

PERSPECTIVES ON PARAMETERS INFLUENCING
ENTREPRENEURIAL INTENTIONS

by

Annamária Heuer

Doctoral thesis submitted to the
HEC Management School
University of Liege, Belgium

For the degree of

“Docteur en sciences économiques et de gestion”

31 May 2012

ACKNOWLEDGEMENTS

Looking back at those past years, I come to the conclusion that making a thesis has indeed been a big adventure, but far less a lonely one that I had been told to expect. For all these interactions with interesting people, I am grateful.

More specifically, I would first like to express my gratitude to my supervisor, Bernard Surlemont, who has been a great advisor for my research process, encouraging me to go my own way. He has always been open for discussions, given valuable insights and, on top of this, was a rather fun person to work with.

Then, I would also like to thank Lars Kolvereid. He taught me a lot about intention models, coached me in statistics, helped me organise an unforgettable research stay in Norway and integrated me in his network. Without him, I would not have had the opportunity to liaise with Francisco Liñán Alcalde, who also played an integral role in my thesis process.

Although we have not yet met in person, our cooperation was quite fruitful, resulting in a joint article that is to be found further in this document. Thanks a lot, Francisco.

Big thanks also to Allard van Riel for its useful comments on my articles and for believing in my ability and supporting me in this task. Also to Fabrice Pirnay and Zineb Aouni for all the nice and constructive discussions.

I am also very grateful towards PRISME, the body coordinating the research activities of the HEC Management School, which awarded me the scholarship and the financial support that

allowed me to proceed with my research and complete this thesis. My special thanks here go to François Pichault and Michael Schyns.

Finally, I would like to thank Tímea for keeping up with a mum in a research process, Laurent, the most generous, supportive and patient husband, and my parents, Marianna and Burghard, who supported me when I did my first diploma years ago and are now the passionate and always available “babysitters”.

Liège, 6 March 2012

CONTENTS

ACKNOWLEDGEMENTS	3
CONTENTS	5
I. INTRODUCTION	9
On the importance and relevance of entrepreneurship.....	10
Modelling entrepreneurial behaviour	13
The relevance of intentions	15
Intentions and entrepreneurship	16
The intention models	20
The Theory of Planned Behaviour	25
Attitudes	26
Subjective norm	29
Perceived Behavioural Control (“PBC”)	32
The Theory of Planned Behaviour and entrepreneurship: some open issues.....	35
Articles	37
Notes	41
II. VENTURE CREATION INTENTION AND THE SEASONS OF ADULT DEVELOPMENT	43
Abstract	46
Introduction	47
Aging and Attitude Changes	50
Attitudes in the context of career stage and life cycle	52
Attitudes and risk aversion	55
Attitudes and education	56
Aging and Subjective Norms	57
Aging and Perceived Behavioural Control	59
Conclusions and Summary	63
Implications for researcher	67
Implications for policy makers	67
References	69
III. EDUCATION IN ENTREPRENEURSHIP AND THE THEORY OF PLANNED BEHAVIOUR	73
Abstract	76
Introduction	77

Literature review and hypotheses.....	78
Methodology	84
Education in entrepreneurship	85
Entrepreneurial intention	86
Attitude towards venture creation	86
Subjective norm	87
Perceived behavioural control	88
Control variables	88
Results	90
Discussion and conclusion	96
Appendix	100
Tucker's Phi values	100
English translation of the questionnaire administered to the Belgian sample	104
English translation of the questionnaire administered to the Norwegian sample	108
References	113
IV. TESTING ALTERNATIVE MEASURES OF SUBJECTIVE NORMS IN ENTREPRENEURIAL INTENTION MODELS	117
Abstract	120
Introduction	121
Theoretical Background	124
The Subjective Norm and the Entrepreneurial Intention Model	124
Methodology	128
Participants	128
Measures	128
Results	129
Discussion	133
Conclusions	137
Appendix	138
References	141
V. GENERAL CONCLUSION	145
A look back	146
Findings.....	147
Implications.....	149

CONSOLIDATED LIST OF REFERENCES 153

INDEXES 165

 List of figures 165

 List of tables 165

 List of equations 166

I. INTRODUCTION

ON THE IMPORTANCE AND RELEVANCE OF ENTREPRENEURSHIP

Entrepreneurship, venture creation or, more generally, the willingness to take risks in order to create and develop new businesses, be it based on new Products, Services, Processes, Business models or markets, has always been one of the most important drivers of human development. Since the beginnings of human civilisation, entrepreneurs have been around, forcing creative destruction on markets, industries and society. One could argue that this is not always for the best, for instance thinking about the destructions that resulted from the ventures launched by Christopher Columbus, Hernan Cortès or Francisco Pizarro. One can, however, neither discuss the significance and impact of those enterprises, nor deny the reality of the economic and social dynamism, and the long-lasting effects they engendered at the time.

Yet, in general, the disruption created by entrepreneurs is ultimately quite valuable: some of the new activities they create eventually become successful, replacing along the way some less value creating businesses and thus contributing to an improvement of the overall economic performance. In essence, this is what lies at the heart of the capitalist system, which “expands wealth primarily through creative destruction - the process by which the cash flows from obsolescent, low-return capital to high-return, cutting-edge technologies” (Greenspan, 2002). And from a global perspective, this means that the entrepreneurial activity of a country or a society should constitute one of the major determinants of its competitiveness on the world stage.

This is why, today, entrepreneurship is certainly as relevant as it has ever been. The last half century has seen the world evolve rather drastically, with significant technological evolutions,

but also with important changes in the relative competitiveness of some economies and the associated shift of the geopolitical balance. Taken together, this has created some dramatic changes in the various business environments and put established societal models in question. One here could cite, for instance, the combined disruptive impacts of the progress of the information technology industry, and the export-oriented development models of some Asian countries have had on the industrial structure and labour markets of most western European economies. At the same time, those same economies have reached a kind of maturity, resulting in rather limited growth rates that further limit the options available to political decision-makers to tackle unemployment problems.

For those political decision-makers, and especially during the last decades, there has also been an increased awareness of the limitations of economic policies based on centralised planning or relying too heavily on the larger companies. The credibility of the former was severely reduced by the economical failures of the Soviet system - made apparent by the collapse of the Soviet Union. At the same time, the reliability of the latter has been increasingly questioned, given their increasing multi-national nature and their willingness to delocalise their activities in those foreign countries that offer either attractive growth opportunities or advantageous working conditions. Concurrently, the importance of the smaller, innovative companies has increasingly been put forward. Reynolds, (1997a), for instance, pointed out the importance of entrepreneurial businesses in stimulating the economic growth as well as the innovation.

The economic and social models of our developed economies are today facing severe challenges, in a world that is still looking to new solutions to resolve a changing equation between limited natural resources and development needs. Who else than entrepreneurs would

be able to fill the role of the “change agents”, which are definitely needed to find the new answers required to cope with the problems of today and tomorrow?

In this context, putting in place policies to support and encourage entrepreneurship is thus one of the key factors in ensuring the long-term economic performance of a country. Ensuring that those policies are both effective and efficient is, however, also a key requirement, which presupposes that the drivers and mechanisms lying behind the creation of new ventures are well understood.

MODELLING ENTREPRENEURIAL BEHAVIOUR

“One of the most persistent and until now largely fruitless endeavour entrepreneurship researchers engaged in, consists of the effort to understand the differences between entrepreneurs and non-entrepreneurs” (Sarasvathy, 2004).

Classification attempt have been plentiful. The field of entrepreneurship research is for instance littered with “personality-based” approaches, but those have not really been successful, neither in explaining the heterogeneity of the entrepreneur population, nor in reaching high predictive value.

“Trait measure” only managed to explain 10% of the variance in behaviour (Ajzen, 1987).

“Trait lines” suffered several problems:

- (1) First of all, it focused on ex-post situations (Autio, Keeley, Klofsten, Parker, & Hay, 2001). Assuming that traits, attitudes and beliefs stay stable compared to those before the entrepreneurial experience.

Carroll & Mosakowski (1987) pointed out the conflict arising from the usage of factors supposed to influence human behaviour in a general and consistent way, in order to explain behaviours that are episodic. Their view was that “theoretical arguments relying on the stable attributes of individuals are bound to be incomplete”. Individuals do not behave in a consistent way in diverse situations and across time.

Choosing individuals before the entrepreneurial event is a possible solution to clarify causality (Gartner, 1989).

- (2) Another major problem is the determinism of the approach. Are we really expecting a strong link between personality traits, demographics and entrepreneurial behaviour? In the extreme case this would mean that we are pre-programmed robots with no individual choice (Autio, et al., 2001). Realistic? Isn't behaviour rather determined by specific reactions to circumstances and not by a given set of characteristics? (Katz, 1992)

An important response to the failings of the "trait lines" approach has been to look at the business creations within their respective contexts (Davidsson, 1995). National, regional or local level variables were used to explain the observed variations in the formation of new firms. These aggregate level approaches proved quite successful.

Nevertheless, aggregation gives rise to some problems, related to the relationship between aggregated behaviours and individual behaviours. Economists call this misconception "the fallacy of composition", while social scientists name it "ecological inference" (Wärneryd, 1999). Indeed, to conclude from what is true for parts on what is true for the complete is a dangerous path to walk on, as the following simple example illustrate quite nicely:

- (i) Helping farmers to increase their production rates faster than their costs - and thus increase profitability, for instance by improving soil fertility and yields through the introduction of better cultivation techniques, is a great thing at an individual level. At this level, it does not significantly influence the overall production of grain, and thus has no impact on market prices, allowing the farmer to directly translate the additional productivity into an increased profitability (Ray, 2004).
- (ii) At an aggregated level, though, the result can significantly differ: as all farmers increase their production in the same way, the offer of grain increases significantly, leading to

falling market prices, unless, at the same time, market demand does grow to a similar extent (Ray, 2004). Overall, the productivity increase will still result in a net gain at a macro-economic level, even though the individual farmers might actually end up with a net loss.

And the same issue might potentially also appear when looking at the relationships the other way around: aggregated data sets may reveal associations that cannot be found in the individual data sets (Wärneryd, 1999).

Therefore there remains a need for a better comprehension, at the disaggregate level, of the process leading to the formation of new businesses. Attempts to develop integrated explanatory models, aim at satisfying these needs for a better understanding.

An important part of these disaggregate level approaches focuses on the pre-decision stage (Davidsson, 1995). Besides the vast quantity of research literature on career preferences and nascent entrepreneurs, the analysis of the pre-decision stage also incorporates the studies about potential entrepreneurs and their entrepreneurial intentions.

The relevance of intentions

A key construct in research on venture creation, the individual intentions are much more than a simple substitute for behaviours such as business creation (Thompson, 2009). Intentions have been defined by Bird (1988) as “a state of mind directing a person’s attention (and therefore experience and action) toward a specific object (goal) or a path in order to achieve something (means)”. Other definitions exist, some of which Tubbs & Ekeberg (1991) tried to summarise with the following: “an intention can be described as a cognitive representation of

both the objective (or goal) one is striving for and the action plan one intends to use to reach that objective". Looking at those, Fini et al. (2009) stressed the importance of the goals and how they can shape the intentions.

They represent the cognitive state prior and immediately proximate to an action, and are frequently seen as substantial to the deliberate human behaviour (Krueger, 2005). They stand for the motivation (conscious plan or decision) of an individual to make an effort (Conner & Armitage, 1998), and thus indicate how hard people are willing to try, in order to perform the behaviour in question (Ajzen, 1991; Kolvereid, 1996a).

Intentions probably represent the most crucial psychological characteristic to understand the way individuals act (Fayolle, Kyrö, & Ulijn, 2005). From a philosophy of science perspective, intentions can even be considered to be a fundament of social sciences and, in this sense, an appropriate mode of explanation of the human behaviour (Ghoshal, 2005). They allow to forecast both individual behaviours (Ajzen, 1991) and organisational evolutions, the intentions of the managers or the founders of a company being one of the key elements driving its development. This is especially true for newly created companies, for which the impact of the intentions of the managers is not yet so strongly moderated by other factors, such as the influence of corporate culture, stakeholders management or organisational inertia (Bird, 1988).

Intentions and entrepreneurship

In short, intentions are a key construct used in psychological sciences to model and study what is driving human behaviour. Applied to a specific activity like entrepreneurship, and provided that a robust enough model can be developed around the associated intentions, this

construct provides a very useful tool for decision makers to optimise their policies and actions towards encouraging or discouraging that activity. This, of course, applies to public policies but also to the management of any kind of organisation.

Thus, if considering that our universe contains a large population of individuals who are neither entrepreneurs nor non-entrepreneurs (Sarasvathy, 2004), and that those individuals are ready to “shift” under certain circumstances, then focusing on entrepreneurial intentions instead of making the comparison between entrepreneurs and non-entrepreneurs comes along with advantages, such as:

- The intention-based approach avoids identifying as determinants of entrepreneurial behaviour those individual characteristics that represent a consequence of entrepreneurial experience. Instead, it focuses on factors that make potential entrepreneurs turn into real entrepreneurs, with the positive side effects of delivering more valuable information to policy makers.
- Distal variables like traits will never predict entrepreneurial behaviour precisely, but intentions-based approaches, on the other hand, offer sound, theory-driven models of how exogenous factors, for instance situational or demographical variables, influence the intentional antecedents and by that intentions and finally behaviour (Davidsson, 1995).
- The intention-based models prove particularly useful when the behaviour in question is rare, hard to observe, or involves unpredictable time lags (Krueger, Reilly, & Carsrud, 2000), as it is the case for starting a business.

It is nevertheless important to point out that intentions are dynamic and can change over time.

This has an impact on the accuracy with which they are able to predict the associated

behaviour. Consequently, the bigger the time interval between the measurement of the intention and the observation of the behaviour, the less precise the prediction will be, as unforeseen events with their disruptive effects might lead to a change in intention (Ajzen, 2005).

Also, the importance of certain antecedents of intention such as situational variables increases the closer the dependent variable comes to the actual behaviour. Reitan (1996) found evidence advocating that situational variables have a stronger impact on short-term intentions than on long-term intentions. Davidsson's (1995) results suggest that the effect of unemployment on the intention to create a start-up was much stronger when looking at the one-year probability of business entry compared to the five-year likelihood.

A study of Audet (2004), on the other hand, confirmed that the perceived desirability and the feasibility of creating a venture significantly explained long-term intentions (at some point in life), but were less useful when the time frame was shorter (three years). Perceived feasibility and job satisfaction only became significant when work satisfaction was added to the model, pointing again in the direction of the importance of situational variables when the actual decision to launch is approaching, but also confirming the variability of intentions over time. It is also a "cry" for more efforts into understanding the complexity of volition.

By this, this study is delivering an answer to the question of why intentions only predict approximately 30% of the variations of the behaviour. Nevertheless, this is still a quite good percentage when considering that trait measures, for example, only explain about 10% of the variance in behaviour. The study results of Audet (2004) also underline the importance of a

future focus on the domain of intentional change and on the process through which intentions are transformed into action.

THE INTENTION MODELS

A very important contribution of cognition research is that humans apprehend reality indirectly, through perceptual lenses. The question is then: if we grasp external phenomena through perceptual processes, then what do we notice? (Krueger, 2005)

Consistency theorists would answer this question by interpreting selective perception as being a function of the consistency with prior attitudes, meaning that humans search, notice and interpret inputs in a manner that fortifies their attitudes, aiming at avoiding dissonance-increasing inputs (Fiske & Taylor, 1991). Generally, attitude is hypothetical and evaluative in nature and can be seen as the disposition to react more or less positively or negatively to different kinds of groups such as objects or behaviours (Ajzen, 2005).

One of the first widely recognized psychological models taking account of attitudes to predict behaviour was designed by Martin Fishbein. This link between attitudes and behaviour has since been the subject of considerable debate: A meta-analysis, for instance, reviewed 88 studies investigating the attitude-behaviour relationship and found significant support for the model (Kraus, 1995). Nevertheless, this attitude-behaviour link has been far from always being consistent (Brännback, Krueger, Carsrud, & Elfving, 2007). Ajzen & Fishbein (1980) blamed this on the frequently diffuse or unclear measures of attitude and found paired measures of behaviour more precise.

Soon, this model was extended by the addition of intentions, which Fishbein found to mediate this relationship (Krueger, 2009a). The '*Theory of Reasoned Action*' is then a further extension of this model, taking the perceived opinion of other people and the motivation to

comply with those into account. It only applies to behaviours that are under complete volitional control (Bagozzi & Warshaw, 1990).

This marked the “birth” of the concept of the intention-based models. Until these days, the concepts relating to the entrepreneurial intent remain important, and are likely to stay so in the near future, at least, when it comes about studying venturing individuals, their way of perceiving entrepreneurial opportunities and the actual decision-making to take advantage of a business opportunity (Thompson, 2009).

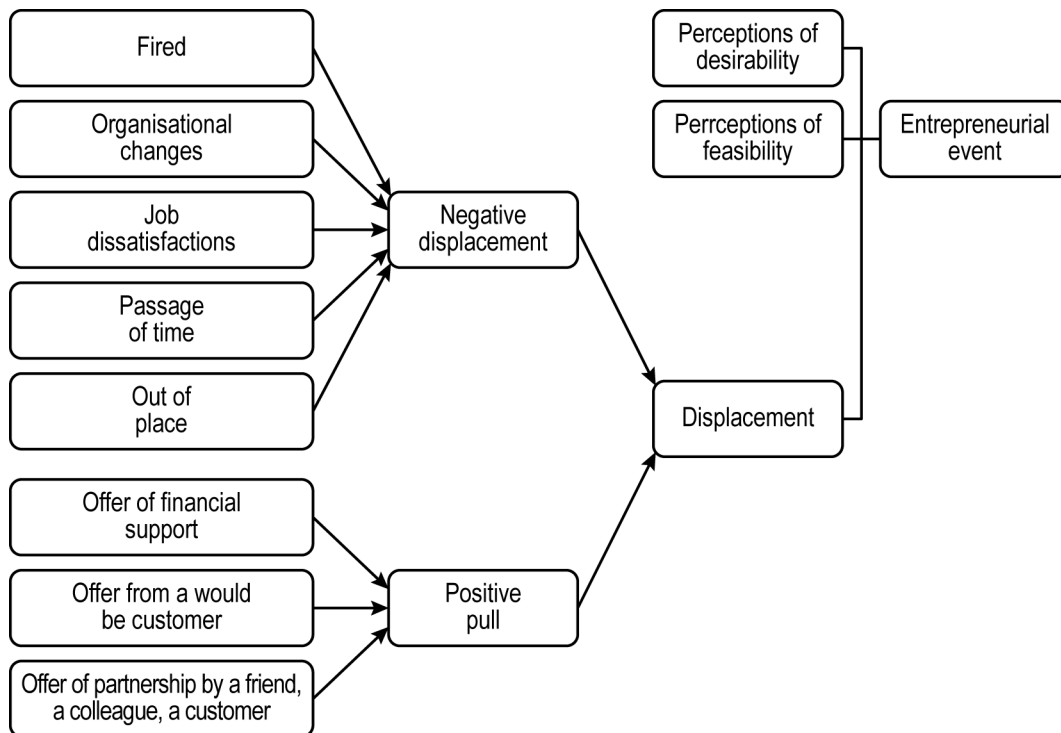
The theory of reasoned action was followed by the ‘*Theory of Planned Behaviour*’ (Fishbein & Ajzen, 1975), an extension of the *Theory of Reasoned Action* through the addition of the perceived behavioural control, and today one of the most frequently used psychological theories to predict all kinds of individual behaviour, including venture creation (Autio, et al., 2001). Compared to the theory of reasoned action, the inclusion of the perceived behavioural control has the advantage of allowing the theory to be applied even if volitional control is only partial (Brännback, et al., 2007). It thus explains action in situations when the decision whether or not to perform a specific behaviour is not completely resulting from the will of the individual (Autio, et al., 2001). It usually helps give an explanation for an additional 10% of the variance (Krueger, 2005). Contrary to the attitudes and the subjective norms, the perceived behavioural control exerts not only an interactive, but also a direct effect on the behaviour in question and the relative importance of this component is varying (Conner & Armitage, 1998). This model, on which all the articles of the present thesis are based, will be explained more into detail in the next section.

Research on entrepreneurial intentions has so far been dominated by different adaptations of Ajzen's *Theory of Planned Behaviour* (Brännback, et al., 2007). Besides this theory, however, there is another empirically robust construct used to study the entrepreneurial intent:

Shapero's model of the 'Entrepreneurial Event' (Shapero, 1975; Shapero & Sokol, 1982).

This entrepreneurship-specific intention model had already been there several years before Ajzen set up his model, but remained untested until Krueger (1993). Its main idea is that the entrepreneurial event that initiates an entrepreneurial behaviour depends on the existence of a business opportunity that is perceived as both personally and socially desirable and feasible (Krueger, 2005). The basic assumption of this model is that changes in life alter the entrepreneurial intention and, consequently, the actual entrepreneurial behaviour. This model necessitates a pre-existing readiness to consent to the opportunity, and in addition, an event or *displacement*, that comes behind and is provoking a decision through a reconsideration of the opportunity (Shapero & Sokol, 1982). This displacement can be negative or positive in nature (Shapero & Sokol, 1982) ~ see figure 1. A negative displacement could for instance be the loss of one's job, while a positive "pull" could be an unexpected influx of financial resources, e.g. inheriting a relevant sum. Depending on the type of event, it results in a *necessity* or an *opportunity entrepreneurship*.

Figure 1 • Shapiro's Entrepreneurial Event ("SEE").



Studies investigating the predictive behaviour of the model of the entrepreneurial event and of the *Theory of Planned Behaviour* have shown no significant differences between them (Krueger, et al., 2000). The fact that two researchers in two different field ended up with highly comparable constructs, points out the merit of these models (Krueger, 2005).

Generally, entrepreneurship scholars claim that entrepreneurial behaviour is intentional, like all behaviours that are not a product of a stimulus-response and so best predicted by the intentions toward the behaviour (Krueger, 2005). Nevertheless, even one cannot completely exclude that in the case of habitual entrepreneurs a stimulus-response might be a result of habituation, i.e. the consequence of the repetition of the intended behaviour (Krueger, 2009a).

In most of the research that tries to model intentions and its determining factors, there are two main blocks:

- The first and most important block represents all those variables that are seen through the “perceptual lens”, like the perceived desirability or the perceived feasibility (model of the entrepreneurial event).
- The second group consists out of “hard facts”, such as demographic characteristics.

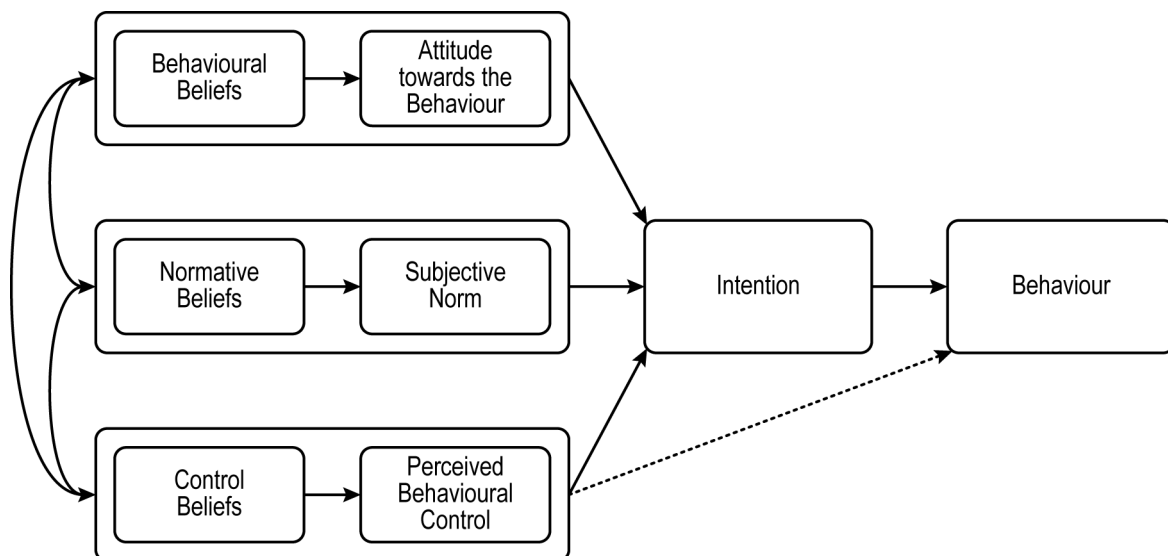
Direct antecedents are usually belonging to the “perceptual group”, while background factors are usually (but not always: see for instance Kristiansen & Indarti, 2004) modelled as indirect antecedents.

THE THEORY OF PLANNED BEHAVIOUR

Icek Ajzen's Theory of Planned Behaviour is based on the assumption that individuals consider the information available to them and the consequences of their behaviour, and claims that an intention to perform a specific behaviour is the main driver of an action (see figure 2).

Said theory includes variables referring to the *behavioural control*, the *attitude*, and the *subjective norm*, as do other models dealing with intentions, albeit with some variations, overlaps or changes of denominations.

Figure 2 • Ajzen's Theory of Planned Behaviour ("TPB")



Attitudes

Attitudes are the basis for human motivation and personal accomplishment. This means that unless an individual is convinced that a certain behaviour can produce a desirable outcome, the motivation to act is rather low (Cromie, 2000).

The type of attitude this section is referring to is the so-called “domain-specific attitude”, not the general attitude, which is a part of the background factors.

Domain-specific attitude is a function of the significant behavioural beliefs of an individual, which stands for the perceived outcomes of the behaviour. The ‘*Expectancy-Value-Model*’ describes these outcomes as the “multiplicative combination of the perceived likelihood that performance of the behaviour will lead to a particular outcome, and evaluation of that outcome” (Conner & Armitage, 1998) ~ see equation 1.

Generally speaking, the attitude toward entrepreneurship as a career option is positively related to the entrepreneurial intent. In Autio, et al. (2001), it ranked as the second most important determinant.

Not only is it an antecedent of the entrepreneurial intent, but Davidsson’s (1995) economic-psychological model of the determinants of entrepreneurial intentions delivered evidence, for a Swedish case, that domain-specific attitudes such as the expected payoff also have an impact on the conviction. The extent to which respondents perceived the action of entrepreneurs as valuable to the society (societal contribution) did not seem to play an important role for understanding conviction, thus pointing out to the rather individualistic motivations for self-employment.

Equation 1 • Attitude (Ajzen, 2005)

$$A_B \propto \sum b_i \cdot e_i$$

With:

A_B = attitude toward behaviour B ,

b_i = behavioural belief that performing behaviour B will lead to
outcome i ,

e_i = evaluation of outcome i .

The aforementioned holistic payoff dimension represents a composite of the beliefs about workload, risk, and financial gain. A combination is possible, but not necessary as all three are highly inter-correlated (Davidsson, 1995).

Looking separately at those components of the expected payoff, the study outcomes are already a bit more differentiated.

For instance, it could be expected that the higher an individual's workload tolerance is, the more likely he should be interested in a career as a self-employed. Greater tolerance, in this context, means that an increase in income will generate a higher utility gain for the less workload-averse people, than for the ones being more work-averse.

Surprisingly, the results stated that the required workload level was not significant for the overall sample. A possible explanation could be that people might believe that low workload levels are neither possible for independents nor accepted by any employer. One could also speculate that individuals generally expect the level of workload to correlate with income (Douglas & Shepherd, 2002).

About risk and financial gain, Douglas & Shepherd (2002), for instance, stated that individuals do consider risk, independence, and income during the evaluation of alternative career options, but that only risk tolerance and preference for independence proved to have a significant impact on the strength of the entrepreneurial intention.

Kolvereid (1996a) came to similar conclusions concerning security (i.e. the opposite of risk). He found that security was the “single most important reason for people’s employment status preferences” and suggested to decrease the security of organisational employment (or increasing the one of self-employment) in order to foster entrepreneurship.

The study outcomes of van Gelderen, et al. (2008) emphasised on the outstanding position of financial security, by suggesting that entrepreneurial intention does not get enhanced by “love of risk”, but gets rather lowered by the discouraging effects of “fear of financial insecurity”. As with the results of Kolvereid (1996a), these outcomes also have useful policy implications: they are strong advocates for risk reducing strategies. Logically, it is to be expected that these beliefs vary amongst different populations. What makes self-employment desirable might differ, for instance, when comparing older population with younger ones, or women with men.

Let’s illustrate such variations. Women for instance might feel that running their own business provides more occasions for risk taking, supervising and more opportunity to develop their own working style, while men might believe it leads to higher income (Brenner, Pringle, & Greenhaus, 1991).

Same study found evidence for conflicting perceptions. People with a preference for organisational employment and those who preferred to be self-employed had overlap in their

belief about what their type of preferred career would provide them. This especially concerned “greater opportunities for continued development”, ”high income” and ”working with people they admire and respect”.

Subjective norm

The subjective norms are a function of the beliefs an individual holds about the approval or disapproval of performing the target behaviour by specific persons or groups (see equation 2).

Equation 2 • Subjective Norm (Ajzen, 2005)

$$SN \propto \sum n_i \cdot m_i$$

With:

SN = subjective norm,

n_i = normative belief concerning referent i ,

m_i = person's motivation to comply with referent i .

In general, the results for subjective norms have been mixed when using Ajzen's *Theory of Planned Behaviour*. Applied to the behaviour of entrepreneurship, inconsistencies have shown up. Different kinds of speculations have been put forward as possible explanations, amongst them systematic measurement problems and sampling issues, such as questioning the importance of ethnic groups with strong roots in entrepreneurship (Krueger, et al., 2000).

Cultural issues are a relevant aspect when judging the influence of subjective norms.

Following Geert Hofstede's model of cultural dimensions (Hofstede) would imply that if the career choice is driven by the social context, then social norms could be expected to be less

predictive concerning the entrepreneurial intention for people in rather individualistic cultures, where individuality and individual rights have a high priority in the society.

In collectivist societies, characterised by close interpersonal relationships such as extended families and networks with responsibility sharing for other group members, and thus emphasising conformity, social norms should more powerfully impact the entrepreneurial intentions.

Kristiansen & Indarti (2004) conducted one of those studies confirming these interactions.

They found that the entrepreneurial intention was generally higher among Indonesian students, living in a more collectivist society, in which successful entrepreneurs were given a high social status compared with employees. Norwegian students, on the other hand, coming from a culture with a rather high individualism index, exhibited a lower level of entrepreneurial intentions. The social status of an entrepreneur in Norway is not really high compared to the one of a stable manager position. To sum it up, in this study social status and economic remuneration were explaining self-employment intentions.

Begley & Tan (2001) stated that decisions about setting up a business might be more influenced by the normative beliefs in East Asia than in the Anglo-Saxon area. At the cultural level, shame of business failure and the social status of entrepreneurs were predicting interest in entrepreneurship better in the former than in the latter. At the individual level, only social status had a predictive value for the whole sample. More specifically, people coming from East Asian countries with culturally higher social status for entrepreneurs and individually perceiving a higher status as well, were more likely to show interest in starting-up. In the

Anglo-Saxon area, the status in the culture was not determining, but the individual opinion about social status of self-employment was.

The culture is impacting normative beliefs, but also the motivation to comply. Collectivists' decisions relied on "social proof", thus tended to orient themselves on the prior responses of peers, while more individualistic persons showed commitment to their own prior responses (Cialdini, Wosinska, Barrett, Butner, & Gornik-Durose, 1999). Nevertheless, although this correlation was found to be on national level, this effect is essentially based on the individual's personal individualistic-collectivistic orientation.

This impact of social norms was reducible by a highly internal locus of control (Bagozzi, Baumgartner, & Yi, 1992), but might also be varying depending on the specific social context. Research on entrepreneurial networks, for instance, suggested that members of the network more strongly impact intentions, than friends and family (Krueger, et al., 2000).

Another cultural dimension, the "power distance", which is judging the degree of equality between the members of the population of a country, might also impact entrepreneurial intention. In the case of a high power distance, such as a caste system, moving upwards between the castes is very difficult. In such traditional societies, where the social structure is quite hierarchical and authoritarian in its entire facets, be it economic, political or religious, the individuals' social status is inherited, social mobility is limited and, consequently, interest in entrepreneurship is low (Hagen, 1971; Hayton, George, & Zahra, 2002).

Perceived Behavioural Control (“PBC”)

Perceived behavioural control is closely related to Bandura’s concept of ‘*perceived self-efficacy*’, which refers to the subjective probability that an individual is capable of performing a certain course of action, thus affecting the belief of a person regarding whether or not certain goals may be accomplished (Bandura, 1977).

Self-efficacy is linked to starting and persevering with behaviour under uncertainty, but also to reducing threat rigidity and learned helplessness (Krueger & Brazeal, 1994).

Adding perceived controllability over behaviour to Bandura’s self-efficacy beliefs leads to the actual meaning of the perceived behavioural control, even though self-efficacy and PBC are frequently conceptually and operationally used in a synonymous way (Conner & Armitage, 1998).

PBC can thus be seen as the perceived ease or difficulty of performing a specific behaviour, which is a function of the beliefs about the existence of factors that facilitate or impede the performance of target behaviour (Ajzen, 2005) ~ see equation 3.

These beliefs can be influenced, and analysis suggests, for instance, direct effects of the vicarious experience on the entrepreneurial conviction, which corresponds to the PBC (Davidsson, 1995).

It is usually assumed that the perceived behavioural control has motivational implications. If the individual is convinced of having neither the required resources nor the opportunity to engage in entrepreneurship, the intentions towards starting a business will not be favourable

even if the general attitudes towards this behaviour is positive. This is a strong indicator for the PBC not being mediated by desirability factors such as attitude towards self-employment and perceived social norms (Ajzen, 2005).

Equation 3 • Perceived Behavioural Control (Ajzen, 2005).

$$PBC \propto \sum c_i \cdot p_i$$

With:

PBC =perceived behavioural control,

c_i =control belief that given factor i will be present;

p_i =power of factor i to facilitate or inhibit performance of the
behaviour.

These perceptions of the feasibility (i.e. PBC) predict goal-directed action, and thus also drive career-related decisions (Ajzen, 1991), such as a decision to become an entrepreneur (Krueger, et al., 2000).

Concerning the impact that the perceived behavioural control on the decision and process of venture creation has on entrepreneurial intention, the study outcomes were quite consistent in comparison with certain other examined potential antecedents of self-employment intentions. The PBC emerged as the most important determinant of entrepreneurial intent (e.g. Autio, et al., 2001; Davidsson, 1995; Kristiansen & Indarti, 2004).

The accuracy of its behavioural prediction is situation-dependent. Should there be a lack of information about the behaviour in question, changes in requirements or resources, or new or unfamiliar factors that enter the scene, then prediction quality is likely to drop (Ajzen, 2005).

In addition, the PBC is somewhat special, as it does not just act directly on the intention, but might also impact the behaviour directly, when control perceptions and actual behavioural control agree (Ajzen, 2005).

THE THEORY OF PLANNED BEHAVIOUR AND ENTREPRENEURSHIP: SOME OPEN ISSUES

The *Theory of Planned Behaviour* has been successfully applied in a wide range of domains to various kinds of behaviour (for an online list of references, see Ajzen, 2010).

Entrepreneurship represents one of those behaviours for which the applicability of the theory has been shown (Autio, et al., 2001; Kolvereid, 1996b). The application of the *Theory of Planned Behaviour* to venture creation has thus become the object of a significant amount of studies, looking amongst others at:

- The validity and robustness of the model in different settings, e.g. different cultures or countries (e.g. Autio, et al., 2001; Engle, et al., 2010);
- The factors driving the variables of the model, e.g. cultural and socio-economic factors (e.g. Basu, 2010), the exposure to entrepreneurship in the family (e.g. Carr & Sequeira, 2007);
- The model itself and its components, e.g. how to best measure intention and its antecedents (e.g. Krueger, et al., 2000).

But despite the growing and significant number of empirical studies addressing one or more of these issues, gaps remain.

For instance, the larger part of the empirical studies are relying on samples build out of student populations, mostly due to down-to-earth practical aspects, i.e. the ease of collecting data (see Schlaegel & Koenig, 2012, for a list of such works). Such samples usually have

most of their populations within a rather narrow age band: even when they take age into account, their findings on this aspect only have a rather limited value - like Kristiansen & Indarti (2004), who based on a student sample conclude that age does not significantly impacts intentions. In all, and beside maybe for the contribution of a recent study on third age entrepreneurship (Kautonen, Tornikoski, & Kibler, 2011), this means that relatively little attention has been given to the impact of aging and on how to include that factor in the model.

In the case of the impact of education on entrepreneurial intention, the issue is less of a lack of studies on the topic, than of a lack of a clear and differentiated view on the efficacy of the different teaching designs. Kolvereid & Moen (1997), for instance, compared graduates with major in entrepreneurship with graduates of other business majors, and showed that entrepreneurship education did positively influence entrepreneurial intention and the likelihood of venture creation. McMullan & Gillin (1998) found that even students who were not initially intending an entrepreneurial career, could be educated to become more likely to create a business. But the vast majority of such studies only examine the effect of one type of entrepreneurship education, usually entrepreneurial classes or entrepreneurship as a major (Basu, 2010; Kolvereid & Amo, 2007; McMullan & Gillin, 1998; Noel, 2002). To the author's knowledge, none has really looked at the comparative efficacy of various forms of entrepreneurship education, despite some interesting findings from a study of Souitaris et al. (2007) that looked a bit more in details at the impact of the education benefits (learning, inspiration and resource utilisation) of an entrepreneurship education program.

Finally, how the model in itself works in detail is also not yet fully understood. The relative contributions of the various constructs are for instance the subject of some conflicting outcomes between studies, especially in the case of the subjective norms. On one hand, there

are some measurement issues, with some studies using the products of the ‘normative beliefs’ with the ‘motivation to comply’ (Kolvereid, 1996b; Kolvereid & Isaksen, 2006), others using simplified measures (Autio, et al., 2001; Krueger, 2000), while some completely omit the subjective norms (Peterman & Kennedy, 2003). On the other hand, the role played by the subjective norms within the model is still somewhat unclear. While its predictive power has in some analysis been shown to be weak (Armitage & Conner, 2001), other studies confirmed its significance (Engle, et al., 2010). For some, this weakness could be explained by the existence of additional interactions and indirect effects of the subjective norms on the entrepreneurial intentions (Liñán & Chen, 2009). Indeed, Ajzen (1991) himself indicated that the specific pattern of relationship between the three motivational antecedents of intentions had to be established for every specific behaviour, and it looks like more work is required to determine which pattern provides the best fit for the entrepreneurial behaviour.

ARTICLES

The present thesis is therefore built around three articles, which have in common their application of the *Theory of Planned Behaviour* to the venture creation process. Each of them is taking a detailed look at some of the parameters and variables influencing entrepreneurial intentions, addressing one or more of the aforementioned issues and thus contributing at an improvement of our understanding of the factors that drive entrepreneurs.

- (1) The first article is conceptual in nature and discusses the potential impact of different forms of aging on entrepreneurial intentions. It transfers important ideas of adult-development to the domain of entrepreneurship and focuses on potential aging-related

changes of attitudes, subjective norms and feasibility perceptions and their influence on intentions.

The argumentation shows that differences in perceived desirability and feasibility of entrepreneurship are related to aging, such as a high plasticity of attitude in early adulthood, a higher change susceptibility in mid-age, and dominant self-limiting roles and decreasing willingness to bear uncertainty in the later eras.

It further concludes that those differences are less to be found in samples with a relatively narrow age cluster, but are rather related to the different life stages. It therefore proposes an adaptation of Ajzen's model, to better take into account the influence of aging on the antecedents of venture creation intentions.

The article contributes to the formulation of hypotheses related to some of the characteristics of the function linking the aging stages and the drivers of entrepreneurial intention. It then discusses practical implications for researchers (e.g. the need not to neglect the impact of life stage and the need to collect the information required to assess it) and policy makers (i.e. the need to adapt entrepreneurship stimulation programmes to the life-stage of the target audience).

- (2) The second investigates the impact of education in entrepreneurship with different extensiveness, on the antecedents of intention that are attitude, subjective norm and perceived behavioural control.

Hypotheses suggesting that (i) education in entrepreneurship is positively related to these antecedents, (ii) that the effect on these antecedents is stronger for extensive courses in entrepreneurship than for more superficial educational efforts, and (iii) that education

only influences entrepreneurial intentions indirectly through the effect on these antecedents.

These hypotheses are tested using data from two different surveys, one from Belgium and one from Norway. None of them are supported. However, in both surveys a strong direct relationship between participation in extensive education programmes in entrepreneurship and entrepreneurial intention is found.

These findings were not expected. Three possible explanations have been provided and discussed: - something lacking in *Theory of Planned Behaviour*, poor measures, or the fact that entrepreneurship students have higher entrepreneurial intentions when they decide to pursue education in entrepreneurship.

The article concludes on the need for further research on this specific topic and formulates suggestions on possible research directions.

Theoretical and practical implications are provided.

- (3) The third, using data from ten countries exhibiting substantial dissimilarities in history, culture, economy and population size, investigates two critical topics held responsible for the conflicting outcomes concerning the subjective norms in the research on entrepreneurial intentions: (i) measurement issues and (ii) possible indirect influences between the motivational antecedents of intention, while at the same time, it also taking into account the macroeconomic environment.

On the measurement issues, its results suggest that the frequently-applied product of normative beliefs and motivation to comply is not, in the case of entrepreneurial

behaviour, the best option, a single multi-item subjective-norm measure offering better results.

On the possible indirect influences between the motivational antecedents of intention, a modified model, taking into account the indirect influences of subjective norms on attitudes towards entrepreneurship and on perceived behavioural control, is tested.

Structural equation modelling reveals a good fit of the original *Theory of Planned Behaviour* model, but the internal consistency and explanatory capacity of the constructs is about the same as with the modified model, suggesting that social pressure would affect personal preferences.

These results should serve as a guide for future theoretical and empirical development and put existing study outcomes into perspective.

Notes

- The articles that follow are here presented and formatted as they would be when submitted for publication. The tables and figures have nevertheless been re-numerated, in order to allow for the provision of a list of tables and a list of figures, which can be found at the end of this thesis.
- In the same line, a list of reference has been provided for each of the articles, and is complemented by a consolidated list of all references (including those of this introduction), which is likewise to be found at the end of this document.