



University of Twente  
MSc Business Administration  
International Management Track

Topic

**Effectuation versus Causation in Entrepreneurial  
Decision-making in Chinese Context: Consideration  
of Impact of Family Business Background and  
Gender**

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Turned in: 09.09.2012

## **Acknowledgments**

*The past two years have been quite a journey. Earning Master of Science degree at the University of Twente, Business Administration faculty has truly enriched my life. During this time period, I have come to learn a lot which I am very grateful for. Writing Master thesis is the final step towards receiving my Master Degree.*

*I hereby would like to take the chance to thank some important people for making this thesis possible. First of all, I want to thank my first supervisor: Associate Professor Dr. Rainer Harms for his supervising, coaching, recommendation, feedback, inviting me to join in EPICC project. Also, my second supervisor: MSc Martin Stienstra for his time and advice. Secondly, I would like to thank my parents, girlfriend for their continuous support and love. Special thanks go out to all fifty Chinese respondents who have been a great support to my data collection, thanks for their participation.*

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## Executive Summary

A growing body of studies focuses on opportunities discovery and the entrepreneurial decision to exploit them as the essence of entrepreneurial activity. Following this stream of research, I present an exploratory study which observes the impact of family background and gender on Chinese student entrepreneurs in terms of their entrepreneurial decision making to examine student entrepreneurs' preferences for causal and effectual logics in the new venture creation process. The dominating view is that entrepreneurial decision making to a large degree varies in response to the unique situational context.

In contrast, I am in this paper particularly interested to what extent family business background and difference in gender makes Chinese student entrepreneurs in favor of one decision making logic over another. From this point of departure I develop hypotheses of the expected influence of family business background and gender on Chinese student entrepreneurs' preferences for causal and effectual reasoning (It was expected that the Chinese student entrepreneurs without family business background frame decisions using an "effectual" logic; whereas the Chinese student entrepreneurs with family business background are more likely to operate a "causal process" and tend to "go by existing knowledge". Furthermore, Male student entrepreneurs are more likely to be effectuators than the female student entrepreneurs in Chinese context). Fifty Chinese student entrepreneurs were asked to think aloud continuously as they solve typical decision-making problems in creating imaginary new venture called milk tea corner in his or her University. Protocol analysis on this sample gives partial support for the argument that family business background, gender differences have significant influences on Chinese student entrepreneurs' decision making. The finding suggests that future research into entrepreneurial decision making should include family business background and gender as contingency variables.

*Keywords: Student Entrepreneurs; Entrepreneurial Decision-making; Effectuation; Causation; Family business context; Gender*

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# Section 1: Introduction

## 1.1 Introduction

### **1.1.1 Chinese Student entrepreneurs: A recent phenomenon**

Entrepreneurship which is often regarded as very important economic development strategies to develop country's economy and maintain the country's competitiveness in facing the bad economy, increasing rate of unemployment, increasing trends of globalization (Schaper & Volery, 2004; Venkatachalam & Waqif, 2005) attracts more attentions from MBA programs offering courses in entrepreneurship than ever before. Entrepreneurship offers the individual opportunities to enjoy freedom, independence, greater financial results and gain towards overall economy through a contribution to creativity, job enrichment, and economic development (Ahmed & Nawaz, 2010).

Topics in entrepreneurship are also becoming popular at college and university levels (Brown, 1999). An increasing interest in entrepreneurship studies amongst both undergraduate and graduate students has developed over the last ten years (Solomon, Weaver et al., 2005). One of the key reasons which explain this unparalleled phenomenon is the fact that salary employment or 'secure' employment is no longer a guarantee especially in the public sector for university graduates (Collins, Hannon et al., 2004; Kamau-Maina, 2006; Postigo, Iacobucci et al., 2006). China is no exception. In China, 2.8 million graduates entered the employment market in 2004 and this number increased significantly to 5.59 million in 2008. However, the increasing numbers of graduates are not met by a matching number of appropriate employment positions (China CSR, 2007; Rucui, 2004). In 2008, the Chinese Ministry of Education has published on overall fist-time employment rate of University graduates at only 64 percent and situation seems to get worse in the future (Anderaand Krause, 2008) which result in the increase in the entrepreneurial intentions of Chinese university students.

In today's struggling economy and competitive job environment, more and more of Chinese University students are starting their own businesses instead of serving as



employees or public servants. Such budding entrepreneurs try to manage their full-time or part-time course loads while taking on the role of leaders of their own business, with considerable effort and responsibility. The PRC provides a unique living laboratory in which to explore student entrepreneurship. Although there is an emerging body of knowledge about student entrepreneurship, there are few in-depth empirical investigations.

### **1.1.2 Entrepreneurial decision making process**

Considering that entrepreneurs (including student entrepreneurs) often have to handle new and ill-defined business concepts whose commercial applications are not yet completely explored, the new business creation process can be considered as exploratory in nature which is always associated with high scarcity of available resources (Sarasvathy, 2001a). It indicates that new business creation processes ask for frequent entrepreneurial decisions about how to pursue the opportunity, how to set the direction for business development, how to solve the particular problems among the various solutions available (Simon, Houghton and Aquino, 2000). These decisions are in turn complex by the uncertainty and dynamics that surrounds the commercial return of most entrepreneurial initiatives.

In a recent stream of research, two kinds of entrepreneurial decision making modes in business setting: causation and effectuation, is brought forward by Sarasvathy (2001). Causation is associated with rational planning, logic of predication, whereas effectuation is closed to the concept of emergent strategies, creativity, logics of control.

### **1.1.3 Family business background, Gender, Entrepreneurial decision making**

Some authors argued that individuals may have different perceptions to what extent they consider the future as predictable (causation) and controllable (effectuation), something which in turn will influence their decision making (Sarasvathy, 2001a; Wiltbank, Dew, Read and Sarasvathy, 2006). Some factors will influence whether

individuals would prefer relying on causation or effectuation as their predominant decision making logic. Based on previous research, two factors can be identified as likely to have influences on entrepreneurial decision making: Family business background and Gender.

Previous research suggests that growing up in a family where parents are entrepreneurs represents a particular context in which decisions are made (Chlosta, Patzelt, Klein & Dormann, 2010). Such self-employed family provides the opportunity to learn from the entrepreneurial parents serving as role-model and offering a realistic preview of entrepreneurship. Singh, G., and DeNoble (2003) stresses that entrepreneurs with family business background are relatively low in creativity and will likely to focus their attention on what they know from their self-employed parents when they have to make certain decision. Besides, the resource-based theory also highlights the fact that entrepreneurs growing up in entrepreneurial families are more likely to stay tethered to their goals when they have to make entrepreneurial decisions (Read & Sarasvathy, 2005). This may be associated with normative family support in terms of financial and non-financial resources which are needed to launch a firm, learning effects, prior experiences, knowledge, heightened perceived behavioral control (Carsrud et al., 2007).

Gender difference also influences the human decision making, or rather, allows one to create individual differences (Liz áraga, Baquedano & Cardelle-Elawar, 2007). According to some previous research, it seems that females are more influenced by the external environment, they are likely to make rational plan and look for more information, when they attempt to make decision (Gill, Stockard, Johnson, & Williams, 1987). Men, in contrast, are more assertive, dominant, creative, and realistic in making decision (Wood, 1990). These different cognitions in decision making may result from the psychological differences, incidence of gender-related norms and stereotypes that are transmitted in the form of behavioral expectation, tradition and values (Liz áraga, Baquedano, & Cardelle-Elawar, 2007).

In a word, family business background and gender difference might have impact on

entrepreneurial decision making logic. Student Entrepreneurs with different gender and family career background can hence be expected to seek different types of entrepreneurial events and learning situations, which in turn can influence their preferred decision making logic in entrepreneurial settings. However, studies of how student entrepreneurs' family business background and gender difference influence their preference for relying on causal or effectual decision making modes in the new venture creation process are however still scarce.

### **1.2 Purpose of this research**

Based on the discussion above, the aim of the study is to examine the influence of family business background and gender difference on Chinese student entrepreneurs' preferred mode of decision making. By doing this, the study contributes to existing theory and research on entrepreneurial decision making in several ways. **First**, the study develops theory-driven hypotheses and empirically tests them on a sample of 50 Chinese student entrepreneurs in order to develop my understanding of causal and effectual decision making in entrepreneurial settings. The study will empirically test hypotheses derived from previous literature and research on a sample of fifty Chinese student entrepreneurs. **Second**, Since the introduction of causation and effectuation, however, no researcher has attempted to empirically test both effectuation and causation in Chinese context. **Third**, few empirical studies of entrepreneurial decision making suggest that research into entrepreneurial decision making should include family business context and gender as contingency variables. Also, prior studies of entrepreneurial decision making have failed to distinguish student entrepreneurs with different family career background and gender.

My purpose is to investigate that family business background and gender difference have influence on Chinese student entrepreneurs' decision-making which lead to either effectual process or causal process. In my study I rationally expect that Chinese student entrepreneurs without family business background frame decision problems

using an effectual logic, whereas Chinese student entrepreneurs with family business background is more likely to implement causal theories to make the decisions. Moreover, Male student entrepreneurs are more likely to be effectors than the female student entrepreneurs in Chinese context.

### **1.3 Research Question**

This study specially looks at the impact of family business background and gender difference on Chinese student entrepreneurs in terms of their entrepreneurial decision making. Therefore, the main research question of this research can be formulated as follows:

*In what way the family business background and gender influence Chinese student entrepreneur's preference for causation or effectuation logic in entrepreneurial decision making?*

In order to answer the main research question, several sub-questions could be considered to arise:

- 1. In which way the family business background influences the entrepreneurial decision making?*
- 2. In which way the gender difference influences the entrepreneurial decision making?*
- 3. Are Chinese male entrepreneurs more likely to rely on effectuation than their female counterpart in making entrepreneurial decision?*
- 4. Are Chinese entrepreneurial with family background are more likely focus on causation than those without family background in making entrepreneurial*

*decision?*

#### **1.4 Research Design**

This Master thesis is an exploratory study. In order to better comprehend the nature of this matter, it is both quantitative and qualitative in nature. In short, this study has intention to investigate the impact of family business background and gender on Chinese student entrepreneurs in terms of their entrepreneurial decision making to examine student entrepreneurs' preferences for causal and effectual logics in the new venture creation process. If the Chinese student entrepreneurs are asked to put themselves in the role of the lead entrepreneur in building an imaginary company and solve relevant decision problems which arise in the context of building this new imaginary company, how these Chinese student entrepreneurs' reactions will differ with each other? The main research data is gathered with a quasi-experiment (protocol analysis). In this quasi-experiment, the research participants-fifty Chinese student entrepreneurs were asked to think aloud continuously as they solve ten typical decision-making problems in creating imaginary new venture called milk tea corner in his or her University. It was expected that the future research into entrepreneurial decision making should include family business background and gender as contingency variables.

#### **1.5 Structure Thesis**

The structure of this thesis can be broken down into five main sections. The first section consists of a general introduction concerning what will be researched as well as the research questions, purpose of the research, etc. In section two, all relevant literature concerning entrepreneurial decision making logics; family business background; impact of gender will be discussed. First of all, two kinds of entrepreneurial decision making modes in business setting: causation & effectuation and their related logics will be explained. Afterwards, the literature will emphasize the impact of family business background and gender on entrepreneurship respectively.

After that, the hypotheses are constructed based on the research questions and literature review. To continue, the third part comprises of the methodological part of the thesis. In this section, the research method, the sampling method, operationalization, measurement used in this empirical study will be explained. This section will also elaborate on the reasons for choosing protocols as the main research method and purposive sampling as the main sampling method. In addition, the construction of the protocols as well as the selection of participants is clarified. Lastly, it describes how this empirical research is operationalized and how the data is transcribed and coded. The fourth section is result and discussion, in this section, the independent T test for comparing two different means will be used to show the result of data analysis. This section will also consist of the presentation of results and discussion. The study ends with a conclusion and limitation of this research.

## **1.6 Definition of specific terms**

### **1.6.1 Family business**

Different scholars have different definitions of the family business. The main difference between these definitions of the family business is the degree of ownership and management that family controls. Here I directly cited the definition of family business from Chua et al. (1999, p.28) who defines family business as

“A business governed and/or managed with the intention to shape and pursue the vision of the business held by a dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially sustainable across generations of the family or families”.

### **1.6.2 Family business background**

Family business background in this study is defined as “growing up in a family where at least one parent is self-employment” which is opposite to the case that none of parents is entrepreneur, both parents either employ in a (private or state-owned) company or serve as public servant.

### **1.6.3 Entrepreneurial decision making**

In general, entrepreneurial decision making is defined as "decision making for solving the organizational problems and setting direction of an organization". However, to be more specific on characteristic, it involves, entrepreneurial decision making may be defined as the decision making for solving the organizational problems and setting direction of an organization at each evolution stage to make the organization successful through the configuration of resources within a changing environment for the fulfillment of stakeholders aspirations and expectations.

### **1.6.4 Chinese student entrepreneur**

A Chinese student entrepreneur in general is defined as "a Chinese undergraduate or graduate becomes owner or manager of a business enterprise who makes money through risk and initiative". Chinese Student Entrepreneur is a term applied to a Chinese undergraduate or graduate who does business and accepts full responsibility for the outcome. Here, it is necessary to distinguish the student entrepreneur with or without family business background. The student entrepreneur with family business background refers to the person who may acts as new founder or family business successor, where as the student entrepreneur without family business background only refers to the person who create entirely new business (new founder).

### **1.6.5 Causal theories and Effectual logic**

In describing entrepreneurial decision making process, Sarasvathy (2001) identifies two distinct approaches: causation and effectuation. Causation was defined by Sarasvathy (2001, p245) as "the processes that take a particular effect as given and focus on selecting between means to create that effect" is associated with rational planning, whereas effectuation was defined by Sarasvathy (2001, p245) as "the process that takes a set of means as given and focus on selecting between possible effects that can be created with that set of means" is closed to the concept of emergent

strategies and creativity. Both effectuation and causation represent a way that entrepreneurs make their decision. These two concepts will be described in detail in the literature review.



## **Section 2: Review of Literature and hypotheses**

In this section, concepts of entrepreneurial decision making, family business background, Gender will be highlighted in different perspective.

To identify the family business background, gender, effectuation, causation literature, the mentions of “effectuation” “causation”, “family business background”, “impact of gender” in article titles and abstracts were searched and each of the articles that have cited Sarasvathy (2001), Stuart Read (2005), Singh and DeNoble (2003) was read. After discarding articles that referred tangentially to “effectuation”, “causation”, “family business background”, “impact of gender”, I selected articles in which these key words were main topics. Both conceptual and empirical articles were reviewed.

### **2.1 Entrepreneurial Decision Making Process**

New business creation processes ask entrepreneurs to make frequent entrepreneurial decisions about how to pursue the opportunity, how to set the direction for business development, how to solve the particular problems among the various solutions available (Simon, Houghton and Aquino, 2000). These decisions are in turn complex by the uncertainty and dynamics that surrounds the commercial return of most entrepreneurial initiatives.

In a recent stream of research, two kinds of entrepreneurial decision making modes in business setting: causation and effectuation, is brought forward by Sarasvathy (2001). Both causation and effectuation are important aspects of entrepreneurial and strategic decision making in individuals. Causation is associated with rational planning, logic of predication, whereas effectuation is closed to the concept of emergent strategies, creativity, logics of control.

#### **2.1.1 Causation and planning**

Traditional decision making models are on the basis of causal logics. Sarasvathy (2001) indicates that causal logic takes a particular effect as given and focus on

selecting between means to create that effect. The future is framed as a continuation of the past by causal logic. Hence accurate prediction, rational planning, STP analysis, formal marketing research, etc are useful and necessary.

According to Sarasvathy (2001), Causal reasoning begins with the identification, recognition, discovery of an opportunity, followed by a variety of criteria including 1).Goal-driven or effect-driven decision making logic 2).Emphasizing expected return 3).Focusing on detailed competitive analysis 4).Relying on existing knowledge 5).Resting on a logic of prediction-to what extent we can predict the future 6).Emphasis on analysis of data 7). Other causal driven process (such as developing a detailed business plan)

Rational planning is an important characteristic of causal logic which supports the idea that as uncertainty increases, organizations which develop comprehensive and precise planning of future activities (predicting, forecasts, competitive analysis, data analysis, etc.) will prevail. Some prior literatures place a great importance on systematic analysis and integrative planning (Wiltbank, Dew, Read, & Sarasvathy, 2006). According to their findings, companies can generate alternatives, evaluate and easily integrate new information into their strategies by using systematic analysis and integrative planning. Consequently, these companies are most likely to select the optimal alternative without pangs of conscience and go forward in a gradual pace.

### **2.1.2 Effectuation**

Effectuation is different from causal logic and rational planning which is a process of decision making that takes a set of means as given and focuses on using given means to create possible effects. This process inverts every aspect of causation process according to Sarasvathy (2001), including its basic logic, overall process, fundamental principles, etc.

Effectuation is more than identification of opportunities, it is the creation of opportunities, followed by a variety of criteria including 1).Mean-driven decision making logic 2).Emphasizing affordable loss instead on expected return 3).Use of

alliances or partnerships instead of competitor analysis 4).Exploration of contingency 5).Resting on a logic of non-predictive control-to what extent we can control the future we do not need to predict it 6).Distrusting or opposing marketing research 7).Other effectual driven process (such as creativity). Effectuation is about the capability of the entrepreneur to create an opportunity and economic environment where not only he/she thrives but also all the other economic actors.

In effectuation process, the creation of an opportunity would start with means available. Depend on who the entrepreneur is? What she/he knows? Whom she/he knows? (Sarasvathy, 2001). Using these given means, the entrepreneurs in the effectual process begin to imagine possible effects that can be created with them.

## **2.2 Impact of family business background on entrepreneurial decision making**

The decision making process is one of the most complicated human thinking mechanisms which is intervened by various factors with different results (Liz árraga, Baquedano, & Mar áCardelle-Elawar, 2007). The process of human decision making is defined by Orasanu and Connolly (1993) as a series of cognitive operations performed consciously, which include the elements from the environment in a specific time and place. In addition, Narayan and Corcoran-Perry (1997) defines the process of human decision making as the interaction between problems that has to be worked out and a person who wants to solve it within a specific environment.

In this environmental perspective, it is no wonder that growing up in a family where parents are self-employed represents a particular environment in which decisions are made. The entire decision making process is influenced by the interaction between decision makers and their family business background or no-family business background. In effect, individuals may make different decisions on the same case depending on different family career environment. The following review of literature will briefly explain in which way the family business background influences the entrepreneurial decision making.

### **2.2.1 Impact of family business background in general**

Family characteristics have strong impact on entrepreneurship, such as recognition of new business opportunities, entrepreneurial decisions and resource mobilization, allocation (Aldrich & Cliff, 2003). Family business background as one of the most important family characteristics affects future generation in many ways besides the issue of succeeding family business (Aldrich & Cliff, 2003; Dyer & Handler, 1994). The social interactions and psychological development of the “family” in the family business are impacted by the perception of independence, autonomy, freedom (as well as resource, knowledge, experiences) of family business ownership. Individual especially the Children who come from family which their parents serve as entrepreneurs are more likely to be aware of these impacts (Fairlie and Robb, 2005). Moreover, entrepreneurial parents may provide entrepreneurs with sufficient financial support, human capital support which is needed to launch the firms. In fact, many entrepreneurs find information and resources on markets, industries, administrative regulations and potential pitfalls through their entrepreneurial parents (Ozgen and Baron, 2007; Schutjens and Stam, 2003). It can be expected that students with family business background stem from a particular familial context that may mold their particular entrepreneurial decision making logics which is different from the student entrepreneurs without such family entrepreneurial background. The hypotheses are formulated based on following three perspectives: 1. Resource accessibility; 2. Entrepreneurial innovativeness; 3. Problem-solving reasoning

### **2.2.2 Family business background and resources accessibility**

The relation between entrepreneurship and resource is close. In order to exploit an opportunity, an entrepreneur has to exercise decisions over the use of resources in serving markets and seizing opportunities.

Entrepreneurial parents are able to support resource which Children needs to launch business, they may endow their Children with human capital (parents’ business experience, knowledge and competencies) and financial capital that is specific to

running business (Lentz and Laband, 1990), they provide role models and adopt child-rearing practices that facilitate self-employment as well (Kerckhoff, 1972). Student entrepreneurs with family business background especially the family business successors are able to draw upon the implicit and explicit knowledge of a proven management team (Sirmon and Hitt, 2003) and get support in term of the financial and human capital from family (Steier, 2007). Also, Entrepreneurial families create extensive business networks in response to economic and social needs. This extensive network of family business in the focal industry and the local community (Pearson et al., 2008) offers additional faith that the offspring will successfully make and execute the particular entrepreneurial decision.

Sirmon and Hitt (2003) apply the RBV to family firms, and identify between five sources of so-called ‘family firm capital’: social capital, human capital, governance structures, or survivability. These family firm capitals can be unique, inseparable, important resources which next generation needs to succeed family business or launch their own business. In a word, family firms ripe for next generation often operate on a more solid and good resource base (Habbershon et al., 2003).

Read and Sarasvathy (2005) indicate that the more resources available to people to operate the entrepreneurial action, the more causal their actions are likely to be. First of all, this is because when the resources to implement it are available, people are less likely to change their initial goal (Read & Sarasvathy, 2005). In this case, they are more likely to stick to their initial goal and do whatever they can to pursue this goal. Causation is the process that takes a particular goal or effect as given and focus on selecting between means to create that goal (Sarasvathy, 2001). Secondly, because of available resources from entrepreneurial parents, these entrepreneurs with family business background are able to operate the business process which involves considerable amounts of analytical effort and requires resources both for research and for implementing the rationally planned marketing strategies. This business process is close to “causation” concept, since causation process also requires considerable amounts of resources and effort to analyze the data; pursue the goal and predict the

future. In addition, such slower and resources-consuming decision making processes are often experienced by family firm (Meyer & Zucker, 1989) and influence the way the next generations to make their own entrepreneurial decision makings.

The above literature leads to following hypothesis:

*H1: Chinese Student entrepreneurs with family business background are more likely to rely on causal logics in making entrepreneurial decision*

In contrast, the student entrepreneur without family business background has to act on their own, since both financial and human capitals which are needed to found the business is not available or sufficient. Bootstrapped startup is a very typical way for the student entrepreneurs without family business background to do business (Read & Sarasvathy, 2005). Bootstrapped startups are typically mean-driven, they first look at what they get, who they know, finance their business activities from their own wealth, or from the wealth of people who have close relation with them such as their friends, families, etc (Bhide, 1992).

The less resource available to people to operate the entrepreneurial action, the more effectual their actions are likely to be (Read & Sarasvathy, 2005). First of all, in a predominately resource-poor situation, such as in the case of bootstrapped startups, effectuation strategies are more likely, simply because the resources required for implementing causal strategies like analyzing the data and predicting the future may not be available(Read & Sarasvathy, 2005). Secondly, Instead of investing considerable amount of money and other resources to design the best possible business effect for the given market, those people without entrepreneurial parents start their business by examining the particular set of means available to them (what they have, who they know) because of limited resource. Effectuation is the process that takes a set of means as given and focus on selecting between possible effects that can be created with that set of means (Sarasvathy, 2001). Thirdly, In “Curry in a Hurry” thought experiment, Sarasvathy (2001) also illustrates that it is more likely for entrepreneurs to consider effectuation process when they have limited access to

resources.

On the basis of above literature we can formulate following hypothesis:

*H2: Chinese Student entrepreneurs without family business background are more likely to rely on effectual logics in making entrepreneurial decision*

### **2.2.3 Family business background and entrepreneurial innovativeness**

Student entrepreneur with family business background refers to the student entrepreneur who may act as new founder or family business successor. Elke Schröder, Schmitt-Rodermund, and Arnaud (2011) indicates that family business succession, at least in the next generation's perspective, is likely to reflect entrepreneurial parent's interest and mean continuing with products, strategies established by parents, since introducing own ideas and innovations in the family business might be perceived as particularly challenging for offspring (against to parent's expectation). This is also because, over time some family firm founders (parents) prefer operating family business in conservative way, they are not willing to take the risks associated with entrepreneurship (Autio & Mustakallio, 2003; Dertouzos, Lester, & Solow, 1989) because of the high risk of failure of entrepreneurial ventures (Morris, 1998), as well as the risk of destruction of family wealth (Sharma, Chrisman, & Chua, 1997). They also do not expect that the successors will do the other way around and be creative to take the risk. Thus, family business successors exploit existing processes or goods which are more different from explorative and creative activities of most founders (Zellweger, Sieger, Halter, 2010). It has been argued that innovativeness decreases with continuous aging of family firms (McCann et al., 2001). The above arguments reflect causal logic which frames the future as a continuation of the past instead of creation of new opportunity (Sarasvathy, 2001). In addition, such student entrepreneurs (family business successors) can somewhat be defined as administrators (Stevenson, H., & Gumpert, D., 2001), since they are responsible for keeping the family business in profit and expanding family business scale, rather than starting a new business. Sarasvathy

(2001) also argues in her Curry in Hurry case that causation processes are more reasonable than effectuation, if the entrepreneurs clearly want to enlarge the business scales.

Although the rest part of student entrepreneurs with family business background act as new founder (establish the new business by him/herself) instead of being family business successors, the way they start and operate their new business is largely influenced by socialization within family business. Rotthaus (1998) states that Children grown up within a particular environment (e.g. family business background) in their respective cultures, and utilize the values and norms that derives from this environment. From this, children develop the learning strategies and actions that will help them to deal with new circumstances. This process is well known as “socialization”. As I mentioned previously, over time family firm founders (parents) prefer operating family business in conservative way, they become risk-averse decision makers (Autio & Mustakallio, 2003; Dertouzos, Lester, & Solow, 1989). This value that derives from entrepreneurial parents also influences their offspring’s perception and has orientation-and action-based characteristics (Erdmann, 1999). Researchers Donckles and Frohlich (1991) argue that growing up in family with business background also do in fact foster conservative strategic behavior such as STP (segmentation, targeting, positioning) process which was characterized as causation process (Sarasvathy, 2001).

In a word, these individuals with family business background will likely stay close to what they know from their entrepreneurial parents (Singh and DeNoble, 2003), reflecting their parent’s overall interests and expectations. These people with family business background are also considered as relatively low in openness (Singh and DeNoble 2003), since they choose to have a career which is same to those of their parents. People who are low in openness have narrower imagination and are less innovative, thus may be more likely to make the entrepreneurial decision similar or even the same to those of their family members (Singh and DeNoble, 2003). They are less likely to attend to environmental stimuli and information from outside their



familiar context. Moreover, these people are conventional and comfortable with well-established methods and topics (Singh and DeNoble, 2003); they favor the status quo.

Causal logics are associated with low level of innovativeness and are conventional with well-established methods (Sarasvathy, 2001). Causation frames the future as a continuation of the past. Hence, accurate prediction is both necessary and useful.

The above arguments provide the theoretical evidence to support the hypothesis one:

*H1: Chinese Student entrepreneurs with family business background are more likely to rely on causal logics in making entrepreneurial decision*

When we talk about the student entrepreneur without a family business background, it only refers to student entrepreneurs who create entirely new business (new founder) because of non-existence of family business. These individuals without family business background can be considered as high-openness. Because Stavrou and Swiercz (1998) indicates that the more open the individual, the higher their creativity (Singh and DeNoble, 2003) and tendency to experiment with behavioral patterns different from those of their parents. Student entrepreneur without family business background, they are really high in openness, since their parents are not entrepreneurs. Their career choice is definitely different from those of their parents. As Zhao and Seibert (2006) explained, individuals high on Openness can be characterized as creative, innovative, imaginative, and untraditional, because the high openness individuals are responsive to new ideas and stimuli environmental and information from outside their familiar context, their daily experiences and established patterns of thoughts into their behavior and actions. Openness is also positively related to aspects of intelligence, such as divergent thinking (McCrae, 1987).

Establishing the entirely new business asks student entrepreneurs without family business background to act on their own to come up with innovative ideas and to take a creative approach to strategy and entrepreneurial decision making. In the other word, these individuals (high-openness) are less likely to be influenced by family members

and parental role models; instead, they may create many other potential career opportunities that are new and unknown to them and their family (Stavrou and Swiercz, 1998). High Openness individuals might not follow their parental role models' footsteps but choose a career that no one in their family and social environment has taken before. In my research, the student entrepreneur without family business background can be considered as high openness person, since he/she involve in a career (being entrepreneur) which no one in his/her family has taken before.

Creative view relates to an alternative to causal logics which is called effectuation that underlies decisions made by entrepreneurs in bringing new ideas; firms; markets in to existence (Sarasvathy, 2001). Effectuation is inherently creative. These people without family business background is more likely to develop a decision model that involve processes of effectuation rather than causation, since creating a business in a market that does not yet exist involves understanding how to make decisions in the absence of pre-existent goals (Sarasvathy, 2001).

On the basis of above literature, I can provide more evidences to support my second hypothesis:

*H2: Chinese Student entrepreneurs without family business context are more likely to rely on effectual logics in making entrepreneurial decision*

#### **2.2.4 Family business background and problem-solving reasoning**

There are two kinds of problem solving reasoning in existing literatures: analogical and analytical reasoning. Analogical reasoning is a problem solving reasoning that applies between similar exemplars and cases. One case is used to infer new information about another case. In the other word, for analogical reasoning, previous solved problems are stored in memory. A new problem is matched against these solved problems. These matches are employed to suggest the way to solve the new problems (Buchanan al, 2006). It is associated with innovativeness and imagination. According to the empirical evidences which were provided by Isenberg (1986),

analogical reasoning allowed people to reason more from small quantities of data. People who employed analogical thinking were expected to talk more, theorize from their previous problem-solving solutions, and be more creative to go beyond the available information in a decision problem, when they have to make complicated decision making. These characteristics make analogical reasoning more likely to be used in effectuation-dominated decision making logics (mean-driven) because of more degrees of freedom (Harms & Schiele, 2012). Moreover, Harms and Schiele (2012) also indicate that the people who employ analogical reasoning are less likely to focus on competitive analysis, predication of future. They are more likely to embrace the innovative use of unexpected contingencies as they arise.

Since analogical problem-solving reasoning is used in effectuation-dominated decision making logic (Dew et al. 2009, Harms & Schiele, 2012), those entrepreneurs with family business background might be more likely to rely on effectuation in the process of new venture creation. Firstly, those people with family business background can somewhat be considered as people who have ability to employ analogical reasoning, since their family business provide the good business experience, exemplars for learning and comparing. These people can match the new problem they currently face against the problem previously solved by their entrepreneurial parents in their family business, then these matches will suggest the solutions for this new problem. Secondly, before they have to make particular entrepreneurial decision, the student entrepreneur with family business background are more likely to look back the historical events occurred in their family business and find the linkage between the cases.

On the basis of above literature review, the new hypothesis which goes against the hypothesis one is formulated.

*H3: Chinese Student entrepreneurs with family business background are more likely to rely on effectual logics in making entrepreneurial decision*

Analytical reasoning, in contrast, represents the judgments made upon statement that

are on the basis of virtue of the statement's own content. For analytical reasoning, no particular previous exemplar or case is used. People just analyze the data and go by textbook. According to Sloman (1996), analogical reasoning is on the basis of causal, logical and hierarchical relations based on knowledge from language and systems which is associated with formal analysis.

Since analytical problem-solving reasoning is used in causation-dominated decision making logic (Dew et al., 2009 and Sloman, 1996), those entrepreneur without family business background might be more likely to rely on causation in new venture creation process. First of all, those without entrepreneurial parents normally do not have business experience before. Therefore, it is less likely for them to match between similar business exemplars and cases. They are less likely to access available, relevant business knowledge and experience when they face the problem situation. Secondly, these people tend to use analytical reasoning more than the student entrepreneurs with family business background. They tend to rationally predict the business and rely on the formal analysis, planning.

The above arguments provide the theoretical evidence to formulate the new hypothesis which is contrast with the second hypothesis:

*H4: Chinese Student entrepreneurs without family business background are more likely to rely on causal logics in making entrepreneurial decision*

### **2.3 Impact of gender on entrepreneurial decision making**

The psychological phenomena, gender among the variables that also influence the human decision making, or rather, that allow one to create individual differences (Liz árraga, Baquedano, & Cardelle-Elawar, 2007). Human decision making are actually influenced by beliefs about the characteristics that differentiate the genders. The following review of literature will briefly explain in which way the gender difference influences the entrepreneurial decision making.

#### **2.3.1 Impact of gender in general**

Extensive literatures recognized and interpreted that male and female are essentially different. Carter & Williams (2003, P.30) indicated that “women and men have different experiential backgrounds and different ways of thinking”. This difference results from socialization processes that shape gendered forms of behavior (Marlow & Patton, 2005). Therefore, these differences influence female’s approaches for beginning and developing their businesses which are different from their male counterparts (Marlow & Patton, 2005). In addition, Liz árraga, Baquedano and Cardelle-Elawar (2007) also outlines that the gender difference affects the human decision making which is as the result of the psychological differences, incidence of gender-related norms and stereotypes that are transmitted in the form of behavioral expectation, tradition and values.

### **2.3.2 Gender difference and psychological perspective**

These psychological differences are inherent and can rarely be changed. Liz árraga, Baquedano and Cardelle-Elawar (2007) indicates that in spite of the fact that society is moving towards social equality between male and female, it is necessary to continuously test whether the gender differences determine the human decision making logics in psychological perspective. According to some previous research, it seems that females are more concerned about the environment, they are likely to make rational plan and look for more information and dedicate more time, when they attempt to make decision (Gill, Stockard, Johnson, & Williams, 1987). Gill, Stockard, Johnson and Williams (1987) also argue that females place more value on time and money. They are more rational, since they are more concerned about the consequences that may derive from the particular decision. Moreover, risk is always associated with being self-employed, females have lower propensity for risk-taking in the current socio-economic context than their male counterparts (Wang& Wong, 2004) which may lead them to the preference of steady manner and rational planning. In addition, when IlanAlon, Deng and Wang (2011) talk about the framework of female entrepreneurship in China, they pointed out that female makes every business decision

carefully. They often have a realistic goal prior to making decision which can be considered as goal-driven. They pay more attention to long-term developments for start-ups and try to pursue this long-term objective.

Rational planning and long-term orientation as important characteristics of female entrepreneurs reveals that females might be more likely to rely on causation in new venture creation process. First of all, rational planning is an important characteristic of causal logic which supports the idea that as uncertainty increases, organizations which develop comprehensive and precise planning of future activities (predicting, forecasts, competitive analysis, data analysis) will prevail (Sarasvathy, 2001). Secondly, long-term orientation is also considered as characteristics of causation logic by Sarasvathy (2001), since people who are long-term oriented are respected for their willingness to subordinate themselves for a goal and purpose (Hofstede, 2001). These people have a pre-defined goal and do whatever they can to pursue this given goal. Moreover, in any case, this long-term orientation process would involve considerable amounts of analytical effort. It would require resource for pursuing this goal and purpose.

On the basis of above literature, the following hypothesis is formulated:

*H5: Chinese female entrepreneurs are more likely to rely on causal logics in making entrepreneurial decision*

Men, in contrast, might be more likely to rely on effectuation in the process of new venture creation. First of all, men tend to be assertive, dominant, and creative, rather than rational in making decision (Wood, 1990). They rarely make the entrepreneurial decision which is as rational as female does. They are less likely to rely on rational planning and careful preparation compared with their female counterparts, when they attempt to make the decision. Secondly, they have high level of propensity for risk-taking and creativity in the current socio-economic context than their female counterparts and tend to take whatever they get to create the results. Effectuation is a straight inversion of causal logic and rational planning. Effectuation is inherently

creative and mean-driven (Sarasvathy, 2001).

Based on above arguments, I made my sixth hypothesis as follows:

*H6: Chinese male entrepreneurs are more likely to rely on effectual logics in making entrepreneurial decision*

### **2.3.3 Gender difference and resource accessibility**

Besides the above inherent differences between male and female entrepreneurs, there is something else also play important role in gender difference which influence the way to make the decision and ability to do business.

When engaging with being self-employed, the availability and accessibility of resource especially the financial resources are important elements to start-up and consequent performance (Marlow & Dean Patton, 2005).

Comparing with the male counterpart, female often begins their business with poorer level of resources, funding (Brush, 1997; Carter & Rosa, 1998). This situation does not occur because of a lack of ability to access to resources but due to the more complicated, multi-faced constraints resulting from gendered characterizations which impose a future set of hurdles for many female entrepreneurs to negotiate, this may be associated with the gender disadvantage and discrimination especially in some typical male-dominant countries like China (Hofstede, 1980; Lee, 1984). People in these countries think that to be an entrepreneur is a masculine characteristic of the members of society (Ahl, 2006; Lewis, 2006).

Marlow (2002) indicates that females are disadvantaged by unequal access to the necessary resources which are needed to establish the business. The possible reason to this difficulty faced by female entrepreneurs may be the stereotyping generally held against females who enter in to entrepreneurial activities (Marlow & Patton, 2005). Similarly, Both Carter (2000) and Marlow (2002) argued that gaining access to appropriate levels of financial resources is challenging for many business owners, female especially will experience additional disadvantages associated with gender ascription.

In a word, females often have to face obstacles to resources required to engage with self-employed activities in the current market economy especially the male-dominated market economy like China. This particular institutional environment will lead female entrepreneurs to pursue the entrepreneurial activities by following particular logics which are different from male entrepreneurs.

The less resource available to people to operate the entrepreneurial action, the more effectual their actions are likely to be (Read and Sarasvathy, 2005). Based on above arguments, it is obvious that female often begins their business with poorer level of resources comparing with their male counterparts. (In the case that the entrepreneurs have limited access to resources, effectuation strategies are more likely, simply because the resources required for implementing causal strategies may not be available (Read & Sarasvathy, 2005).

On the basis of above literature we can formulate following hypotheses:

*H7: Chinese female entrepreneurs are more likely to rely on effectual logics in making entrepreneurial decision*

Comparing with their female counterparts, males are more likely to access to necessary resources which are needed to launch the business. Cater (2000) argues that in total, males used three times more start-up capital than females. They are more likely to gain the financial resource from some external financial community like commercial banks (Marlow & Patton, 2005). Therefore, Male entrepreneurs often work on a more good resource base.

The more resources available to people to operate the entrepreneurial action, the more causal their actions are likely to be (Read & Sarasvathy, 2005). This is because when the resources to implement it are available, people are more likely to stick to their initial goals and do whatever they can to pursue this goal.

The above literature leads to following hypotheses:

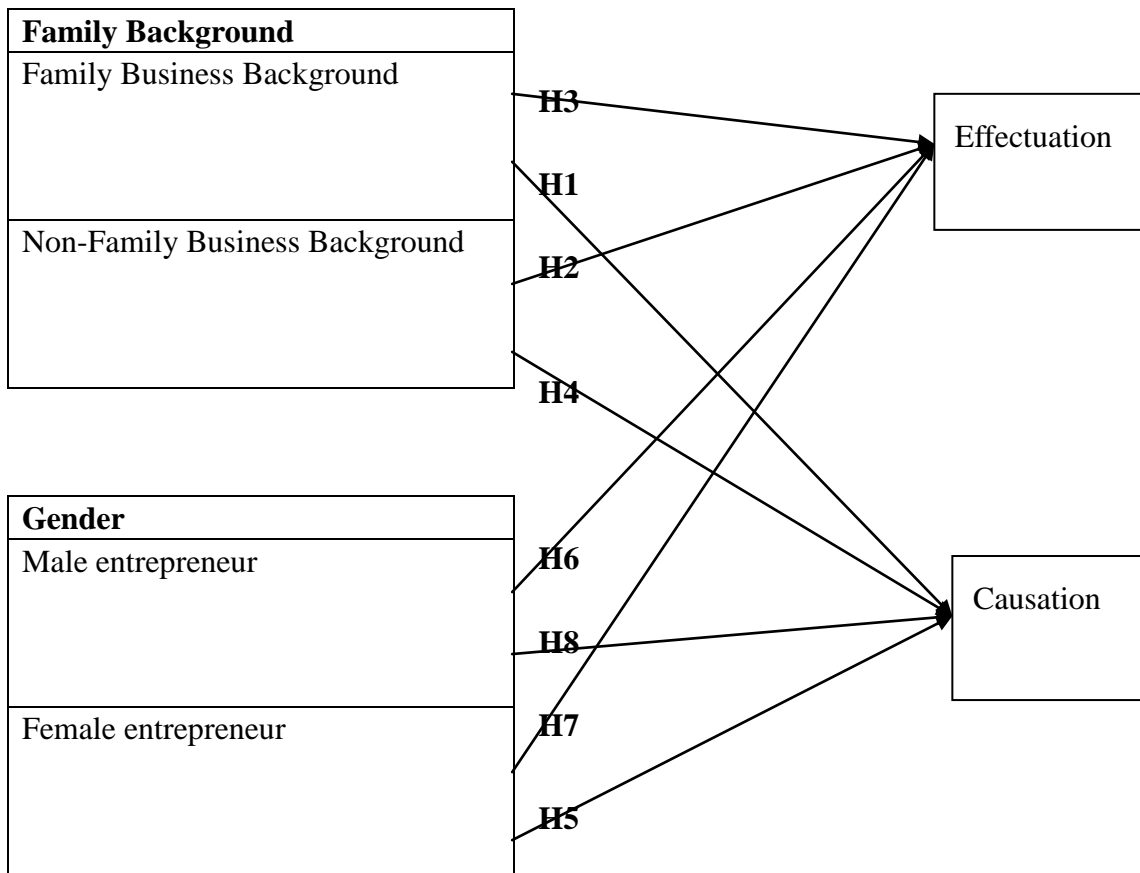
*H8: Chinese male entrepreneurs are more likely to rely on causal logics in making entrepreneurial decision*



## **2.4 Control variables**

In order to make my empirical test more transparent, the potential impact of third variables on my research must be identified and ruled out. In this paper, the ages of company, the participants' education background will be introduced. Harms & Schiele (2012) indicates that owners of older companies might operate the business with a higher level of formality in decision making, making causation more possible. For instance, some student entrepreneurs who succeed family business (old firms) may make the entrepreneurial decision based on formalized decision making process, which follow causation logics. The second potential control variable is education background. Dew et al., (2009) in their empirical research pointed out that the MBA students are more likely to focus on causation than effectuation in decision making. It can be assumed that Chinese student entrepreneurs with older business and business administration background will have a propensity towards effectuation in making entrepreneurial decision.

## 2.5 Summary of Hypotheses



**Figure 1:** Summary of Hypotheses

## **Section 3: Methodology**

### **3.1 Introduction of methodology section**

In order to test these given hypotheses predictions, a quasi- experimental study (protocol analysis) is created to test respondent's preference for causation or effectuation as his/her entrepreneurial decision making logics. Utilizing this research method in combination of purposive sampling of Heterogeneous instances, this research was administered during 2011/2012. The goal was to collect 50 protocol analysis data during a six-month period. Although the sample is 50, the depth and quality of the data provide very precious information for testing proposed hypotheses and formulating the further propositions for my research.

### **3.2 Sample**

#### **3.2.1 Sampling method: Purposive sampling of Heterogeneous instances**

Since the sampling frame which is defined as the list of units composing a population from which a sample is selected (Babbie, 2007) does not really exist, it is not possible for me to draw the population of Chinese student entrepreneurs and to use the probability sampling method to guarantee that the sample I observed is representative of the whole population.

In my case, one of non-probability sampling methods-purposive sampling which Babbie (2007) defines it as selecting a sample on the basis of knowledge of a population; its elements; the purpose of the study and researcher's subjective judgment is applied. The reason why the purposive sampling method is preferred is in some instances, I may expect that I can study a small subset of a larger population in which many members of the subset are easily identified, but the enumeration of them all would be completely impossible (Babbie, 2007).

In this paper, Chinese student entrepreneur's entrepreneurial decision making is studied, but I am not able to enumerate and sample from all Chinese student entrepreneurs because not only student entrepreneurs are not visible, but also it would

not be feasible to define and sample all the Chinese student entrepreneurs. In this case, I sample with a purpose in my mind. Before sampling, I try to figure out the possible profile of Chinese student entrepreneur in advance and start to target potentially qualified people who have close relation with me. I initially focus on friendship networks as a vehicle for the spread of participation. I first find several friends who are self-employed as my respondents. Afterwards I expand my sample to include friend's friends and other student entrepreneurs that they interact with. It sounds like snowball sampling, but I still pick the subjects on the basis of my subjective judgment about which ones will be the most useful or representative.

According to Shadish, Cook and Campbell (2002), there are two kinds of purposive sampling. One is purposive sampling of typical instances (PSI-Typ), whereas another one is purposive sampling of heterogeneous instances (PSI-Het). I actually take PSI-Het as my sample method. My starting point for this purposive sampling of heterogeneous instances is defining the characteristics of my participants. I try to make my respondents as heterogeneous as possible. For instance, my goal is to study the Chinese student entrepreneurs, PSI-Het will lead me to select Chinese student entrepreneurs whose ages vary widely, from 20 (just enter the University) to 30 (just finish Master program) instead of selecting student entrepreneur whose age was actually at the mean.

### **3.2.2 Description of participants**

Protocols were collected from 50 Chinese undergraduates or graduates, aging from 20 to 30. These 50 Chinese data will be benchmarked with GUESSS data (Zheng, 2011) which was collected for testing the entrepreneurial intention and activities of student in China to make sure that sample composition in this research can somewhat represents the entire Chinese student entrepreneur population.

GUESSS data systematically record the entrepreneurial intentions, activities and spirit of students on a long-term basis which are able to provide a temporal and geographical comparison of individual-based characteristics that impacting the

entrepreneurial intentions and activities of students. Over 29867 Chinese students from more than 16 universities throughout mainland China were participated in this research and 853 of them complete survey. Moreover, additional group of Chinese students who study abroad (453) were also invited to complete the survey. In a word, GUESS survey provides authoritative and comprehensive data which can somewhat represent the population of Chinese student.

The data in this research and GUESS survey have some similarities on some sample compositions like gender, education level and education background.

In spite of some similarities, the data in this research and GUESS survey also differ with each other on some sample compositions. First of all, all the participants in this research age above 21; whereas nearly half of GUESSSS participants age below 21. Secondly, 34% of participants in this research already married; whereas only 1.9% of participants in GUESSSS data get married. Thirdly, 52% of participants in this research have entrepreneurial parents, whereas only 7.6% of people from GUESS survey have family with business background. Fourthly, 68% of participants in this research do business in Finance, Economic, Sales industry, 2% of these participants enter construction industry, the rest of 30% involve in other types of business industry, whereas majority of the students in GUESS survey tend to be active in manufacturing, wholesale and IT industry. The reasons of these differences are showed as follows:

First of all, the overall purpose of this research is to find out the difference between student entrepreneurs in term of their entrepreneurial decision making process. Nearly all of participants in my research are real entrepreneurs who just graduated from university and are already engaged in their own businesses; whereas the GUESS survey was conducted only for testing the entrepreneurial intention of student in China. Thus, most of participants are just university students who may have entrepreneurial intention. This is the reason why the participants in GUESS survey are younger than the participants in my research. It also explains why only 1.9% of participants in GUESS survey get married.

Secondly, since I am engaged in a research which considers family business

background as an important contingency variable that influence people's entrepreneurial decision making logic, the percentages of student entrepreneurs with and without family business background need to be distributed uniformly in my research. This is reason why the percentage of participants with family background in my research is higher than those in GUESS survey.

Finally, majority of participants in GUESS survey are not real entrepreneurs, they just have tendency to be active in manufacturing, wholesale and IT industry in the future. They are not really engaged in their own businesses yet. Therefore, the last sample composition: business type is also incomparable.

Variables	Data (%)		
	Data in this research	GUESS data	
<b>Gender</b>	Male	64%	53%
	Female	36%	47%
<b>Age</b>	Below than 20	0%	42.7%
	21-24	14%	41.7%
	Above 25	86%	15.6%
<b>Marital status</b>	Married	34%	1.9%
	Single	66%	98.1%
<b>Family background</b>	Entrepreneurial family	52%	7.6%
	Non-entrepreneur family	48%	92.4%
<b>Education level</b>	Bachelor	74%	68.3%
	Master	26%	28%
<b>Education Background</b>	BA or Economics	38%	26.2%
	Math or computer science	12%	17.1%
	Engineering or Construction	30%	28.7%
	Others	20%	28%
<b>Business type</b>	Manufacturing	0%	16.4%
	IT, Consultancy and Software	0%	17%
	Wholesale and retail trade	68%	10.9%
	Other Businesses	32%	55.7%

**Table 1:** Comparison of data in this research and GUESS data

In conclusion, the characteristics of the final pool of the Chinese student entrepreneurs in this research suggest that the sample composition is fairly

representative of the population of student entrepreneurs in China, especially on gender, education level and education background variables. However, the future research needs to collect more diverse data on age, marital status and business type variables.

### **3.3 Operationalization**

#### **3.3.1 Protocol Analysis**

Most of previous empirical causation & effectuation articles have been conducted in quasi-experimental studies (Dew, Read, Sarasvathy, & Wiltbank, 2009; Read, Dew, Sarasvathy, Song, & Wiltbank, 2009; Sarasvathy, 1998; Sarasvathy & Dew, 2005; Sarasvathy et al., 1998). Although there are some differences in the samples, research context, research purpose, each of these quasi-experimental studies have employed similar types of procedures, coding method, evaluation criteria, analytical techniques, etc. In each experiment, subjects were asked to think aloud as they encountered scenarios and solved typical entrepreneurial decision making problems related to risks, returns, how they get the resources, etc. These authors applied verbalization protocol analysis to analyze the spoken thoughts of their respondents (Perry, Chandler, & Markova, 2011). The idea behind these quasi-experimental studies was not merely, simply to interview these entrepreneurs, but to get behind their stories and understand how they reason about specific problems in transforming an idea into an enduring firm.

My research is no exception, since the overall purpose of my Master Thesis is to “investigate the impact of family business background and gender on Chinese student entrepreneur in terms of their entrepreneurial decision making to examine the Chinese student entrepreneur’s preference for causal or effectual logics in new venture creation process”. In my quasi-experiment, in order to investigate the Chinese student entrepreneur’s preference for causation or effectuation as his/her entrepreneurial decision making logic, each subject must think aloud continuously as they solve 10

typical entrepreneurial decision making problems in creating an imaginary new venture called milk tea corner in his or her University (Please see the complete version of this instrument in *Appendix one*) which was created by my supervisors (Associate Professor. Dr. Rainer Harms & MSc Martin Stienstra) and was customized by me special for Chinese business context.

This quasi-experimental design focuses on the advantages of using think aloud protocols over other methods, particularly those calling for retrospective recall such as interviews or pure stimulus–response methods such as questionnaires. Think aloud protocols call for concurrent verbalization — i.e. subjects are not allowed to do any preparation in advance and are asked to think aloud continuously as they solve typical decision making problems. Transcriptions of recorded verbalization form the basic data to be analyzed (Dew, Read, Sarasvathy & Wiltbank, 2009). This concurrent verbal protocol analysis has many benefits due to the structure of the short term memory system of the human brain. It allows the researcher to look directly inside the black box of subject’s cognitive processing (Ericsson and Simon, 1980).

The quality of this verbal protocol analysis sequences is from its immediacy: each participant is not allowed to do any preparation in advance, there is short interval between the occurrence of thoughts and their verbalization, the immediate response is required. Thus this concurrent verbalization technique suffers little from retrospection and introspection biases in order to generate the most rigorously valid data (Ericsson, 2006 a, b, c).

### **3.3.2 Data collection**

#### **3.3.2.1 Independent variables: family background and gender**

In order to access to the information of family career information, gender, and other individual, societal, and environmental factors on entrepreneurship, Entrepreneurial Profile Questionnaire (EPQ) was created to collect a combination of demographic information and extensive detail related to characteristics of entrepreneurs.

In this paper, all participants are asked to write down biographic information such as



gender, education background, family career background, the income level of their family, their intention of being entrepreneurs, description of his/her business, etc. Besides, some extensive detail statement related to characteristics and orientation of entrepreneurs are also mentioned in EPQ with five point Likert scale, ranging from strongly agree to strongly disagree to complement the general background information. (See the complete version of questionnaire in *Appendix two*).

This Entrepreneurial Profile Questionnaire contributes a lot to my research: first of all, this EPQ is professionally translated in to English. Then it retranslated to clear up ambiguities or idiosyncratic terminology. Secondly, it helps to identify the student entrepreneurs with different family career background, gender and their subsequent different behavior, attitude in entrepreneurial decision making in quasi-experiment. Thirdly, it helps to offer more comprehensive information about to what extent or in what way the family business context and gender have impact on Chinese student entrepreneur in term of their entrepreneurial decision making. Finally, the possible third variables such as participant's education background, age of company are drawn up which will help to give more precise propositions and stronger arguments for given hypotheses in the discussion section of my thesis.

### **3.3.2.2 Dependent variables: causation and effectuation**

To operationalize causation and effectuation, a detailed description of an imaginary product called milk tea corner was given to the participants. Milk tea corner as described fully in *Appendix one*, is an imaginary game or experiment of entrepreneurship. Based on the description, participants were asked to answer a set of questions pertaining to the development of an initial market for this product (Questions are also included in *Appendix one*). Participants were asked to think aloud continuously as they solve typical entrepreneurial decision making problems during the task. They are free to work on this business case in any way they want; to use paper and pencil calculator if they demand; to be less concerned about grammar issue and any mistakes he/she made during the experiment. However, they are not allowed

to require any particular body of technical knowledge for solution, they are not allowed to do any preparation in advance which will lead to causal decision making process, they are not allowed to get the answers from me.

All participants were asked to complete the task without time pressure. Some participants really enjoyed solving entrepreneurial decision making problems in this experiment, since they commented that these typical entrepreneurial decision making problems reminded them of actual decisions they had to make in their entrepreneurial experience in real life. Most of the experiments were done via MSN, Skype.

The protocols were collected on computer recording device and transcribed for coding and analysis. Afterwards, I use a special coding scheme with 14 evaluation criteria items which was developed by Sarasvathy (2001) to indicate the result of protocol analysis. I use this coding scheme to extract relevant variables and counts in twenty categories: ten vertical columns represent ten entrepreneurial decision making problems in creating imaginary new venture-milk tea corner, whereas two horizontal rows represent two kinds of entrepreneurial decision making logics-causation and effectuation.

This quasi-experiment (protocol) is made for testing the dependent variables (entrepreneurial decision making process relying on effectual or causal logics) and gaining deeper understandings about how different student entrepreneur responses to this experiment differently.

### **3.3.3 Measurement**

Causation process: seven components of the causation process as described by Sarasvathy (2001) include emphasizing end from the beginning (goal-driven), focusing on expected return, doing competitive analysis, relying on existing knowledge, predicting the future, analyzing available data (or analyzing market), and emphasizing other causation Phenomenon (e.g. stick to initial goal, extensive plan, etc)

Effectuation process: according to Sarasvathy (2001), when entrepreneurs take

effectual logics for their entrepreneurial decision making they employ with alternatives in which the emphasize is on seven components: given mean, affordable loss, use of alliances or partnerships, exploration of contingency, non-predictive control, opposing marketing research and other effectuation Phenomenon (very creative ideas, change the plan because of the change of the environment)

Opposing to objective measurement, the more subjective measurement is employed in my research study for measuring subjects' cognitive process, since it is not possible for me to use benchmarks in favor of more intangible issues of evaluating Chinese subject's responses. The measurement which is employed in my study is a very personal master, based upon my own knowledge and instructions from my thesis supervisors. Although it will not provide me with neat, easily-compared numbers, it best suited for me to use in assessing the subject's performance of a particular dimension of entrepreneurial decision making logic in term of either effectuation or causation. If he/she gives the response which I think it must belong to one of the above dimensions during experiment, I will count it once in his/her protocol in this particular dimension. The detail explanation of each dimension and corresponding example which was extracted from my protocols is highlighted in *Appendix three*.

### **3.4 Method of analysis**

Since the purpose of this research is to investigate the impact of family business background and gender on Chinese student entrepreneurs in terms of their entrepreneurial decision making to examine student entrepreneurs' preferences for causal and effectual logics in the new venture creation process, independence T-test (comparing means) is used in data analysis. In this paper, the statistic of interest is the difference in the two observed means per each variable (male versus female; entrepreneurial parents versus non-entrepreneurial parents), I will start with this statistics to build confidence interval, but I will need to know its standard deviation and its sampling model. Then I can build confidence intervals and find P-value for hypotheses tests. The logics for using independence T-test (comparing means) is the

two groups (male and female or entrepreneurial parents and non-entrepreneurial parents) I am going to compare is independent of each other (the samples can come from different individuals who are not matched). This two independent sample t-test can be used to observe if two means are different from each other when the two samples that the means are based on were taken from different individuals who have not been matched. In this paper, I am going to determine if the Chinese student entrepreneurs with and without family business background; male entrepreneurs and female entrepreneurs are different in making entrepreneurial decisions in new venture creation process. In order to get the valid results, the mean shares of causation and effectuation between different groups will be calculated.

Addition to independent sample t-test, the chi-square test for independent is also employed to test the joint effect of gender, family background and some other important third variables.

## Section 4: Result and Discussion

### 4.1 Results

In this section, the mean shares for variable of family background and gender will be tested by independent sample T-test in 4.1.1 and 4.1.2. The overall results of independent sample T-test indicate that there is no statistically significant difference between tested groups. Furthermore, the joint effect of family background, gender and two potential control variables (age of company and education background) will also be discussed by Chi-Square test in 4.1.3 and 4.1.4.

#### 4.1.1 Family business background

For the first part of the analysis, different family background (with versus without family business background) is compared by independent sample T-test. The mean shares of these two tested group are compared on causation and effectuation.

Dimensions	Mean share (%)		Levene's Test	df	Sig (two-tailed)
	Entrepreneurial Parents (26)	Non-Entrepreneur Parents (24)	For Equality of Variances		Equal variances assumed
Causation	52.23%	55.31%	.740	48	.205
Effectuation	47.77%	44.69%	.740	48	.205

**Table 2:** Independent Samples Test for Family Background (mean share)

For testing **H1** and **H4**, I set the independent samples test for the group of Chinese student entrepreneurs with family business background and the group of Chinese student entrepreneurs without family business background on the given variable: causation. Table 1 gives the descriptive statistics for mean shares of the two groups. In this test, there are 26 Chinese student entrepreneurs with family business background,

and they have, on average, 52.23% of the time relying on causation in making entrepreneurial decision during the process of new venture creation, whereas 24 Chinese student entrepreneurs without entrepreneurial parents, they have, on average, 55.31% of time relying on causation in entrepreneurial decision making. "Levene's Test for Equality of Variances" of table 1 tells me that the significance (p value) of Levene's test is 0.740. In this case, I have to assume that the variances of these two groups are equal. The column "Sig. (2-tailed)" for "equal variances assumed" gives me the two-tailed p value (0.205) which is greater than  $\alpha = 0.05$ . That implies that there is no sufficient evidence to conclude that Chinese student entrepreneurs with family business background are more likely to rely on causal logics in making entrepreneurial decision making than the student entrepreneurs without self-employed parents. These two groups are approximately equal on the mean shares of causation. In this case, **H1** and **H4** cannot be supported.

For testing **H2** and **H3**, table 1 reveals that there is no significant difference between group with and without family business background on mean shares of effectuation. Since the p-value of Levene's Test for Equality of Variances is greater than 0.05, we assume that the variances of these two groups are approximately equal. "Sig. (2-tailed) = 0.205" implies that these two groups are approximately equal on mean share of effectuation. Therefore, both **H3** and **H2** cannot be supported.

#### 4.1.2 Gender

In the second part of the analysis, the differences between male and female entrepreneurs on mean share of causation and effectuation will be tested by independent sample T-test

Dimensions	Mean share (%)		Levene's Test	df	Sig (two-tailed)
	Male Entrepreneur (32)	Female Entrepreneur (18)	For Equality of Variances		Equal variances assumed
Causation	55.13%	51.18%	.625	48	.117

Effectuation	44.87%	48.82%	.625	48	.117
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**Table 3:** Independent Samples Test for Gender (mean share)

For testing **H5** and **H8**, table 3 compares the mean shares of male entrepreneurs and female entrepreneurs on a given variable “causation”. According to column “mean shares” of Table 3, it is obvious that mean shares for “male entrepreneur” group is a bit higher than that of “female entrepreneur” group. That is, male entrepreneurs, on average, are more likely rely on causal logics than their female counterpart in making entrepreneurial decision making. However, when we check the column “Levene's Test for Equality of Variances” of table 3, it tells me that I have to assume that male group and female group have approximately equal variance on the dependent variable, since the Levene's Test is not significant (the value under "Sig." is extremely more than .05). Therefore, the two variances (male and female) are not statistically different, that is, the two variances are approximately equal. Finally, the column “Sig for equal variances assumed” of table 3 supports previous assumption (the two variances are not statistically different) and indicates that male group and female group are approximately equal, since the two-tailed p-value is 0.117 which is greater than 0.05. Thus, I can conclude that there is no significant different between the male group and female group. These two groups are approximately equal on mean shares of causation. In this case, the H5 and H8 are not supported.

In order to test the last two hypotheses: **H6** and **H7** (whether Chinese male entrepreneurs frame decisions using an “effectual” logic or whether Chinese female entrepreneurs are more likely to operate a “effectual process” in making entrepreneurial decision), I also conduct the independent sample T-test to investigate the results. The Table 3 provides the actual results for these two hypotheses from the independent t-test and Levine's Test for Equality of Variances. According to column “mean shares” of table 3, the mean shares of male entrepreneurs relying on effectual logics in making entrepreneurial decision in new venture creation process is lower than their female counterpart. However, when we check the column “Sig for equal

variances assumed” of table 3, the assumption “male group and female group have approximately equal variance on the effectuation” are supported, since the p-value of “Sig for equal variances assumed” is 0.117 which is greater than 0.05. Therefore, I can report the statistics that there is no difference between male group and female group. These two groups are approximately equal on mean shares of effectuation. Therefore, the **H6** and **H7** cannot be verified in this paper.

#### 4.1.3 Control variables for family business background

As mentioned previously, addition to independent sample t-test, the chi-square test is also employed to test 1). the relationship between family background and entrepreneurial decision making logic 2). Joint effect of family business background and gender as well as two important control variables: age of company and education background

			Family background		Total
			Entrepreneur	non-entrepreneur	
Decision Making logics	Causation-oriented	Count	13	18	31
		Expected Count	16.1	14.9	31.0
		% within Subject family background	50.0%	75.0%	62.0%
	Effectuation-oriented	Count	13	6	19
		Expected Count	9.9	9.1	19.0
		% within Subject family background	50.0%	25.0%	38.0%
Total	Count	26	24	50	
	Expected Count	26.0	24.0	50.0	
	% within Subject family background	100.0%	100.0%	100.0%	
				%	

**Table 4:** Decision making logics (C&E) \* family background Cross tabulation

Decision making logics \* family background



Value	3.311 <sup>a</sup>
df	1
Asymp. Sig. (2-sided)	.069

**Table 5:** Chi-square test for decision making logics (C&E) \* family background

According to table 4 and table 5, the chi-square test also reveals no significant associations between student entrepreneurs with family business background vs. student entrepreneurs without family business background by entrepreneurial decision making logics (causation vs. effectuation). In the other word, student entrepreneurs with and without family business background do not differ in making entrepreneurial decisions (2-sided sig=0.069).

Control Variables are often used in empirical research to increase the precision of a test. For the relation between family business background and entrepreneurial decision making logics, I believe that gender, ages of company, education background as control variables may play an important role. For instance, perhaps, male entrepreneurs with family business background are more likely to rely on effectuation than anyone else. In any case, the joint effect of family background and gender, age of company, education background must be discussed to make my research result more transparent.

Control variables		Value	df	Sig (2-sided)
<b>Gender</b>	Male	2.327	1	.127
	Female	0.900	1	.343
<b>Age of Company</b>	More than 3 years	0.231	1	.135
	Less than 3 years	0.991	1	.319
<b>Education Background</b>	BA, Economics Education, Media IT, Software Engineering			50% of the cells in the cross tabulation tables have lower than expected cell counts.

**Table 6:** Joint effect of Family background and Gender, Age of company, Education

background on C&E

Table 6 illustrates the output for the control variable. The sig. (2-sided) indicates that gender and age of company would not have influenced in the relationship between family background and entrepreneurial decision making logics. However, because of relatively small sample size, the test of the third variable: education background has to be voided, since 50% of the cells in the cross tabulation tables have lower than expected cell counts. In this case, education background as a possible third variable cannot be ruled out.

#### 4.1.4 Control variables for gender

Chi-square test is also employed to test 1). relation between gender and entrepreneurial decision making logics 2). Joint effect of gender and family business background as well as two important control variables: age of company and education background.

			Gender		Total
			Male	Female	
Decision Making logics	Causation-oriented	Count	22	9	31
		Expected Count	19.8	11.2	31.0
		% within Subject Gender	68.8%	50%	62.0%
	Effectuation-oriented	Count	10	9	19
		Expected Count	12.2	6.8	19.0
		% within Subject Gender	31.2%	50%	38.0%
Total	Count	32	18	50	
	Expected Count	32.0	18.0	50.0	
	% within Subject Gender	100.0%	100.0%	100.0%	

**Table 7:** Decision making logics (C&E) \* Gender Cross tabulation

Decision making logics * family background	
Value	1.719 <sup>a</sup>
df	1
Asymp. Sig. (2-sided)	.190

**Table 8:** Chi-square test for decision making logics (C&E) \* Gender

Table 7 and table 8 also confirm the findings from independent sample t-test: male entrepreneur and female entrepreneur do not differ in making entrepreneurial decisions, since the 2-sided p-value is 0.190 which is greater than 0.05.

For the relationship between the gender and entrepreneurial decision making logics (C&E), family background, ages of company, education background are treated as possible third variables. The following table eight shows the test results of impact of these three possible third variables.

Control variables		Value	df	Sig (2-sided)
<b>Family Background</b>	With business	0.650	1	.420
	Without business	1.000	1	.317
<b>Age of Company</b>	More than 3 years	0.115	1	.734
	Less than 3 years	3.436	1	.064
<b>Education Background</b>	BA, Economics Education, Media IT, Software Engineering			50% of the cells in the cross tabulation tables have lower than expected cell counts.

**Table 9:** Joint effect of Gender and Family background, Age of company, Education background on C&E

Table ten indicates output for the control variable. The sig. (2-sided) showed that family background and age of company would not have influenced the relationship between gender and entrepreneurial decision making logics. However, Due to small sample size, the test of the third variable: education background is voided. We cannot rule out the impact of education background as third variable in this research.

#### 4.1.5 Summary of result section

According to the results of independent sample t-test, it is obvious that there is no statistically significant difference between male entrepreneurs and female

entrepreneurs on entrepreneurial decision making. Male and female rely equally on causation and effectuation during the process of new venture creation. Besides, entrepreneurs with and without family business background are approximately equal on causation and effectuation. Moreover, by testing the joint effect of gender, family background and two potential third variables: ages of company and education background on causation and effectuation, it can be concluded that gender and family background do not influence each other, age of company as one of the third variable can be ruled out in this research. However, because of relatively small sample size, the impact of another third variable: education background may still exist.

I made the short conclusion of the results of data analysis in the following table 10:

Hypotheses	Expected	Result	
H1: Entrepreneur with family business background and Causal logics	↗	NS	Not confirmed
H2: Entrepreneur without family business background and Effectual logics	↗	NS	Not confirmed
H3: Entrepreneur with family business background and Effectual logics	↗	NS	Not confirmed
H4: Entrepreneur without family business background and Causal logics	↗	NS	Not confirmed
H5: Female entrepreneurs and Causal logics	↗	NS	Not confirmed
H6: Male entrepreneurs and Effectual logics	↗	NS	Not confirmed
H7: Female entrepreneurs and Effectual logics	↗	NS	Not confirmed
H8: Male entrepreneurs and Causal logics	↗	NS	Not confirmed

NS\*: not significant

**Table 10:** Summary of the results

## **4.2 Discussion**

### **4.2.1 Discussion of family background variable**

The H1 and H4 stated that “Chinese Student entrepreneurs with family business background are more likely to relying on causal logics in making entrepreneurial decision” and “Chinese Student entrepreneurs without family business background are more likely to relying on causal logics in making entrepreneurial decision” respectively. However both of two hypotheses are not significant from the independent sample T-test in result section. My empirical results indicate that entrepreneurs with and without family business background equally rely on causation in the process of decision making.

Human actions such as establishing the imaginary business (milk tea corner) in campus is purposeful behavior. Effectuation seems to make little sense for the requirement of purposeful human action in an entrepreneurial process (Moroz, & Hindle, 2011). In an entrepreneurial process, entrepreneurs have to set to achieve goals. Authors also stated that the essence of any purposive entrepreneurial process is that of planning, even if the act of planning (a process that includes both predictive and imaginative elements) resides only in a cognitive construct (and not a formally articulated business plan). Besides, the logic of effectuation is also opposite to human agency based perspectives of entrepreneurship that presume the co-evolution of causes (Chiles, Gupta, & Bluedorn, 2009). In the human agency based perspective of entrepreneurship, Causal exchange between environment and agents, whether agents actively look for knowledge and information about the world around them cannot be ignored. Imagination and possible diverse effects are ultimately paired with what is perceived to be framed by the knowledge of the world as it is. In this case, due to the human nature, causation is widely applied by all entrepreneurs in the process of entrepreneurial decision making regardless of the impact of family business background. Therefore, people with or without self-employed parents may equally rely on causation in making entrepreneurial decisions.

In this research, the participant, on average, rely more on causation (23.34 times, 53.37%) than effectuation (20.27 times, 46.23%) in decision making process. This simply because all the participants in this research are student entrepreneurs, they can somewhat be considered as novices. In contrast to expert entrepreneurs, those novices often employ backward thinking (Larkin et al., 1980) which is similar with causal reasoning. The entrepreneurs who employ backward thinking end to analyze the available information and take goal-driven entrepreneurial activities (Sarasvathy, 2005). Furthermore, Dew et al. (2009) also draw the literature on novice vs. expert decision-making and found that novice entrepreneurs have tendency to employ causation logics frame in making entrepreneurial decision. This nature of novice entrepreneurs also explains why the participants in this research equally rely on causation regardless of the impact of family business background.

Addition to not significant relationship between family background and causation, my empirical research can support neither H3“Chinese Student entrepreneurs with family business background are more likely to relying on effectual logics in making entrepreneurial decision” nor H4“Chinese Student entrepreneurs without family business background are more likely to relying on effectual logics in making entrepreneurial decision”.

Although the student entrepreneurs with family business background do not differ with those without family business background in using effectual logic frame in their decision-making in creating new ventures, the former group, obviously talk much than latter. The family business experience helps people to access to relevant business example and knowledge. Because of relatively large business knowledge base, those with family business background are more likely to be familiar to our imaginary case and talk much than those without family business background.

In this research, it is also recommended that the relationships involving only generic causation and effectuation did not suffice anymore. The specific dimensions for causation and effectuation should be tested separately as well. Perhaps, Participants with family business background are likely to rely on certain dimensions of causation

and effectuation than the group without entrepreneurial parents, vice versa.

	<b>Sig (Mean Shares)</b>	<b>Results</b>
<b>Dimensions of Causation</b>		
Data Analysis	.590	NS
Competitive Analysis	.114	NS
Goal-Driven	.363	NS
Predict The Future	.404	NS
Exploit Existing Knowledge	.233	NS
Emphasis of Expected Return	.270	NS
Other Causal Factors	.548	NS
<b>Dimensions of Effectuation</b>		
Distrusting Marketing Research	.557	NS
Use of Alliance	.250	NS
Mean-Driven	.010	<b>S</b>
Non-Predictive Control	.575	NS
Exploit Contingency	.011	<b>S</b>
Emphasis of Affordable Loss	.633	NS
Other Effectual Factors	.216	NS

**Table 11:** Comparison of different family background groups on all dimensions of causation and effectuation

The table 11 illustrates that entrepreneurs with and without family business background are approximately equal on all dimensions of causation. However, they differ on two dimensions of effectuation: mean-driven & exploit contingency. The student entrepreneurs with family business background are more likely to rely on mean-driven activities and exploit contingency than those without family business background.

As I mentioned previously in review of literature section, Student entrepreneurs with family business background have ability to employ analogical reasoning, since their family business provide the good business experience, exemplars for learning and comparing. These people are more likely to look back the historical events occurred in

their family business and find the linkage between the cases before they have to make particular entrepreneurial decision. Harms and Schiele (2012) indicates that the people who employ analogical reasoning are more likely to be mean-driven and embrace the innovative use of unexpected contingencies as they arise.

#### **4.2.2 Discussion of gender variable**

For the hypotheses H5, H6, H7, H8, the investigation shows that there are no significant gender difference in the entrepreneurial decision making process of the participants of this study. With regard to variable of gender, all of four hypotheses are not significant. There is no statistically significant difference between male group and female group, since the mean times and mean shares of male entrepreneurs relying on causation or effectuation in making entrepreneurial decisions are approximately equal with their female counterpart.

It is true that gender as psychological phenomena influence the human decision making, or rather, that allow one to create individual differences, Human decision making are actually influenced by beliefs about the characteristics that differentiate the genders. However, Liz árag, Baquedano and Cardelle-Elawar (2007) indicate that no gender differences were investigated in cognition. It means male and female are approximately equal in cognition and process of decision making. For instance, the authors highlighted that in the process of decision making, both male and female carefully process information by retrieving the decision-related data from their memories. Afterwards, they carefully categorize the data if they are heterogeneous. Both male and female think logically about the alternative options, pay attention to the possible consequences, solve the problems posed by the situations. Furthermore, both male and female are likely to predict the future and supervise all the decision stages (Liz árag, Baquedano and Cardelle-Elawar, 2007). In the other word, male and female equally analyze the data; predict the future; focus on the affordable loss, when they have to make the decision. According to these theories, I try to compare the gender groups on all the dimensions of causation and effectuation. The results of



independence T-test on all dimensions of causation and effectuation are showed in following table13

	<b>Sig (Mean Shares)</b>	<b>Results</b>
<b>Dimensions of Causation</b>		
Goal-Driven	.570	NS
Emphasis of Expected Return	.847	NS
Competitive Analysis	.631	NS
Exploit Existing Knowledge	.942	NS
Predict The Future	.866	NS
Data Analysis	.288	NS
Other Causal Factors	.663	NS
<b>Dimensions of Effectuation</b>		
Mean-Driven	.048	<b>S</b>
Emphasis of Affordable Loss	.696	NS
Use of Alliance	.664	NS
Exploit Contingency	.743	NS
Non-Predictive Control	.579	NS
Distrusting Marketing Research	.321	NS
Other Effectual Factors	.664	NS

**Table 12:** Comparison of gender groups on all dimensions of causation and effectuation

According to Table 12, it is obvious that male and female are approximately equal on all the dimensions of causation and effectuation except the dimension of mean-driven. These empirical results somewhat support the Liz áraga, Baquedano and Cardelle-Elawar’s (2007) statement: male and female are approximately equal in cognition and process of decision making. They equally predict the future, analyze data, etc. For the excepted dimension: mean-driven, my research empirically indicated that female entrepreneurs are more likely to be mean-driven than their male counterparts, this simply because comparing with the male counterpart, female often operate the business on relatively poorer resources base (Brush, 1997; Carter & Rosa,

1998). This situation does not occur because of a lack of ability to access to resources but due to the more multi-faced constraints resulting from gendered characterizations which impose a future set of hurdles for many female entrepreneurs to negotiate, this may be associated with the gender disadvantage and discrimination especially in some typical male-dominant countries like China (Hofstede, 1980; Lee, 1984). Females often have to face obstacles to resources required to engage with entrepreneurial activities in the current market economy especially the male-dominant market economy like China. In this case, Chinese female entrepreneurs are always aware of their poor resource situation when they are making entrepreneurial decision. According to Sarasvathy (2005), when people operate the business on relatively poor resource base and are aware of lack of resource needed to do business, they often take the mean-driven business activities.

## Section 5: Conclusion and Limitation

### 5.1 Conclusion

Qualitative studies based on contingency variables: family background and gender so far have been rare in entrepreneurship research. To my knowledge, I am among the first to investigate empirically the impact of family business background and gender on Chinese student entrepreneur's preference for causal theories or effectual logic in entrepreneurial decision making. Expected differences were drawn both from theorizing in entrepreneurship studies and empirical findings in the broader literature on psychological, cognitive researches. By empirically examine fifty Chinese student entrepreneurs, this study offers intriguing answer to my central research question "*In what way the family business background and gender influence Chinese student entrepreneur's preference for causal theories or effectual logic in entrepreneurial decision making?*" and suggest that the future research into entrepreneurial decision making should include family business context and gender as contingency variables.

#### **5.1.1 Family background**

Although the difference between student entrepreneurs with and without family background on use of causation in entrepreneurial process cannot be verified, the difference between these two groups on two domain-specific dimensions of effectuation (mean-driven & exploit contingency) are supported. This research empirically found that student entrepreneurs with self-employed parents are more likely to rely on mean-driven activities and exploit contingency than those without entrepreneurial parents in making entrepreneurial decision.

Student entrepreneur, in general, operate the business on relatively poor resource base and have only the generalized aspiration of establishing their own business, especially for those without family business background. According to Sarasvathy (2001), if you have only generalized aspiration of building a successful business with relatively limited access to resources, you should consider effectuation processes. Furthermore,

doing business in emerging market like China always accompanies with unknowns. Conjectures and speculations which are similar with effectual logics are effective ways to deal with such essentially unknowable market (Sarasvathy, 2005). However, from the results of this empirical research, it seems that Chinese student entrepreneurs especially those without family business background still focus more causation thinking logics in entrepreneurial decision making process. In this case, this empirical research also gives the insightful implications for the student entrepreneurs with or without family business background about how to implement the effectuation-oriented activities in doing their business, if they are in resource-poor situation.

### **5.1.2 Gender**

Nowadays, a new entrepreneurial epoch is coming: women entrepreneurs are playing an increasingly important role in the global economy (Orlova, 2004) especially in emerging market like China. Forbes latest list of the richest Chinese entrepreneurs stressed that the proportion of women listed increased from 4% in 2004 to 7% in 2007 (Forbes China, 2007). In this new entrepreneurial epoch, Male and female have more opportunities than ever before to coordinate with each other in doing business. It is important for both male and female to get better understanding of their counterparts, when they have to make entrepreneurial decision together. Although this empirical research concluded that there is no statistically significant difference between male and female entrepreneurs in making entrepreneurial decision (both male and female equally rely on causation and effectuation, they equally analyze the data, predict the future, focus on affordable loss, set the goal prior to making decision), some differences still be found in this empirical research. It shows that female entrepreneur is more likely to be mean-driven than male entrepreneurs during the process of decision making because of the awareness of lack of resources. Moreover, by increasing the sample size, the future research will investigate more differences in the process of making entrepreneurial decision between male and female.

## **5.2 Limitation**

My study has several limitations that need to be considered. First, in order to investigate the impact of family business background and gender on Chinese student entrepreneur's preference for causal theories or effectual logic in entrepreneurial decision making, a quasi-experiment (protocol analysis) is conducted to examine the entrepreneur's cognition at one point in time. However, majority of student entrepreneurs' business are still at start-up stage. This pre-firm or nascent stage will probably lead the entrepreneur's preference to particular decision making logics regardless of the impact of family business background and gender, since Sarasvathy (2001) indicates that Effectual logic is weighted heavily in the pre-firm and nascent stages, while predictive logic becomes more necessary as the firm grows into a large organization. In this case, only a prospective longitudinal study (follow-up test) following the steps of entrepreneur's venture creation in reality over the life course will provide knowledge about the long-term predictive impact of family business background and gender in entrepreneur's decision making logics.

Second, although the current study seems to offer some intriguing insights in to the impact of family business background and gender on Chinese student entrepreneur's decision making preference, findings should be interpreted cautiously given the relatively small sample size in each of the variable groups (26 for the group of student entrepreneurs with family background; 24 for the group of student entrepreneurs without self-employed parents; 32 for male entrepreneurs; 18 for female entrepreneurs). This relatively small sample size lowers the statistical power, this is possible reason why majority of my hypotheses are not significant.

Third, my research is on the basis of purposive sampling methods with no entitlement to representative results. Babbie (2007, p.196) indicates that non-probability sampling methods "cannot guarantee that the sample we observed is representative of the whole population". In this case, the external validity of my research is somewhat threatened, since I cannot select units randomly to enhance the representation.

Fourth, the fourth is the geographical limitation associated with mainly focusing on the area around Zhe Jiang Province. China is a vast and diverse nation, and drawing broad generalizations from this study is difficult.

Fifth, in this research, one possible alternative explanation (education background) in original cause-effect relations cannot be ruled out because of relatively small sample size. This third variable might play an important role in these original causal relationships. If it is the case, my original cause-effect relation may be reversed after introducing this third variable. Furthermore, the attrition may occur during the experiment. Some participants may feel bored and give very poor responses for last few question, since they are rarely allowed to communicate with me during the 45 minutes experiment (estimated average time per each experiment).

Nevertheless, despite of these limitations, I still feel the current study to be useful contribution to entrepreneurship research by testing empirically the impact of family business background and gender on Chinese student entrepreneur's preference for causal theories or effectual logic in entrepreneurial decision makings.

### **5.3 Avenues for future research**

This study may spur future research in several directions.

First, Future research should also identify key third variables of the relationship between family business background, gender and entrepreneur's decision making logics. For instance, in my current sample, it is obvious that nearly half of female participants picked BA as their study direction in University. However, business administration students tend to use causation logic in making their entrepreneurial decision making (Dew, Read, Sarasvathy, & Wiltbank, 2009). In this case, the future research needs to replicate the same experiment with more student entrepreneurs from more faculties at undergraduate and graduate level. It would be interesting, for instance, to investigate whether my research results will be changed after introducing more student entrepreneurs from other faculties. One could also analyze in greater depth whether education background or other possible third variables influence the

process of making entrepreneurial decision. In addition, by inviting more subjects from other faculties to participate in this experiment, the sample size and statistical power of research will be increased as well.

Second, this future study also can do national comparison. For example, whether the people with same gender or same family career background from different nations react differently to the same questions?

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## Appendix I: The Case

### THE CASE

#### Introduction

In the following experiment, you will solve ten decision problems. These problems arise in the context of building a new company for an imaginary product. A detailed description of the product follows this introduction.

Before you start on the product description and the problems, I do need one act of creative imagination on your part. I request you to put yourself in the role of the lead entrepreneur in building this company -- i.e., you have very little money of your own to start this company, but you have about five years relevant working experience in the area.

#### Description

Since some time, you have been thinking of starting a milk tea corners at your university. Your inspiration for this came from the fact that when you, as a student, want to get a fresh cup or bottle of milk tea, there was no possibility. You did not like the instant milk teas which are available in the campus's supermarket. Next to that, you had to pay an amount of money, which was in no relation to the quality of the milk tea. You have been working in a Hong Kong-style tea house (sell the Hong Kong-style milk tea and some dessert) in your hometown for 5 years so you know what goes around

You saw the success of other milk tea corners, but since these were from expensive franchisers, you thought that it should be possible to still start your own. In several

reports in newspapers and magazines you read that there is an increasing demand for drinking milk tea in your home country.

You have taken all possible precautions regarding intellectual property. The name of your company is Milk tea, *Inc.*

## Problem 1: Identifying the market

Before we look at some market research data, please answer the following questions

-- one at a time:

1. Who could be your potential customers for your milk tea corner?

2. Who could be your potential competitors?

3. What information would you seek about potential customers and competitors

-- list questions you would want answered.

4. How will you find out this information -- what kind of market research would you do?

5. What do you think are the growth possibilities for this company?

## Problem 2:Defining the market

In this problem you have to make some marketing decisions.

Based on secondary market research (published sources, etc.), you estimate that there are three major segments who are interested in drinking coffee at your milk tea corner:

<u>Segment</u>	<u>Estimated total</u>
<u>size</u>	
Students	40.000
Staff members	20.000
Visitors (annually)	10.000

- The estimated value of regular milk tea sales in your home country is €248 Million
- The estimated value of specialized milk tea sales €50 Million.

Both are expected to grow at a minimum rate of 5% p.a. for the next 5 years.

The following are the results of the primary (direct) market research that you have completed.

*Survey #1 – Students, staff members and visitors were asked via questionnaires to express their interest in a milk tea corner. Also, they were asked to indicate what they were willing to spend on milk tea.*

In total, 1000 people were asked and 500 filled out the questionnaire.

<u>Willing to pay (€)</u>	<u>Students (%)</u>	<u>Staff members (%)</u>	<u>visitors (%)</u>
0.30 – 0.50	52	26	45
0.50 –0.70	30	38	32
0.70 –0.90	16	22	15
0.90 – 1.50	2	9	8
1.50 – 2.50	0	5	0
<hr/>			
Total	100	100	100

***Survey #2 -- The prices of coffee, offered during lunch breaks in between lectures***

<u>Willing to pay (€)</u>	<u>Students (%)</u>	<u>Staff members (%)</u>	<u>visitors (%)</u>
0.30 – 0.50	65	21	51
0.50 –0.70	25	49	42
0.70 –0.90	10	19	7
0.90 – 1.50	0	8	0
1.50 – 2.50	0	3	0
<hr/>			
Total	100	100	100

***Survey #3 -- Focus Group of educators (high school and community college teachers and administrators)***

Staff members of the university who participated in the focus group found the plan of the milk tea corner very interesting – but indicated that the range of milk tea could potentially be expanded before they would be willing to spend €1,50 or more. With the current milk tea, they would be willing to pay €0.70 –0.90 and would demand a bonus system in which they could save up for discounts after a certain amount of milk tea drunk.

Both at the lunch and the focus group, participants are very positive and enthusiastic about the milk tea corner. They provide you with good feedback on specific features and also extend suggestions for improvement. But the staff members are particularly keen on going beyond the regular milk tea aspect; they make it clear that much more diversity would be required in trying to market the product to them. They e.g. indicate that there are companies which might be capable of printing advertisement on cups for discounts on the milk tea.

Based on all your market research, you arrive at the following **cost estimates for marketing** your product.

Internet	€100 upfront + €25 per month thereafter
Newspapers	Relatively cheap -- but ads could cost €250 upfront
Cinema	€1000 to 2000 per month, with €500 upfront
Commercials on Local TV	€2500 to 5000 upfront

Direct advertisement elsewhere (think of sport-canteens, handing out lighters with advertisement, etc)      Involves recruiting and training ‘sales representatives’

## Competition

None of the following four possible competitors sell cheap quality cups of milk tea in the center of your hometown - you are unique in this respect.

Company	General price level per cup of milk tea in China	Revenue	Where to be found
Starbucks	€ 3.00	€6.5 billion	Large cities / global
Tea Storm	€ 1.00	€30 million	Large cities / mostly Shang Hai, Guang Zhou, etc
JieKe	€ 0.70	€20 million	Large cities / mostly Shang Hai, Hang Zhou, etc
Bi Feng Gang store	€ 0.40	€15 million	Large cities / mostly Shang Hai, Hang Zhou, etc

The milk tea companies are making a **net return of 25% on sales**.

At this point, please take your time and make the following decisions: (Please continue thinking aloud as you arrive at your decisions)

Which market segment/segments will you sell your product to?

How will you price your product?

How will you sell to your selected market segment/segments?



### Problem 3: Meeting Payroll

You have started the company on a shoestring, using face to face promotion as your primary source of marketing. You are six months into marketing your product. You have priced the products at the low end of the surveys at 0.30 – 0.50 euro. You have about 3000 customers per month. Based on numerous suggestions provided by your customers, you believe you can start selling special milk tea in the range of 0.90 – 1.50 euro. This would especially be the case when you would redesign the interior of the milk tea corner to make it into a more upscale milk tea corner.

You have invested the last of your savings and maxed out your credit cards in order to make sure you have the milk tea asked for in stock-- You need this to participate in a competition on where ‘Architecture meets Catering’, where you will get a lot of exposure.

You have four employees -- and you are out of cash to meet the next payroll. You estimate you need 15,000 euro to survive the next three months and to come up with a super cool store design to be able to participate in the competition. You have the following four options:

1. Borrow from your girlfriend or boyfriend’s parents -- they are not overly wealthy, but could probably get their hands on 15,000 euro if they needed to.
2. Borrow from some old friends from the university and your old student job.
3. Convince your parents to take out a mortgage on their house.
4. Convince your employees to wait out the period.

Which of these options would you choose? Why?

#### Problem 4:Financing

Your store design has won the first prize in the new talent category at the ‘Architecture meets Catering’ competition. This in turn has led to inquiries from large milk tea suppliers such as Lipton to market the concept (with full multi-media exposure) nationally. You estimate that it will take you six months to develop the concept in more detail and about three months after that to actually roll it out on three main channels -- Web, national newspapers and national TV. The milk tea will be priced at 2.00 euro per unit. You estimate that you will need 80.000 euro till break even (by the third quarter of the second year) -- this includes enhancing the concept, putting in place excellent (support) staff, full-blown advertising and web links, and the development of a small direct sales staff for selling on site.

You estimate the following sales projections for the first five years (You are at the beginning of Year 1 now):

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Sales	€ 30,000	€ 50,000	€ 80.000	€250.000	€500.000
Profits	€ < 0	€ 10.000	€20.000	€70.000	€230.000

You have three financing options:

##### Option 1

A venture capitalist who specializes in startup companies in catering and adjacent areas, is willing to finance you € 80.000 for 48% of your company.

##### Option 2

A friend of the family who has extensive experience in catering is eager to go into partnership with you -- for 33% of the company. He is able to invest €80.000 but wants to work for the company at a base salary of €20,000 per year. He agrees to accept a minimum level of €15,000 for the first two years to keep his family going and defer the rest to when the company starts making money. You like and respect this man and have no personal feelings against him.

##### Option 3

You can continue the company with internal cash flow -- grow at a much slower pace.

Which option would you choose? Why?

If the venture capitalist is also willing to take only 33% of the company, which option would you choose?

### Problem 5: Leadership/Vision

You have found the financing and have signed a contract with two major milk tea suppliers to market your product. You have hired new staff and moved into new premises. A national newspaper is doing a series of stories on local entrepreneurs and wants to do a story on you -- you know that this interview would be a defining moment in the development of your company and you see this as an opportunity to convey to the world (and to your new employees) your vision for your company's future. This newspaper article series has been very successful; it routinely gets picked up by other national papers and TV networks. One of the reasons for its success is its headline which consists of a one-line quote that captures the entrepreneur's vision for the company -- to be achieved by the year 2012.

You have come up with several possibilities for the one-liner:

1. Starbucks is the past – *Milk tea inc* is the future.
2. We aim to have at least a thousand employees by the year 2014.
3. The fastest growing Milk tea caterer.
4. Invest in *Milk tea inc*—Enjoy the Hong Kong tradition.

Which one of the above do you choose? Why? If you do not choose any of them and want to come up with ideas for an alternative, please do so.

### Problem 6: Product Re-development, Part One

You are almost at the end of your fifth year in operation -- you have just managed to break even (later than you projected). You have opened the doors to all three segments (students, staff, visitors). Sales, while they are steady and continuous, are rather 'colourless' and you start doubting whether you will ever reach your growth targets. You decide to conduct a serious market research initiative in order to find out how to grow your sales. You organize focus groups with both existing customers and potential new customers. The main problem seems to be the "great divide" between the regular milk tea and the specialized products. Over 90% of the participants in your focus groups find the regular products very interesting. But when it comes to the specialised milk tea, there is a clear division of opinion. The participants who primarily enjoy the regular milk tea almost *never* bother to go and buy more expensive milk tea and wonder why all that '*elite stuff*' is there; and those who are primarily interested in the specialised milk tea think that the regular products downgrade the atmosphere.

How do you respond to this feedback?

## Problem 6: Product Re-development, Part Two

You go back to the origins and think of a concept which could provide solutions to both parties. You come up with a solution in which you have 1 existing shop and 1 new shop. Shop number 1 (the existing shop) is for more regular milk tea, the new shop is for exclusive milk tea and coffees. With the exclusive shop one should think of specialized Hong Kong, Guang Dong milk teas, which would result in a total amount of 30 different types of milk teas. Coffees will come in a variety of 20 types. Also, exclusive cakes and other Hong Kong-style dessert are sold. Next to this, customers can also borrow books, read newspapers and have access to free wireless internet. In the regular milk tea booth, you plan to sell 8 different regular milk teas, like strawberry milk tea, original pearl milk tea, etc, and add 5 regular coffees (e.g. cappuccino, espresso) and limited variety of donuts and cakes.

You first start to promote the idea with the exclusive shop with a variety of 15 different milk teas and 15 different coffees, and also a smaller variety of Hong Kong-style desserts than you eventually will include. This together with free newspapers and free wireless internet is what you show to the focus group. It turns out that especially the exclusive shop is received very enthusiastically and customers are willing to pay 2 to 2,5 times as much as asked previously.

One of the requirements is however that you have to extend to what you had in mind (the 20 coffees, 30 milk teas, the books, newspapers and free wireless internet). You have to decide whether to undertake this massive concept change or to focus completely on one of the two concepts. If you want to extend, it will cost you as much as 100.000 euro and a separate marketing effort.

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Year	1	2	3	4	5	6	7	8
Estimated Sales (€M)	0.05	0.25	0.50	3	6	9	12	15
Actual Sales (€M)	0.07	0.24	0.42	1.4	2.1			

Which of the two options do you choose? Why?

Assuming you have decided to go in for the extension, you have to choose one of the following three options:

1. Undertake the redesign effort in-house -- Estimated Cost: €125.000 .
2. Out-source the redesign to the new company within your home-country--  
Estimated Cost: € 100.000
3. Out-source the redesign to the new company outside your home-country--  
Estimated Cost: € 50.000

Which option do you choose? Why?

Problem 7: Growing the Company, Part One

You are almost at the end of the sixth year of business. You are now running two types of shops—under the umbrella of Milk tea inc.

- Plain milk tea (sales between 0.70 – 3.00 euro) where you sell a limited amount of regular milk teas and coffees and a basic amount of donuts, muffins and chocolates
- Exquise (sales between 3.00 – 10.00 euro) where you offer the 'complete picture'

Your number of outlets and therewith the new coffee shop managers has swelled to twenty from the original three and you are continuing to expand your sales force and develop an even better concept of Exquise for more upscale areas in town. Lex, Shao, who is an excellent salesman (dealing with the regular milk teas previously) and has headed the sales team since Day One, has clearly not kept up with the issues of growing the company -- he is definitely not the person to lead the new Exquise. How will you deal with this situation?

Year	1	2	3	4	5	6	7	8
						Revised		
Estimated Sales (€M)	0.05	0.25	0.50	3	6	3	6	10
Actual Sales (€M)	0.07	0.24	0.42	1.4	3	4.3		

Would you:

1. Fire him?
2. Hire a new sales manager to head the sales team? If so, would you consult with Lex Shao before doing so? How would you break the news to him?

Please feel free to elaborate on any other way of dealing with the situation.



Problem 7: Growing the Company, Part Two

Although the company has been growing for a while now, you are trying to keep the entrepreneurial culture of the company alive. But you begin to notice that your partner is fostering a more “corporate ambiance” -- long and unnecessary meetings, complicated organization charts, colorful expense accounts, “consultants” to “optimize market potential”, and so on. When you try to talk with him about it, he argues that it is time for the company to go “corporate” -- that such a “professional” image would actually be good for the bottom line.

Year	1	2	3	4	5	6	7	8
						Revised		
Estimated Sales (€M)	0.05	0.25	0.50	3	6	3	6	10
Actual Sales (€M)	0.07	0.24	0.42	1.4	2.1	4.3	10	14

How will you deal with this situation? Do you think it is time for *milk tea Inc.* to go “corporate”?

Problem 8:Hiring Professional Management

You are now in the eighth year of your company. You are doing very well -- surpassing growth targets and building reliable market share. Your sales are €14 Million and you project a growth rate of at least 25% per year for the next three years.

Year	1	2	3	4	5	6	7	8
						Revised		
Estimated Sales (€M)	0.05	0.25	0.50	3	6	3	6	10
Actual Sales (€M)	0.07	0.24	0.42	1.4	2.1	4.3	10	14

Your Board’s advice is to hire professional management to run the company so you can focus on issues of new growth and new strategic initiatives. Assuming you have already developed a short list of three high-potential candidates to interview for the position of *Chief Operating Officer* (COO), how would you prepare for the interview?

List questions you would ask, techniques you would use, and critical issues you would take into account in hiring this person.

### Problem 9: Goodwill

At this point, you are approached by the principal of an inner city school in your area, who also works with 10 other schools such as hers -- she believes that Exquise could be a perfect learning environment for her students in her Catering study program.

She requests you to work with a couple of really enthusiastic teachers to develop some elementary learning materials for the students to work on in the Exquise shops. The project would mean not only an investment of €50.000 (approx.) for modifications, but also a substantial chunk of your time for about six months during development and then about 10 sessions of classroom participation per year for a couple of years at least.

Note: Your sales are €14 Million and you project a growth rate of at least 25% per year for the next three years.

Will you take the initiative for this project?

If not, why not?

If yes, would you:

- a) Donate the product?
- b) Sell it at cost?
- c) Sell it at your regular profit margin?

Why?

Problem 10:Exit

You are now in the tenth year of your company -- *Exquise* is a great success and thanks to your new targeted strategies, even *Plain milk tea* is growing satisfactorily. You have acquired three other profitable catering concepts. You are doing €23 Million in sales and project that you will reach €35 Million within a year. At this time you face two possible directions for your company.

Direction 1

Your accountants and bankers think that this is a good time for you to take the company public. The Initial Public Offering (IPO; new stocks) market is booming and catering is in a solid upward trend. They estimate you should make an initial public offering of 1 million shares at €15 per share. The company has a total of 6 million shares outstanding.

Direction 2

At this point in time, Starbucks approaches you and makes an offer for your company -- it seems they have decided to get in on the more exclusive segment and have decided to enter the arena through acquisitions -- they see you as a perfect fit for their strategy and offer you €150 Million.

Year	1	2	3	4	5	6	7	8	9	10
						Revised				
Estimated Sales (€M)	0.05	0.25	0.50	3	6	3	6	10		
	15	23								
Actual Sales (€M)	0.07	0.24	0.42	1.4	2.1	4.3	10			
	14	19	35							

Which of the above two directions do you choose? Why?

End

## Appendix II: Entrepreneurial Profile Questionnaire

Name of Interviewer:

Name of Interviewee:

Email for future contact:

Number of interview: (e.g. GER01, if first interview in Germany)

Student of :

Years of university education:

Years of working experience:

Years of working experience with entrepreneurship/leadership component OUTSIDE  
own company \_\_\_\_\_ years)

Date of birth:

Sex:

Place of birth:

Religion:

Marital status:

Children:

International experience:

Family background: at least one parent employed in private company / employed as  
public servant / entrepreneur

Parents income (in rel. to county average): lower quartile / middle half / upper quartile

Name / website of student's company: \_\_\_\_\_

Short description of student company (what business are you in):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Founding date: \_\_\_\_\_

Founding place: \_\_\_\_\_

Number of founders (including entrepreneur): \_\_\_\_\_

Current number of employees (including all founders, in full time equivalents):

\_\_\_\_\_

Annual turnover in country currency: \_\_\_\_\_ (amount)  
 \_\_\_\_\_ currency

To what degree did you start your enterprise because you had no other option for work?

Not at all	A little	Somewhat	To a large extent	absolutely

To what degree did you start your enterprise because you wanted to become independent or increase your income

Not at all	A little	Somewhat	To a large extent	absolutely

Please answer this questionnaire on the basis of reflecting on your own company.

Please have a look at the following statements. Now, circle 1 answer out of 5, in which you indicate you to degree to which you do not agree or agree to the statement.

	Do not agree	Agree little	Agree somewhat	Mostly agree	Fully agree
We analyzed long run opportunities and selected what we thought would provide the best returns					
We developed a strategy to best take advantage of resources and capabilities					
We researched and selected target markets and did meaningful competitive analysis					
We designed and planned business strategies					
We organized and implemented control processes to make sure we met objectives					
We had a clear and consistent vision for what we wanted to do					
We designed and planned production and marketing efforts					
The ultimate product/service that I used to launch this business was quite similar to my original conception					
Our decision making has been largely driven by expected returns					
The ultimate product/service that I used to launch this business was quite different from my original conception					
It was impossible to see from the beginning where we wanted to end					
We have allowed the business to evolve as opportunities have emerged					

We evaluated the set of resources and means we had at our disposal and thought about different options					
We experimented with different products and/or business models					
We started out very flexibly and tried to take advantage of unexpected opportunities as they arose					
We used a substantial number of agreements with customers, suppliers and other organizations and people to reduce the amount of uncertainty					
Our decision making has been largely driven by how much we could afford to lose					



## Appendix III: Detail explanation of each measurement dimension

Causal position	Effectual position
<p>Staying Tethered To initial goal: goal is given, the causation approach select between the possible means to reach this particular goal in a most efficient way.</p> <p>Example: I can achieve my expected profit by lowering my price, improving....</p>	<p>Staying Tethered to means and flexibility on goal: the goal is vague and uncertain. The means are given (resources, knowledge, skill, etc), effectuation approach use these given means to create possible effects.</p> <p>Example: I have limited amount of money, three employees, a couple of entrepreneurial friends, so I can.....i can.....</p>
<p>Expected return: the choice of projects depends upon the decision makers' evaluations about what they are willing to get</p> <p>Example: if I take this project, my reputation and popularity will be enhanced</p>	<p>Affordable loss: the choice of projects depends upon the decision makers' assessments about what they are willing to lose</p> <p>Example: if I grow my business with internal cash flow, the growth rate will be very low, I will loss a lot of profit</p>
<p>Competitive analysis: causal approaches prescribe first defining the market, then selecting segments within the market through detailed competitive analyses.</p> <p>Example: I try to figure out the advantages and disadvantages of my potential competitors...</p>	<p>Partnership and Alliance: Effectors favors establishing partnerships and bringing stakeholders on board even before clarifying what exactly the product-markets and other goals for the venture are going to be.</p> <p>Example: I am looking for the way to cooperate with the school principle, because...</p>
<p>Exploiting Existing Knowledge: The causation</p>	<p>Exploring Contingencies: Effectors tend to remain</p>

<p>logics rely on exploiting existing knowledge from their daily experience, referrers, etc</p> <p>Example: as I remember, my parents borrowed money from their friends to start business, I can do exactly the same thing to establish my milk tea corner in University</p>	<p>flexible and to accept unpleasant surprises, they have to be ready to learn to transform both positive and negative contingencies in to useful components of new opportunities.</p> <p>Example: the survival of my business depends on the demands of customer, so I need to ...</p>
<p>Predicting the future: see the future as predictable and try to predict the uncertainty.</p> <p>Example: I would like to know the future trend of this business industry</p>	<p>Non-predictive control: it is defined as eschewing predictive information in favor of what the decision maker and her stakeholders can actually control at any given point in time.</p> <p>Example: I will make the long-term contract with my suppliers to control our future relations</p>
<p>Analyzing data: The causation approach emphasize analysis of data and prefer to do extensive marketing research</p> <p>Example: I will try to figure out the customer demands by doing an extensive marketing research</p>	<p>Opposing Marketing Research: somehow I do not want to do marketing research</p> <p>Example: I am not able to do extensive marketing research because of limited financial resource, I will...</p>
<p>More conventional: the future as a continuation of the past instead of creation of new opportunity and do extensive plan in advance</p> <p>Example: the way I do my business will be more or less the same with the way my father once did</p>	<p>More Creative: The phenomenon whereby a person is more likely to create something new (a product, a solution, a work of art, a novel, etc.) that has some kind of value, such person tends to be more imaginative, innovative.</p> <p>Example: I do not like the available options, I have my own idea.....</p>