy	3.65	0.64	3.66	0.58	3.92	0.48	3.66	0.50
Sample Size	46	-	39	-	204	-	125	

Table 1. Descriptive Statistics for human capital variables

AUSTRALIA	Intercept		Ownership		Income		Work Effort		Independence		Risk	
	Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value
Intercept	3.845	0.000	0.514	0.000	2.472	0.000	-0.107	0.286	0.860	0.000	-0.607	0.000
Self-efficacy	0.040	0.789	-0.008	0.976	-0.028	0.945	0.676	0.003	0.201	0.438	0.329	0.040
Age	0.001	0.963	-0.015	0.683	-0.032	0.610	-0.023	0.393	-0.020	0.649	-0.037	0.142
Gender	-0.372	0.069	-0.402	0.091	-0.011	0.977	0.797	0.006	0.629	0.066	0.247	0.335
Business Experience	-0.007	0.813	0.010	0.745	0.058	0.241	-0.002	0.941	0.035	0.344	0.038	0.127

Table 2. Results for Hierarchical Linear Model of Career Desirability Attitudes, Self-Efficacy and Human Capital

CHINA	Intercept		Ownership		Income		Work Effort		Independence		Risk	
	Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value
Intercept	3.641	0.000	0.369	0.000	2.849	0.000	-0.381	0.000	1.010	0.000	-0.606	0.000
Self-efficacy	0.085	0.440	-0.088	0.634	-0.036	0.858	-0.027	0.894	0.107	0.397	-0.025	0.874
Age	-0.093	0.058	0.012	0.766	-0.009	0.869	-0.044	0.397	-0.084	0.085	-0.046	0.185
Gender	-0.231	0.166	0.069	0.707	-0.096	0.615	0.286	0.144	0.137	0.430	0.311	0.180
Business Experience	0.095	0.050	-0.022	0.720	0.026	0.739	-0.008	0.898	0.052	0.442	0.000	0.997

Table 3. Results for Hierarchical Linear Model of Career Desirability Attitudes, Self-Efficacy and Human Capital

INDIA	Intercept		Ownership		Income		Work Effort		Independence		Risk	
	Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value
Intercept	3.711	0.000	0.216	0.000	2.621	0.000	0.013	0.768	1.373	0.000	-0.434	0.000
Self-efficacy	-0.019	0.856	0.097	0.424	0.294	0.018	0.072	0.589	0.149	0.147	0.145	0.095
Age	-0.022	0.436	-0.015	0.643	-0.014	0.714	-0.004	0.904	-0.010	0.728	-0.058	0.073
Gender	-0.139	0.196	-0.078	0.522	-0.070	0.636	0.084	0.499	0.170	0.166	0.058	0.561
Business Experience	0.001	0.961	0.027	0.391	0.011	0.824	-0.016	0.578	0.016	0.639	0.071	0.039

Table 4. Results for Hierarchical Linear Model of Career Desirability Attitudes, Self-Efficacy and Human Capital

THAILAND	Intercept		Ownership		Income		Work Effort		Independence		Risk	
	Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value
Intercept	3.789	0.000	0.447	0.000	3.020	0.000	-0.338	0.000	0.800	0.000	-0.532	0.000
Self-efficacy	-0.030	0.748	0.069	0.601	0.182	0.289	0.022	0.802	-0.108	0.332	-0.065	0.545
Age	-0.036	0.122	-0.038	0.243	0.015	0.773	-0.026	0.232	-0.002	0.945	-0.058	0.007
Gender	-0.039	0.617	0.057	0.601	-0.030	0.856	-0.062	0.497	0.032	0.792	-0.027	0.800
Business Experience	0.034	0.179	0.032	0.384	-0.021	0.717	0.037	0.089	0.006	0.850	0.056	0.010

Table 5. Results for Hierarchical Linear Model of Career Desirability Attitudes, Self-Efficacy and Human Capital

	AUSTRALIA		CHINA		INDIA		THAILAND	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Entrepreneurial Intentions within two years	5.36	1.71	5.59	1.53	4.79	2.06	5.62	1.65
Ownership	0.514		0.369		0.216		0.447	
Income	2.472		2.849		2.621		3.019	
Independence	0.860		1.010		1.373		0.799	
Risk	-0.607		-0.606		-0.434		-0.532	
Work Effort	-0.107		-0.382		0.013		-0.338	

Table 6. Descriptive statistics for Entrepreneurial intentions and Attitudes

	Australia		China		India		Thailand	
	Unstandardised Coefficient	Std Error	Unstandardised Coefficient	Std Error	Unstandardised Coefficient	Std Error	Unstandardised Coefficient	Std Error
Constant	3.555***	0.720	4.364**	1.501	2.496***	0.628	5.506***	0.749
Ownership	1.027**	0.323	0.727	0.479	1.551***	0.206	1.080***	0.268
Income	0.413*	0.201	0.137	0.409	0.409**	0.163	-0.051	0.188
Independence	0.515	0.264	0.658	0.541	0.702***	0.206	-0.165	0.267
Risk	0.314**	0.112	0.292	0.560	0.237	0.229	0.114	0.272
Work Effort	-1.012***	0.296	-0.209	0.499	0.338	0.218	0.103	0.303
Model R2	0.474		0.125		0.292		0.141	

Table 7. An Attitudes model of Entrepreneurial Intentions  
(\* p<0.05, \*\* p<0.01, \*\*\* p<0.001)

Hofstede's Indexes <sup>a</sup>				
	Australia	China	India	Thailand
Power Distance (PDI)	36	80	77	64
Individualism (IDV)	90	20	48	20
Masculinity (MAS)	61	66	56	34
Uncertainty Avoidance Index (UAI)	51	40	40	64
Economic Indicators (2002) <sup>b</sup>				
	Australia	China	India	Thailand
Gross National Income (US\$ per capita)	19,530	960	470	2000
PPP Gross National Income (US\$ per capita)	27,440	5792	2650	6890

Table 8. Cultural and Economic data

a. Source: Hofstede (2005), [http://www.geert-hofstede.com/hofstede\\_dimensions.php](http://www.geert-hofstede.com/hofstede_dimensions.php), 5 April 2005.

b. Source: World Bank (2004), <http://www.worldbank.org/data/wdi2004/tables/table1-1.pdf>, 5 April 2005.