

**THE IMPACT OF A MASTER DEGREE'S ENTREPRENEURSHIP  
PROGRAM ON ENTREPRENEURIAL INTENTION IN  
THAILAND: A CASE STUDY OF CMMU**



**VEERAKORN CHEERJARASWONGSE**

**A THEMATIC PAPER SUBMITTED IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR  
THE DEGREE OF MASTER OF MANAGEMENT  
COLLEGE OF MANAGEMENT  
MAHIDOL UNIVERSITY  
2015**

**COPYRIGHT OF MAHIDOL UNIVERSITY**

Thematic paper  
entitled  
**THE IMPACT OF A MASTER DEGREE'S ENTREPRENEURSHIP  
PROGRAM ON ENTREPRENEURIAL INTENTION IN  
THAILAND: A CASE STUDY OF CMMU**

was submitted to the College of Management, Mahidol University  
for the degree of Master of Management

on  
August 29, 2015



.....  
Mr. Veerakorn Cheerjaraswongse  
Candidate

.....  
Assoc. Prof. Roy Kouwenberg,  
Ph.D., CFA  
Advisor

.....  
Asst. Prof. Astrid Kainzbauer,  
Ph.D.  
Chairperson

.....  
Assoc. Prof. Annop Tanlamai,  
Ph.D.  
Dean  
College of Management  
Mahidol University

.....  
Assoc. Prof. Sooksan Kantabutra,  
Ph.D.  
Committee member

## ACKNOWLEDGEMENTS

I would like to express my deepest gratitude to my advisor, Assoc. Prof. Roy Kouwenberg, Ph.D., CFA, for his excellent guidance, continuous support, and providing me an immense knowledge for doing research. His guidance helped me in all the time of research and writing of this thematic paper.

I also would like to thank my fellow classmates for the stimulating discussions, and always willing to help and give their best suggestions. My research would not have been possible without their helps.

Last, I also would like to thank my family for supporting me spiritually throughout writing this thesis, my study, and my life in general.

Veerakorn Cheerjaraswongse

# **THE IMPACT OF A MASTER DEGREE'S ENTREPRENEURSHIP PROGRAM ON ENTREPRENEURIAL INTENTION IN THAILAND: A CASE STUDY OF CMMU**

VEERAKORN CHEERJARASWONGSE 5649260

M.M. (ENTREPRENEURSHIP MANAGEMENT)

THEMATIC PAPER ADVISORY COMMITTEE: ASSOC. PROF. ROY KOUWENBERG, Ph.D., CFA, ASST. PROF. ASTRID KAINZBAUER, Ph.D., ASSOC. PROF. SOOKSAN KANTABUTRA, Ph.D.,

## **ABSTRACT**

Entrepreneurship education programs in Thailand have been growing rapidly in past several years, however their impact on entrepreneurial intention is under-researched. Previous studies provide, to some extent, a vague picture of the impact of entrepreneurship education and especially none of entrepreneurship education programs in Thailand were examined. Therefore, this research paper aims to contribute to the understanding of the impact of Thai entrepreneurship education on entrepreneurial intention.

This study employs a quantitative approach. The theory of planned behavior was utilized as the underlying theoretical framework. The overall results attest to the positive impact of entrepreneurship education on entrepreneurial intention, even though, during the study of entrepreneurship program, there were a number of significant decreases in values of some factors towards perceived behavioral control and social norms of the theory of planned behavior.

From a practical point of view, this paper provides better understanding on the mechanics of entrepreneurship education towards entrepreneurial intention. As a result, it could be utilized as a basis for development of the objectives and structures of entrepreneurship education programs in Thailand.

**KEY WORDS:** Entrepreneurship / Entrepreneurship Program / Entrepreneurial Intention / CMMU / Master Degree

47 pages

## CONTENTS

	<b>Page</b>
<b>ACKNOWLEDGEMENTS</b>	<b>ii</b>
<b>ABSTRACT</b>	<b>iii</b>
<b>LIST OF TABLES</b>	<b>vi</b>
<b>LIST OF FIGURES</b>	<b>viii</b>
<b>CHAPTER I INTRODUCTION</b>	<b>1</b>
1.1 Overview of Entrepreneurship in Thailand	1
1.2 Importance of Entrepreneurship Education	1
1.3 Research Objective and Question	3
1.4 Research Scope	3
<b>CHAPTER II LITERATURE REVIEW</b>	<b>4</b>
2.1 Entrepreneurship Concept	4
2.2 Entrepreneurial Intention	5
2.3 Impact of Entrepreneurship Education	7
2.4 Entrepreneurship Education Program Framework	8
2.5 Theoretical Framework	10
2.6 Hypothesis	11
<b>CHAPTER III DATA COLLECTION METHODOLOGY</b>	<b>12</b>
3.1 Research Method	12
3.2 Sample Description	12
3.2.1 Participants	12
3.2.2 CMMU's Entrepreneurship Education Programs	13
3.3 Questionnaire Design	15
3.4 Data Analysis	16
<b>CHAPTER IV RESEARCH FINDINGS AND DATA ANALYSIS</b>	<b>17</b>
4.2 Perceived Behavioral Control	19
4.3 Social Norms	21
4.4 Graduates VS Current Students	21

## **CONTENTS (cont.)**

	<b>Page</b>
4.4.1 Graduates (16B) VS Current Students (17A)	22
4.4.2 Graduates (16B) VS Current Students (16C)	24
4.5 Summary of Results	26
<b>CHAPTER V RECOMMENDATIONS AND CONCLUSIONS</b>	<b>28</b>
5.1 Discussion of the Results	28
5.2 Implications for Research	29
5.3 Implications for Practice	30
5.4 Limitations of this Study	30
5.5 Suggestions for Future Research	31
<b>REFERENCES</b>	<b>32</b>
<b>APPENDICES</b>	<b>34</b>
Appendix A: Entrepreneur Education Program- Detailed Structure	35
Appendix B: Questionnaire Survey	41
<b>BIOGRAPHY</b>	<b>47</b>

## LIST OF TABLES

<b>Table</b>	<b>Page</b>
2.1 Entrepreneurship Concept	5
3.1 Survey Questions Framework	15
4.1 Average scores of Attitude towards Behavior	17
4.2 Average Scores of Perceived Behavioral Control with regards to capabilities of participants on different business aspects	19
4.3 Average Scores of Perceived Behavioral Control with regards to overall capabilities of participants in the business	20
4.4 Average scores of Perceived Behavioral Control with regards to Confidence Level in Capability on a start-up business	20
4.5 Average scores of Social Norms with regards to the influence from Social Environment in the university	21
4.6 Compared mean scores of 16B and 17A experimental groups towards Attitude towards Behavior	22
4.7 Compared mean scores of 16B and 17A experimental groups towards Perceived Behavioral Control	22
4.8 Independent Sample test- Sig. (2-tailed) of 16B and 17A experimental groups towards Perceived Behavioral Control (See more details in appendix 4)	23
4.9 Compared mean scores of 16B and 17A experimental groups towards Social Norms	23
4.10 Independent Sample test- Sig. (2-tailed) of 16B and 17A experimental groups towards Social Norms (See more details in appendix 5)	24
4.11 Compared mean scores of 16B and 16C experimental groups towards Attitude towards Behavior	24
4.12 Compared mean scores of 16B and 17A experimental groups towards Perceived Behavioral Control	25

## LIST OF TABLES (cont.)

Table	Page
4.13 Compared mean scores of 16B and 17A experimental groups towards Social Norms	26





## LIST OF FIGURES

Figure	Page
2.1 Planned Behavior Theory	6
2.2 Influences of Personality Traits on Entrepreneurial Intention	8
2.3 Dimensions of the Entrepreneurship Program	9
2.4 Theoretical Framework of Entrepreneurship Education towards Entrepreneurial Intention	10
4.1 Frequency of Attitude towards Behavior on attractiveness of becoming an entrepreneur	18



## **CHAPTER I**

### **INTRODUCTION**

#### **1.1 Overview of Entrepreneurship in Thailand**

Over the past decades it has been recorded that entrepreneurs of the new ventures in business community play a critical role in the development of Thai economy (Phagaphasvivat, 2005). According to the research from Global Entrepreneurship Monitor or GEM 2013, Thailand was ranked one of the highest entrepreneurship activity rates in the world. The figures were measured by both entrepreneurs who start new businesses, as well as entrepreneurs are established business owners. It is found that most Thai entrepreneurs are usually engaged in operating small scale and small scope new businesses in relation to consumer-oriented businesses, such as retail trade, hotels, and restaurant (GEM, 2013). The research suggested further that with the implementation of the ASEAN Economic Community in 2015, we would be able to witness more of the emergence of a landscape and trends that will offer huge opportunities for entrepreneurs of all kinds who are able to effectively utilize their knowledge, skills, and entrepreneurial knowhow to start a new business.

#### **1.2 Importance of Entrepreneurship Education**

There are several academics and business communities carry out the research in finding the answer towards the determinants of the successful entrepreneurs. The influencing factors differ across several subjects such as culture & countries (Pruett, et al., 2009), motivations (Pruett, et al., 2009), feasibility & Desirability (Liñán, et al., 2011), individual & family background (Woessmann, 2011), personality traits (Sanchez, 2011), and educational support (Turker, Selcuk, 2009). The latter proves positive relationship towards an increase of entrepreneurial success. In addition, a study from Fayolle et al. (2006) also points out the importance of entrepreneurship education that leads to an

increase in entrepreneurial activity which is considered as a promoter of economic development.

According to European commission in 2008, The European Commission gives an importance of the entrepreneurship education by recommending entrepreneurship to be integrated into university curricula. The EU commission points out the primary propose of entrepreneurial education is to develop entrepreneurial mindsets and capabilities.

In Thailand, there are several main constraining factors for entrepreneurship. It was found from the survey that education and training was ranked the third out of top thirteen constraining factors, which was also voted as second priority problem that needs immediate resolution from government (GEM 2013). Government policies and education roadmap hence give a focus on encouraging entrepreneurship education and training over several aspects, for example incorporating English as a second language in Thailand, and encouraging technology and R&D oriented educational practice in supporting SME Entrepreneurs.

Nevertheless, there is a lack of research studies and ambiguous results regarding the impact of this entrepreneurship education. Past research examinations do not measure the direct impact of an entrepreneurship education on entrepreneurial intentions. According to GEM, 2013 the study is conducted towards the impact of higher education on early-entrepreneurial activity where the results of the research is still found to be uncertain. The research outcomes point out that “the possibilities of better employment opportunities that might be available in the market for those with higher education could even deter them from entrepreneurship; however, those with higher education might have additional knowledge, better experience, and better networks which could support their way into entrepreneurship” (GEM, 2013). Furthermore the outcomes apparently indicate percentage of Thai entrepreneurs, who obtained bachelor degree in their educational profile, actually involved in a higher level of Total Entrepreneur Activity than master degree entrepreneurs (GEM, 2013).

If we consider the significance of the research on the role of education towards entrepreneurial activity in Thailand at this moment, we found that there is a continuous development of entrepreneurship education program offerings. This can be seen from several universities launching entrepreneurship programs in last decade. However, there

is still under-researched, a lack of clear understanding and effective results regarding the impact of entrepreneurial education program. Moreover, we also need to understand the motivation and possible barriers to the formation of entrepreneurial intention from the impact of entrepreneurship education. Therefore, this research paper will deal with the impact of entrepreneurial education on entrepreneurial intention in Thailand.

### 1.3 Research Objective and Question

The objective of this research paper will give an insight into the impact of CMMU's entrepreneurship programs in relation to students' entrepreneurial intentions based on academically-accepted theoretical framework. The expected outcome would be able to generate practical recommendation to CMMU's entrepreneurship programs that would result in a better entrepreneurship educational quality in the future.

*Research Question:* What impact does an entrepreneurship education program have on their students' entrepreneurial intention?

- Knowledge gained from entrepreneurship program will be examined with respect to their impact on students' entrepreneur intention. Other influencing factors that could impact entrepreneurial intentions during the entrepreneurship programs in university will be also taken into account, for example friends.

### 1.4 Research Scope

The study is only focused on CMMU's master degree university's students in Thailand. This could have an effect on the outcomes due to different background of respondents in the survey, e.g. attitudes. The subjects of entrepreneurship program at CMMU will not be analyzed, however the tested contents of the entrepreneurship program will be categorized into key aspects of an entrepreneurship educational programs structured by World Bank. This is due to the fact that some respondents may not take the same subjects during their programs.

## **CHAPTER II**

### **LITERATURE REVIEW**

#### **2.1 Entrepreneurship Concept**

Entrepreneurship is a concept that has been defined in various ways with no clear boundaries. The Stanford Social Innovation Review defines the concept of entrepreneurship on one hand as “an innate, special ability to sense and act on opportunity, combining out-of-the-box thinking with a unique brand of determination to create or bring about something new to the world” (Martin & Osberg, 2007). On the other hand, the same study argues that entrepreneur is an ex-post term (Martin & Osberg, 2007). This is due to the fact that entrepreneurial activities need a passage of time before the true results is shown, for instance a business entrepreneur who failed in his or her venture, cannot self-proclaim him or herself as an entrepreneur, unless there is the occurrence of the first success.

Past studies provide the fundamental understanding of entrepreneurship from different perspectives. Many studies only convey the focus on the individual or human attributes, for example the one who starts their own business (Bruyat and Julien, 2001), Self-reliance, Initiative, Innovativeness, Risk-taking (Bruyat and Julien, 2001), need for achievement (McClelland, 1961), and discovers and exploits opportunities & explore new business (Cuervo, Ribeiro, and Roig, 2005). However, there are also other fundamental understanding of entrepreneurship aspects which involve with external or environmental factors that lead to the appearance of entrepreneurial activity, for example, the dynamic of technological changes (Tushman and Anderson, 1986), the structure of the market–normative and demographic (Acs and Audretsch, 1990) and the dimension of markets.

Despite numerous controversies over definition of entrepreneurship Sivarajah & Achchuthan, (2013) illustrate three main approaches towards entrepreneurship concept that have been widely accepted:

**Table 2.1 Entrepreneurship Concept**

<b>Entrepreneurship- Underlying Approaches</b>	<b>Concepts</b>
1) As an Economic Agent	Entrepreneurs gather information and allocating resources to profit from the opportunities arising from the gaps in supply and demand in the market
2) As a Process	1) The passage of events in establishing new business 2) The process participating in opportunity identification and evaluation
3) As an Individual	1) Trait orientation- Characteristic Traits include need of achievement, self-efficacy, risk taking, need of autonomy, creativity, and locus of control. 2) Behavioral perspectives- Ability to recognize, exploit and act on profit opportunities 3) Cognitive Process- Thought process to process information relating to starting and running a business

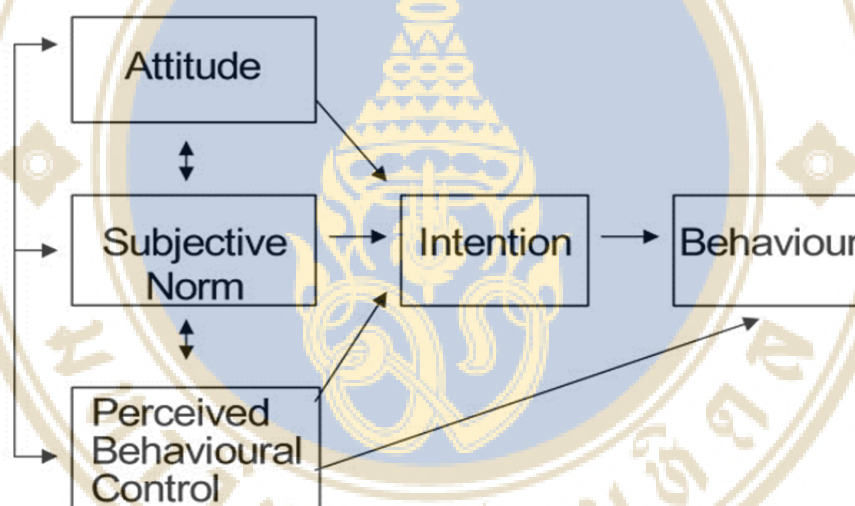
## 2.2 Entrepreneurial Intention

By the definition of intention (Bird, 1992), it is a state of mind that influence a person's attention, experience, and behavior towards achieving a specific goals or method of behaving. From the study of Formation of Entrepreneurial Intention by Summers (2000), it suggests that new businesses do not just happen, they are the outcome of the entrepreneur's intentions and consequent actions, where the outcome are also influenced by external or environmental conditions.

From several literature reviews in this field, intentions-based models of entrepreneurship are useful and provide a foundation for the predictive relationship between individual entrepreneurs and a variety of variables (Summers 2000). Ajzen, (1991) points out in his study that the intention-based model of entrepreneurship relates to the ability to capture entrepreneurial attitudes as well as the effect of other variables. By means of attitudes in this context, they do not influence behavior, but intention, hence so called "Planned Behavior Theory". The research suggested that if level of intention

is high, the individual is likely to perform the specified behavior. In other words, attitudes act through intentions to influence behavior (Ajzen, 1991). Fitzsimons and Douglas (2005) conducted a research in Thailand on entrepreneurial attitudes and entrepreneurial intentions among master of business administration program's students. The result shows that entrepreneurial attitudes as well as individuals' abilities are associated with entrepreneurial intentions, for example, individuals desired more ownership, income, and independence, in deciding their careers.

As a result, in Entrepreneurial intention studies, numerous research studies are conducted with the theory of Planned Behavior Theory from Icek Ajzen (Summers, 2000). The theory is formed by three main attitudinal factors which are attitude towards behavior, subjective norms, and perceived behavioral control (Ajzen, 1991).



**Figure 2.1 Planned Behavior Theory**

Ajzen's study summarizes the concept of attitude toward behavior that it refers to the extent of a person thinks positively about performing a particular behavior, in other words the degree of desirability (Lorz, 2011). With regards to subjective norms, it refers to cultural and social influence to perform a specific behavior, for example, friends, and family. Last, perceived behavioral controls involves with the measure of individual's perceived ability to perform particular behavior (Lorz, 2011).



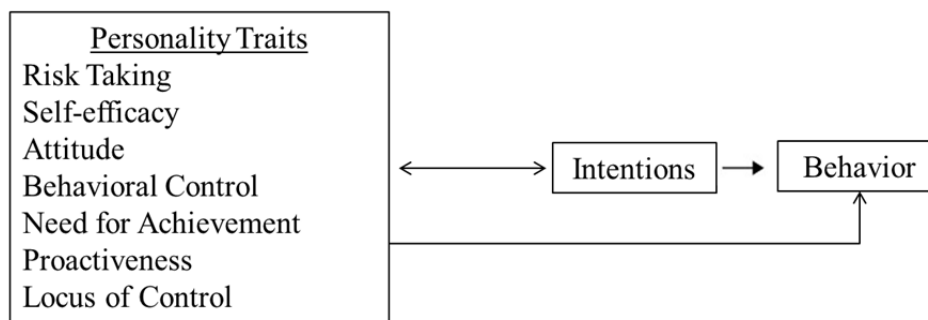
In this thematic paper, the concept of entrepreneurial intention will be based on this planned behavior theory. This theory will be used as foundation of the theoretical framework, as it is a highly validated concept, and it should be capable of showing the impact of entrepreneurship education at CMMU. The objective of the following sections will identify and review relevant entrepreneurship education programs and to select the most reliable and validated program framework to underlie the most suitable research questions.

### **2.3 Impact of Entrepreneurship Education**

“Entrepreneurial Education and Training represents academic education or formal training interventions that share the broad objective of providing individuals with entrepreneurial mindsets and skills to support participation and performance in a range of entrepreneurial activities” (Valerio, Parton, and Robb, 2013, p.12). In general, several studies show positive relationship between education and the probability of becoming an entrepreneur as well as the probability of having success as an entrepreneur (Robinson et al., 1994). For example, students who graduated from an entrepreneurship program had a higher chance of becoming entrepreneurs after their graduation (Kolvereid et al., 1997). Moreover, similar kind of study also gives support to the fact that students who chose electives in entrepreneurship subjects were found to be more successful in business than those who did not take entrepreneurship subjects (Menzies, 2002).

With regards to entrepreneurial intention, there are also numerous studies to measure the impact on entrepreneurship education from other perspectives. Pruett, et. al. (2009) point out the main constraints for entrepreneurial intention among students that the knowledge that can be filled by education. The study from Remeikiene (2013) on the role of entrepreneurial education has concluded that entrepreneurial intention is mostly influenced by personality traits that can be developed and enhanced through acquiring entrepreneurial education. The main factors of entrepreneurial intention are shown below (Remeikiene, 2013);





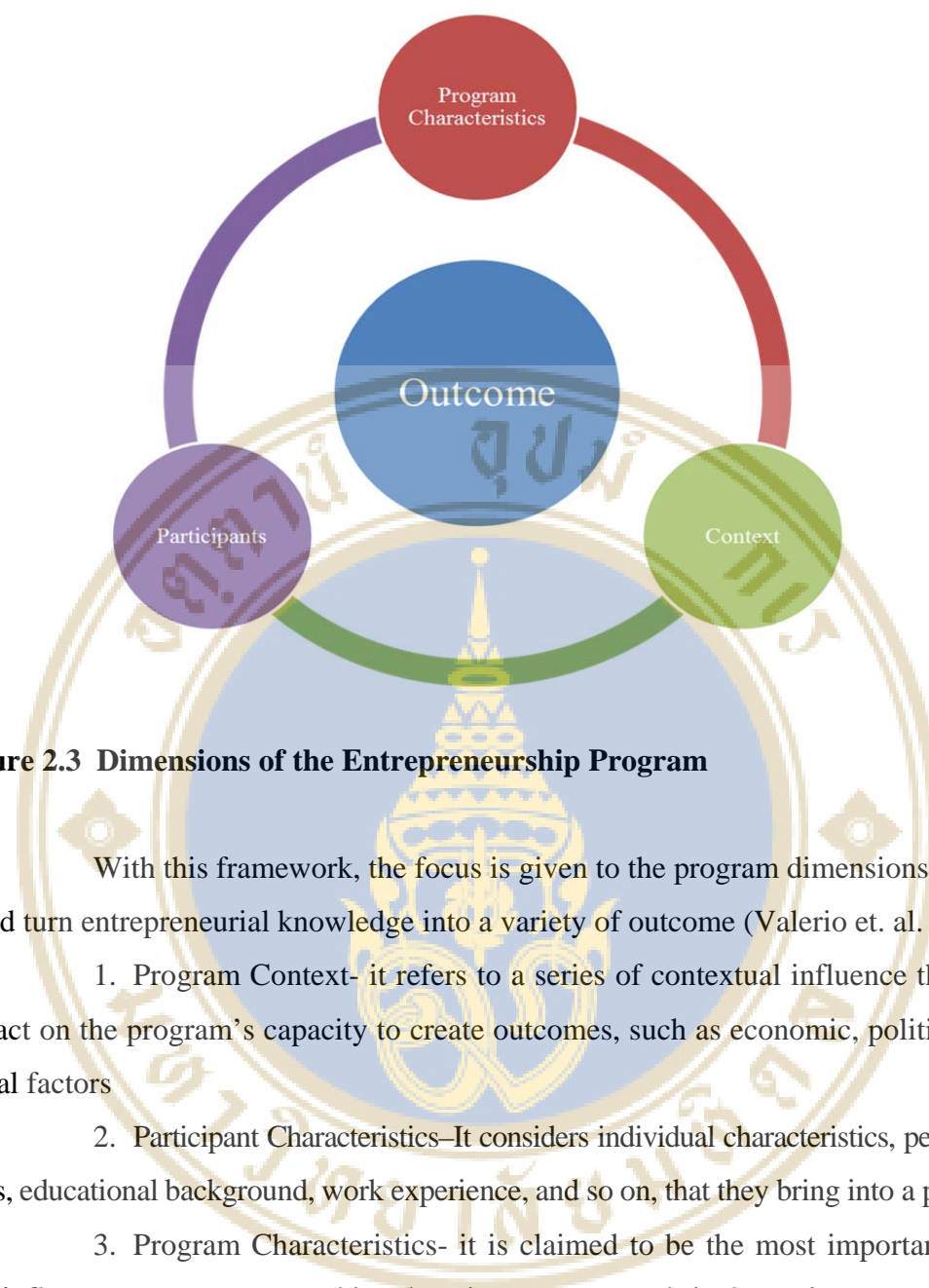
**Figure 2.2 Influences of Personality Traits on Entrepreneurial Intention**

As a consequence of these studies, it confirms that entrepreneurial intention can be developed during the study process. Also, the study process can enhance their business knowledge so as to gain confidence in personal abilities including achieving more efficient business decision and solutions (Remeikiene, 2013).

With reference to most of literature review on impact of entrepreneurship education on entrepreneurial intention, limited to author's review, they did not measure in details different aspects of entrepreneurial education programs. In other words, the methods that were utilized to measure the impact of entrepreneurship education are, to some extent, ignored. Therefore, it is reasonable to say that it is difficult to compare entrepreneurship programs in different studies. As a result, this paper will control, and provide in-depth analyzed variables in entrepreneurship educational programs. In addition, in the next topic, this paper will define what constitutes good characteristics of entrepreneurship programs that can be employed as a basis to compare different entrepreneurship programs.

## 2.4 Entrepreneurship Education Program Framework

According to World Bank's Entrepreneurship education conceptual framework, it outlines three dimensions of the entrepreneurship program that influence entrepreneurship education outcomes which are a) The context within which programs are implemented b) The characteristics of individual participants, and c) The functional characteristics of the program (Valerio et. al. 2013).



**Figure 2.3 Dimensions of the Entrepreneurship Program**

With this framework, the focus is given to the program dimensions that could turn entrepreneurial knowledge into a variety of outcome (Valerio et. al. 2013).

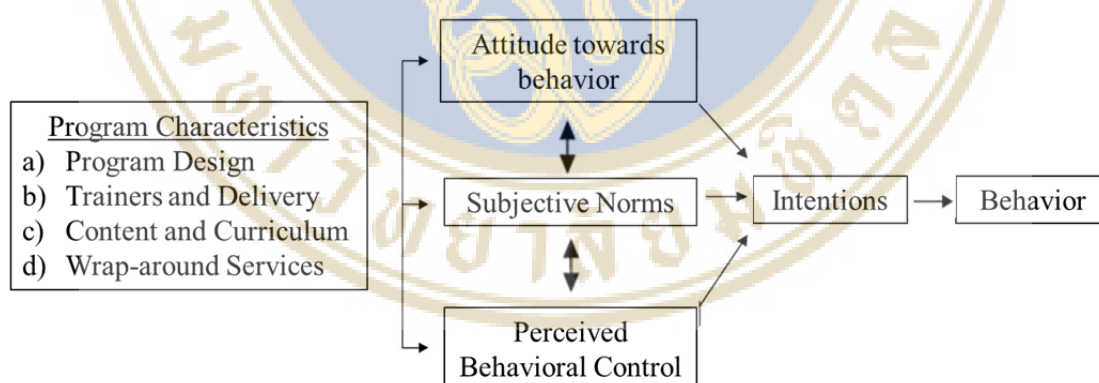
1. Program Context- it refers to a series of contextual influence that have impact on the program's capacity to create outcomes, such as economic, political, and social factors
2. Participant Characteristics-It considers individual characteristics, personality traits, educational background, work experience, and so on, that they bring into a program.
3. Program Characteristics- it is claimed to be the most important factor that influence on entrepreneurship education outcome as it is the easiest to manipulate (Valerio et. al., 2013). The program concept is a design of portfolio beyond a single course or materials taught in the class rooms. This relates to classroom activities, such as instructors, curriculum, format, and duration or intensity, as well as other services, such as mentoring, guest speakers, and collaboration with other institutions.

According to this framework, the paper will focus only on this “Program Characteristics” dimension, which is considered to be the core study of entrepreneurship program on entrepreneurial intention by disregarding the other two dimensions of

Program Context and Participants Characteristics. This is due to the fact that these two dimensions are uncontrollable factors that could interfere the real effectiveness of the program. Details of the program characteristics employed to measure in this research can be found the appendix#1, and will be discussed further in the methodology chapter.

With regards to the outcome domains of the framework, Valerio et. al., (2013) categorizes into a series of four outcome domains which are a) Entrepreneurial Mindsets, b) Entrepreneurial Capabilities, c) Entrepreneurial Status, and d) Entrepreneurial Performance. In this outcome context, it carries a number of unrelated factors towards entrepreneurial intention of the “Planned Behavior Theory”, for example entrepreneurial status, that involves with individual life has improved as a result of entrepreneurial education. Therefore, author will use different outcome domain and construct new theoretical framework only based on program characteristics and make a direct link towards entrepreneurial intention, following the theory of planned behavior. The theoretical framework will be formulated in figure 2.4.

## 2.5 Theoretical Framework



**Figure 2.4 Theoretical Framework of Entrepreneurship Education towards Entrepreneurial Intention**

## 2.6 Hypothesis

**Research Question:** What impact does an entrepreneurship education program have on their students' entrepreneurial intention?

**Hypothesis:** *An entrepreneurship program has positive influences on all three factors that drive intentions in the planned behavior theory, which are the attitude towards the behavior, social norms, and perceived behavioral control.*

In this hypothesis, author establishes the link between theory of planned behavior entrepreneurial intention that impacted by entrepreneurship program characteristics, in which the details of characteristics will be discussed in the methodology chapter. The variables in the entrepreneurial intention framework consist of the constructs of the theory of planned behavior which include a) attitude towards behavior, b) social norms, and c) perceived behavioral control. Regarding to attitudes towards behavior, author will measure personal attitudes of respondents towards the attractiveness of becoming an entrepreneur or behaving like an entrepreneur after having attended entrepreneurship program, for example a measure of the degree to which a person considers that having their own business is an attractive idea. Towards social norms, author will focus on the influence from friends, instructors, or networks in the university on the person's desirability of becoming an entrepreneur or performing entrepreneurial behavior. Last, perceived behavioral control, author will provide insight into an extent that people believe in their capabilities that produce the performance of becoming an entrepreneur after attending the entrepreneurship education.

Several current aforementioned studies show positive impact of entrepreneurship education on entrepreneurial intention within the framework of planned behavioral theory. Therefore, the hypotheses of this study are set in the same manner.

## **CHAPTER III**

### **DATA COLLECTION METHODOLOGY**

#### **3.1 Research Method**

Research method of this study will employ quantitative method in which questionnaire survey will be chosen. The reason behind employing questionnaire survey is that it allows statistical testing of the proposed relationship between variables in the literature. Moreover, the utilization of questionnaire as data collection method will give a controllability of large data samples. The distributions of questionnaire will be both in hard copy and online format for the ease of collections.

#### **3.2 Sample Description**

##### **3.2.1 Participants**

The population studied consisted of postgraduate entrepreneurship education program students at College of Management Mahidol University (CMMU). The overall dataset consists of three groups comprises students who take part in Batch 16B, 16C, and 17A. The reasons for choosing more than one group are that, first, the higher number of participants surveyed will increase the credibility of the results, and second, in an entrepreneurship program at CMMU are developed by different instructors and some of the courses are taught by different lecturers so with different batches of students in the survey will increase generalizability of the results. As our research design is limited to specified timeframe, the population surveyed will consist of respondents from all three batches of 16B, 16C, and 17A. As there are several entrepreneurial sub-programs for students to choose from, students taking “Consulting Practice” or “CP” sub-program will be only selected as participants in the survey. This is due to the fact that CP program carries broadest and deepest sense of entrepreneurial contents and subjects.

### 3.2.2 CMMU's Entrepreneurship Education Programs

According to literature review, the focus of this dissertation is on capturing the effect of program characteristics of entrepreneurship education on entrepreneurial intention effects. The holistic framework of program characteristics proposed by World Bank is employed for explaining practices of Entrepreneurship program at CMMU. The framework distinguishes the program characteristics into four major categories, which are a) Program Design, b) Trainer and Delivery, c) Content and Curriculum, and d) Wrap-around Services (World Bank, 2014). With numerous sub-components within this framework (see appendix1), this study will only investigate the sub-components that seen fits to the fundamental understanding of entrepreneurial intention. By author's justification, some sub-components will not be included into explanation, such as student selection process, source of program funding, unit costs of program, and firm's access to finance. In the light of program characteristics description, it is reasonable to say that these factors are rather useful for other comparison-based research among different entrepreneurship programs.

#### 1. Program Design

With reference to World Bank's definition on characteristics of program design, it refers to arrangements of a program's objective, scope, and method for determining progress (World Bank, 2014). With this, CMMU defines its Entrepreneurship educational program as

"The program leverages CMMU's entrepreneurship knowledge to help current and future entrepreneurs, corporate venturing managers, and others involved in entrepreneurial environments learn what they need in order to develop ideas into successful businesses, and how to increase entrepreneurial opportunities in their organizations, institutions, and regions." (CMMU, 2015).

#### 2. Trainer and Delivery

Trainers and delivery are the main program characteristics inputs who deliver the content of the programs. Trainers at CMMU include credential instructors, entrepreneur guest speakers, and academic and practitioner instructors. The mixed of trainers in both academic and practitioner can provide the best balance of theory and practice for students. CMMU Entrepreneurship program comprise of five academic semesters with an approximate duration of one and a half year, and with average class



size of 25 to 35 students. The delivery of the program incorporates not only and face-to-face learning, but also virtual learning and experiential learning (see summary in appendix 2).

### 3. Content and Curriculum

Content and curriculum is one of the most important points of program characteristics as other components rather revolve around them. CMMU entrepreneurship program is structured on three main courses in order to equip students with necessary knowledge to understand entrepreneurial business world. First, Core Courses with the duration of two semesters, it provides students with understanding on all foundation principles of business which include the subjects of Marketing, Economics, Finance, Organization management, and Management of information system. Second, Foundation Courses with the duration of one semester, it is designed to equip students with all start-up basics and new venture opportunities evaluation. Third, Elective Courses with the duration of two semesters, business planning knowledge and provides opportunity for students to write their business plan, work on their own business ideas to build successful new ventures, and navigate the venture capital investments. The program curricula contains varied teaching techniques, such as hands-on experiential exercises to lectures, articles, simulations, group projects, presentations of plans, and business proposals. In addition, CMMU also provide opportunities for students to take part in other forms of study, such as short-term study abroad.

### 4. Wrap-around Service

Wrap-around services are aspects of a program that complement the main content and curriculum, which include arrangements for networking, mentoring, job counseling. CMMU provides an extensive mentoring and job counseling with several business and entrepreneur practitioners, and guest speakers. Towards networking, students can build business connection among students themselves which include an opportunity to establish the connection to both domestics and international students.

### 3.3 Questionnaire Design

The design of the questionnaire survey follows several guidelines in both literature and conceptual framework. The main constructs of the theory of planned behavior will be adapted to the specific context of survey questions that links with entrepreneurship program characteristics framework (see exhibit 1 below). The questionnaire is structured into four sections as follows;

Section I obtains the respondents' background towards demographic information, batch of enrolment, expectation from entrepreneurship program, and employment status. In this section, the survey employs close, single response questions to make a precise judgment.

Section II-IV resembles the questions that refer to the concept of the theory of planned behavior, which divided to; Section II examines "attitudes towards behavior", Section III evaluates "perceived behavioral control, and Section IV investigates "social norms". In these sections, the survey employs 6-point Likert scale type in order to rate the scores.

**Table 3.1 Survey Questions Framework**

<b>Program Characteristics</b>	<b>Scope</b>	<b>Survey Questions</b>	<b>Tested Variables</b>
<b>Program Design</b>	Program's Objective & Scope	Q6, Q7	Attitudes towards Behavior
<b>Content and Curriculum</b>	Financial Literacy/ accounting	Q8- i,j	Perceived Behavioral Control
	Marketing Sales	Q8- a,b,c,g	
	General Business/ Management	Q8- d,e,h, Q9, Q10	
	Leadership and teamwork	Q8- k	
	Strategic Planning	Q8- f	
	Socio-Emotional Skills	Q8- l	
<b>Wrap-Around Service</b>	Mentoring and Coaching	Q11- b,c	Social Norms
	Networking	Q11- a	
	Job Counseling	Q11- b,c	



### 3.4 Data Analysis

Data analysis comprises statistical analyses of the questionnaire data with Microsoft excel and SPSS. These statistical analyses will be used to test the hypotheses. The analysis will be conducted on the variables of the different scores of attitudes towards behavior, perceived behavioral control, and social norms which are the main constructs of Theory of Planned Behavior. The scores will be measured in the form of average values obtained from 6-point Likert Scale (Low 1 to High 6). Subsequently, the scores will be used to measure the degree of influence that drives entrepreneurial intention. In addition, the statistical analysis of independent T-test will also complement with the simple comparisons among the scores of students in different batches in order to test whether participants increase or decrease their values in entrepreneurial intentions over time.



## CHAPTER IV

### RESEARCH FINDINGS AND DATA ANALYSIS

48 questionnaires were distributed to CMMU postgraduates and 48 were returned indicating response rate of 100%. 27 respondents were females and 21 males. Age ranges of all respondents were ranging from 21 to 35 years old. 14 respondents were in enrollment batch 16B, 16 were in 16C, and 18 were in 17A. 24 respondents or 50% were self-employed where the other half was running their own business. From 24 respondents who had their business, 17 were running their family business and 7 already had their own start-ups.

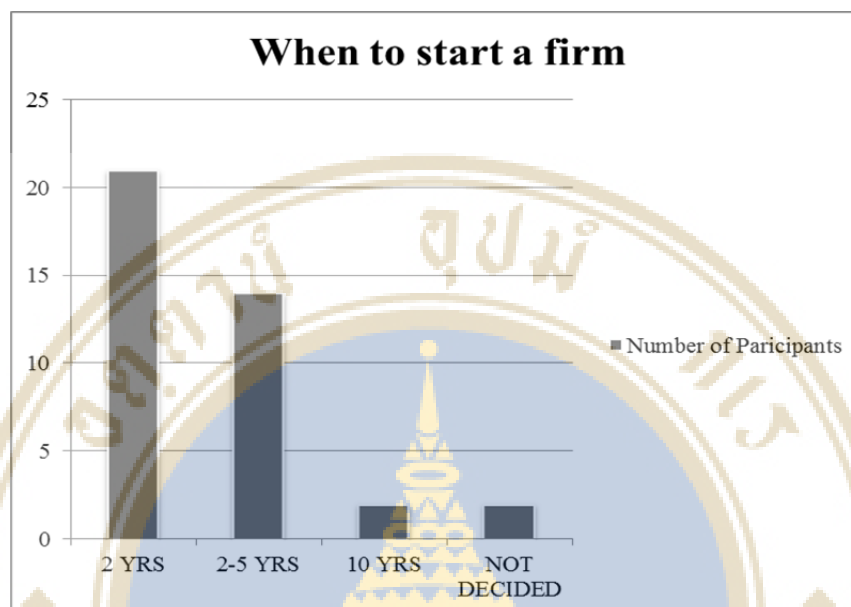
**Hypothesis:** An entrepreneurship program has positive influences on all three factors that drive intentions in the planned behavior theory, which are the attitude towards the behavior, subjective norms, and perceived behavioral control.

**Table 4.1 Average scores of Attitude towards Behavior**

ATTITUDE TOWARDS BEHAVIOR	N	Mean
Among various career options, becoming an entrepreneur is attractive for me.	48	5.23
Being an entrepreneur implies more advantages than disadvantages to me	48	5.02
Being an entrepreneur would give great satisfaction for me	48	5.04
My life goal is to become an entrepreneur	48	5.42
I am ready to do anything to become an entrepreneur	48	4.79
I am determined to make my best effort to start and run my own firm	48	5.08
AVERAGE	48	5.10

Table 4.1 represents the average scores of the impact of entrepreneurship education on the attitude towards behavior. With 6 points Likert-scale survey, the result shows an average score of 5.10, which is considered to be higher than the midpoint of scale value of 3.5. This means that participants have overall positive attitude towards behavior of being an entrepreneur after having attended CMMU Entrepreneurial Program.

Attitude towards being entrepreneur as a life goal had the highest average scores at 5.42 whereas the lowest scores is on the attitude towards participants' readiness to become an entrepreneur at 4.79.



**Figure 4.1 Frequency of Attitude towards Behavior on attractiveness of becoming an entrepreneur**

According to the theoretical framework of attitude towards behavior, it is measured by attractiveness of becoming an entrepreneur. Participants were asked to scale their intentions to become an entrepreneur. The result shows that participants after attending CMMU entrepreneurship program would like to start their own firm within 2 years at 44% and 2 to 5 years at 29%.

## 4.2 Perceived Behavioral Control

**Table 4.2 Average Scores of Perceived Behavioral Control with regards to capabilities of participants on different business aspects**

PERCIEVED BEHAVIORAL CONTROL	N	Mean
Opportunity Recognition	48	4.40
Idea Development	48	4.21
New Product & Service Development	48	4.02
Start-up & Business Planning	48	4.29
Business Models	48	4.67
Strategic Planning	48	4.40
Market the Product & Service	48	4.40
Intellectual Property	48	3.81
Accounting Management	48	3.85
Financial Management	48	4.06
Leadership Skills	48	4.29
Employee Management	48	4.48
AVERAGE	48	4.24

Table 4.2 represents the average scores of the impact of entrepreneurship education on the perceived behavioral control with regards to participants' capabilities in different aspects in business. With 6 points Likert-scale survey, the result shows an average score of 4.24, which is considered to be higher than the midpoint of scale value of 3.5. This means that participants have overall positive belief in their capabilities in several business aspects that could produce performance of becoming an entrepreneur after attending the entrepreneurship education. The top three aspects in business with regards to participants' capacities to be an entrepreneur are business model (4.67), employee management (4.48), and strategic planning (4.40), marketing (4.40), opportunity recognition (4.40) had the same average scores hence all joined the third place. On the other hand, the bottom three aspects in business that participants believes that they are less capable of are related to aspects of intellectual property (3.81), accounting management (3.85), and new product & service development (4.21). Results of all the business aspects are higher than the midpoint of scale value of 3.5.

**Table 4.3 Average Scores of Perceived Behavioral Control with regards to overall capabilities of participants in the business**

PERCIEVED BEHAVIORAL CONTROL	N	Mean
I know all the necessary practical details to start a firm	48	4.27
I can develop a new business	48	4.29
I can control and run a new firm	48	4.23
To start a firm and keep it running would be easy for me	48	3.38
To run a new firm, I would have high probability of succeeding	48	3.81
AVERAGE	48	4.00

Table 4.3 represents the average scores of the impact of entrepreneurship education on the perceived behavioral control with regards to overall capabilities of participants in the business. With 6 points Likert-scale survey, the result shows an average score of 4.00, which is considered to be higher than the midpoint of scale value of 3.5. This means that participants have overall positive belief in their capabilities of becoming an entrepreneur in starting, running, succeeding the firm after attending the entrepreneurship education. The highest average value is 4.29 placed on the fact that participants believe that they can develop new business. The lowest average value is 3.38 placed on the fact that participants believe starting and running the firm would be easy for them. Within the latter respect, it shows that value falls below midpoint of scale value of 3.5.

**Table 4.4 Average scores of Perceived Behavioral Control with regards to Confidence Level in Capability on a start-up business**

PERCIEVED BEHAVIORAL CONTROL	N	Mean
Overall capability for a start-up business	48	65.85

Table 4.4 represents the average scores of the impact of entrepreneurship education on the perceived behavioral control with regards to confidence level in capability on a start-up business. The result shows that after attending entrepreneurship education, participants had confidence level in capability on a start-up business of 65.85%.

### 4.3 Social Norms

**Table 4.5 Average scores of Social Norms with regards to the influence from Social Environment in the university**

SOCIAL NORMS	N	Mean
My friends in the program have a positive influence on my desire to become an entrepreneur.	48	3.94
Program instructors inspire me to become an entrepreneur.	48	4.02
Guest speakers who are entrepreneurs (or business owners) inspire me to become an entrepreneur myself.	48	4.65
AVERAGE	48	4.20

Table 4.5 represents the average scores of the impact of Social Environment in the university towards person's desirability of becoming an entrepreneur. With 6 points Likert-scale survey, the result shows an average score of 4.20, which is considered to be higher than the midpoint of scale value of 3.5. The mean result shows that friends, instructors, or networks in the university had positive influence on person's desirability of becoming an entrepreneur. The highest average value is 4.65 placed on the fact that participants believe guest speakers who are entrepreneurs can inspire them to become an entrepreneur. The lowest average value is 3.94 placed on the fact that participants believe friends at the university had positive influence on their desire to become and entrepreneur.

### 4.4 Graduates VS Current Students

In order to understand more deeply the impact of entrepreneurship education on the different constructs of entrepreneurial intention, a further analysis was conducted. Mean data from graduated batch group (16B) and current students' batch groups (16C, 17A) was taken for comparison by employing Independent Samples T-test analysis towards our three main constructs of our framework, attitude towards behavior, perceived behavioral control, and social norms.

#### 4.4.1 Graduates (16B) VS Current Students (17A)

##### 4.4.1.1 Attitude towards Behavior

**Table 4.6 Compared mean scores of 16B and 17A experimental groups towards Attitude towards Behavior**

BATCH		Among various career options, becoming an entrepreneur is attractive for me.	Being an entrepreneur implies more advantages than disadvantages to me	Being an entrepreneur would give great satisfaction for me	My life goal is to become an entrepreneur	I am ready to do anything to become an entrepreneur	I am determined to make my best effort to start and run my own firm
16B	Mean	5.29	5.29	5.21	5.64	5.07	5.07
	N	14	14	14	14	14	14
17A	Mean	5.28	5.06	5.06	5.50	4.78	5.17
	N	18	18	18	18	18	18

By comparing mean scores between graduated students 16B and current students 17A on attitude towards behavior aspect, the results show 6 out of 7 tested variables of graduated students has higher mean scores than current students. However, the results show there is no statistically significant difference between graduated 16B and current 17A students according to appendix 3.

##### 4.4.1.2 Perceived Behavioral Control

**Table 4.7 Compared mean scores of 16B and 17A experimental groups towards Perceived Behavioral Control**

BATCH		Opportunity Recognition	Idea Development	New Product & Service Development	Start-up & Business Planning	Business Models	Strategic Planning
16B	Mean	4.43	4.07	3.79	3.57	4.79	4.43
	N	14	14	14	14	14	14
17A	Mean	4.44	4.22	4.00	4.83	4.72	4.11
	N	18	18	18	18	18	18

BATCH		Market the Product & Service	Intellectual Property	Accounting Management	Financial Management	Leadership Skills	Employee Management
16B	Mean	4.21	3.93	4.21	4.43	4.36	4.29
	N	14	14	14	14	14	14
17A	Mean	4.44	3.67	3.61	3.94	4.00	4.56
	N	18	18	18	18	18	18



**Table 4.7 Compared mean scores of 16B and 17A experimental groups towards Perceived Behavioral Control (Cont.)**

BATCH		I know all the necessary practical details to start a firm	I can develop a new business	I can control and run a new firm	To start a firm and keep it running would be easy for me	To run a new firm, I would have high probability of succeeding
16B	Mean	4.14	4.29	4.29	3.21	3.64
	N	14	14	14	14	14
17A	Mean	4.28	3.94	4.06	3.33	3.94
	N	18	18	18	18	18

By comparing mean scores between graduated students 16B and current students 17A on perceived behavioral control aspect, the results show 8 out of 17 tested variables of graduated students has higher mean scores than current students. The results show there is one statistically significant difference between graduated 16B and current 17A students towards the aspect of start-up & business planning. The result identifies that graduated students has lower capabilities of start-up & business planning than current students as shown in table 4.9 below.

**Table 4.8 Independent Sample test- Sig. (2-tailed) of 16B and 17A experimental groups towards Perceived Behavioral Control (See more details in appendix 4)**

PERCIEVED BEHAVIORAL CONTROL		t-test for Equality of Means	
		tailed)	Difference
Start-up & Business Planning	Equal variances not	.000	-1.262

#### 4.4.1.3 Social Norms

**Table 4.9 Compared mean scores of 16B and 17A experimental groups towards Social Norms**

BATCH		My friends in the program have a positive influence on my desire to become an entrepreneur.	Program instructors inspire me to become an entrepreneur.	Guest speakers who are entrepreneurs (or business owners) inspire me to become an entrepreneur myself.
16B	Mean	3.86	3.64	4.79
	N	14	14	14
17A	Mean	4.17	4.44	4.56
	N	18	18	18



By comparing mean scores between graduated students 16B and current students 17A on social norms aspect, the results show only 1 out of 3 tested variables of graduated students has higher mean scores than current students. The results show there is one statistically significant difference between graduated 16B and current 17A students towards the aspect of inspiration from instructors to become an entrepreneur. The result identifies that graduated students has lower desires to becoming an entrepreneur than current students influenced by inspiration from instructors as shown in table 4.11 below.

**Table 4.10 Independent Sample test- Sig. (2-tailed) of 16B and 17A experimental groups towards Social Norms (See more details in appendix 5)**

SOCIAL NORMS		t-test for Equality of Means	
		Sig. (2-tailed)	Mean Difference
Program instructors inspire me to become an entrepreneur.	Equal variances not assumed	.048	-.802

#### 4.4.2 Graduates (16B) VS Current Students (16C)

##### 4.4.2.1 Attitude towards Behavior

**Table 4.11 Compared mean scores of 16B and 16C experimental groups towards Attitude towards Behavior**

BATCH		Among various career options, becoming an entrepreneur is attractive for me.	Being an entrepreneur implies more advantages than disadvantages to me	Being an entrepreneur would give great satisfaction for me	My life goal is to become an entrepreneur	I am ready to do anything to become an entrepreneur	I am determined to make my best effort to start and run my own firm
16B	Mean	5.29	5.29	5.21	5.64	5.07	5.07
	N	14	14	14	14	14	14
16C	Mean	5.13	4.75	4.88	5.13	4.56	5.00
	N	16	16	16	16	16	16

By comparing mean scores between graduated students 16B and current students 16C on attitude towards behavior aspect, the results show 7 out of 7 tested variables of graduated students has higher mean scores than current students.

However, the results show there is no statistically significant difference between graduated 16B and current 16C students according to appendix 6.

#### 4.4.2.2 Perceived Behavioral Control

**Table 4.12 Compared mean scores of 16B and 17A experimental groups towards Perceived Behavioral Control**

BATCH		Opportunity Recognition	Idea Development	New Product & Service Development	Start-up & Business Planning	Business Models	Strategic Planning
16B	Mean	4.43	4.07	3.79	3.57	4.79	4.43
	N	14	14	14	14	14	14
16C	Mean	4.31	4.31	4.25	4.31	4.50	4.69
	N	16	16	16	16	16	16

BATCH		Market the Product & Service	Intellectual Property	Accounting Management	Financial Management	Leadership Skills	Employee Management
16B	Mean	4.21	3.93	4.21	4.43	4.36	4.29
	N	14	14	14	14	14	14
16C	Mean	4.50	3.88	3.81	3.88	4.56	4.56
	N	16	16	16	16	16	16

BATCH		I know all the necessary practical details to start a firm	I can develop a new business	I can control and run a new firm	To start a firm and keep it running would be easy for me	To run a new firm, I would have high probability of succeeding
16B	Mean	4.14	4.29	4.29	3.21	3.64
	N	14	14	14	14	14
17A	Mean	4.28	3.94	4.06	3.33	3.94
	N	18	18	18	18	18

By comparing mean scores between graduated students 16B and current students 16B on perceived behavioral control aspect, the results show 5 out of 17 tested variables of graduated students has higher mean scores than current students. However, the results show there is no statistically significant difference between graduated 16B and current 16C students according to appendix 7.

#### 4.4.2.3 Social Norms

**Table 4.13 Compared mean scores of 16B and 17A experimental groups towards Social Norms**

BATCH		My friends in the program have a positive influence on my desire to become an entrepreneur.	Program instructors inspire me to become an entrepreneur.	Guest speakers who are entrepreneurs (or business owners) inspire me to become an entrepreneur myself.
16B	Mean	3.86	3.64	4.79
	N	14	14	14
16C	Mean	3.75	3.88	4.63
	N	16	16	16

By comparing mean scores between graduated students 16B and current students 16C on social norms aspect, the results show 2 out of 3 tested variables of graduated students has higher mean scores than current students. However, the results show there is no statistically significant difference between graduated 16B and current 16C students according to appendix 8.

## 4.5 Summary of Results

The testing of hypotheses provided results that entrepreneurship education had positive impact on entrepreneurial intention measured by the mean value of each construct of Planned Behavior Theory. According to the results, all mean values towards attitude towards behavior, perceived behavior, and social norms were placed higher than the midpoint of scale value of 3.5, which determined positive impact. The factor that has the highest mean scores is attitude towards behavior at 5.10, followed by mean scores of perceived behavioral control at 4.24 and 4.20, and social norms at 4.20.

By comparing means value of different batches of students, the results indicate that graduated students did not always have higher mean scores, in other words entrepreneurial intention, than current students. To test the mean differences in entrepreneurial intention between current students and graduated students, the further Independent Samples T-Test analysis was employed. The results show two statistically significant differences of the mean scores between current students and graduated

students towards their entrepreneurial intention. First, current students were actually having higher mean scores on the aspect of start-up & strategic planning than graduated students. Second, current students were also having higher mean scores on the aspect of inspiration from instructors of becoming an entrepreneur than graduated students. In conclusion, these statistical differences of mean scores did not always indicate that graduated students were statistically having higher mean scores or higher entrepreneurial intention than current students.



## **CHAPTER V**

### **RECOMMENDATIONS AND CONCLUSIONS**

#### **5.1 Discussion of the Results**

With reference to literature review, several researches confirmed that entrepreneurship education provided a positive impact on entrepreneurial intention. This research study points in the same direction that the entrepreneurship education program tested had positive impact on entrepreneurial intention. The analysis of the theory of planned behavior in this study shows that attitude towards behavior was the strongest predictor of entrepreneurial intention. As attitude towards behavior had the highest mean score and was high at 17A current students, and was found higher in graduated students 16B, though there were no statistically differences. This could be concluded that the more learning of entrepreneurship program, the more positive attitudes towards behavior becomes. Even though perceived behavioral control and social norms had positive relationship towards entrepreneurial intention, the thing missing is the higher positive influence during the study of entrepreneurship education program. The results of this research indicate that there were a number of decreases in values of perceived behavioral control as well as social norms during entrepreneurship education. With a focus on statistically significant differences, two significant decreases in values were identified between length of study and the strength of impact that current students (17A) had significantly higher mean scores than graduated students (16B). These significant differences in values relates to the factors of capability to start-up, and instructors' influence on students' desirability to become entrepreneur. It is reasonable to say that the more the time that passes, the more capabilities and social influences break up. In other words, the longer the time since in the program indicates the lower confidence in capacity to start-up the business and lower instructors' influence on entrepreneurial intention.

With regards to the business start-up capabilities, an interesting assumption could be set up in the sense that the lessons of the program could be forgotten and hence the weaker confidence in capabilities becomes. However, a significant decrease happened only after two months after the end of an entrepreneurship program. On the other hand, the learning of the program could provide too much details and knowledge and subsequently discourage students' confidence in their capabilities. In terms of instructors, the assumption could be that there were big variations of instructors e.g. a change in instructors in each enrollment batch, hence providing significant differences in entrepreneurial intention results. As a consequence, this research finding could provide useful practical guidance to CMMU to follow up with further entrepreneurship program development.

## **5.2 Implications for Research**

This thematic paper contributes to the development of Thai entrepreneurship education programs, and benefits students. The theory of planned behavior was employed and tested with CMMU entrepreneurship program with students from three enrollment batches. The research findings support the further development of literature review on the fact that Thai entrepreneurship education also had positive relationship with entrepreneurial intention. With an in-depth analysis, result can further provide the new variations towards the “retention of entrepreneurial intention” during the entrepreneurship program that entrepreneurial intention is open to change. The analyses of the graduated students (16B) vs. current students (17A) of the perceived behavioral control and social norms showed that 50-70% of tested variables have fluctuations towards increased entrepreneurial intention during the study. On the other hands, attitude towards behavior showed stronger positive relationship during the study.

In addition, new valid variants of entrepreneurship program structure from World Bank were also tested in this study, hence the study is likely to provide the reliability of the results of entrepreneurial program. This new entrepreneurship program structure considered several aspects of study program including trainer & delivery, content and curriculum, and wrap-around service. All of these aspects could fill previous research gaps with clearer information on entrepreneurship education program's set up.

### 5.3 Implications for Practice

Students and university personnel, e.g. policy makers, entrepreneurship program developers, can benefit from this study as it provides an insight into entrepreneurship education that may have significant impact on overall entrepreneurial intention. In general, author still has strong believes that entrepreneurship education is very important to support entrepreneurship intention and capabilities of Thai entrepreneur and people who are interested to become an entrepreneur. According to the results, it would now be necessary to discover a better understanding of the mechanics that impact on entrepreneurial intention and a stronger enhancement of the objectives and structures of entrepreneurship education in relation to its students' needs. With this understanding in mind, involved university personnel should be first focusing on the improvement in the area of business start-up planning and instructor aspects.

Furthermore, it is also important for students to consider taking an entrepreneurship education program at CMMU that they will be likely to have a better prospect of becoming an entrepreneur. However, students should also be cautious about problematic areas on some of entrepreneurship subjects that are considered as less effective. On a practical basis, the results indicate that students might need to focus on a careful selection and further study on particular subjects with regards to business start-up and planning, and might as well need to focus on studying instructors profile before taking the education.

### 5.4 Limitations of this Study

This study provides a great insight into impact of entrepreneurship education towards entrepreneurial intention by using groups from three enrollment batches from CMMU entrepreneurship. However, with consideration of practical reality and resources, there are some limitations of this study. First, the results of this research could be considered not be generalized towards all entrepreneurship programs in Thailand, as this research took into consideration the CMMU entrepreneurship education program only. Reliability and validity of the survey would benefit from bigger numbers of participants from several entrepreneurship programs from different universities across Thailand. Second, a detailed examination of relationship between entrepreneurship



education and other specific profiles of participants, e.g. several demographic data was not a main scope of this research and hence was not analyzed extensively. For example a comparison between non-entrepreneur students and entrepreneur students was not also taken into account. The focus was purely on the overall impact of entrepreneurial education at different stages.

### **5.5 Suggestions for Future Research**

In the field of entrepreneurship education in Thailand, future study would benefit from further research in a number of areas. First, future research could provide an extensive analysis of the impact of entrepreneurship education depending on the specific profiles of students. Based on this CMMU case study research, researcher would derive benefits from the analysis of impact of entrepreneurship study as a guideline. Target-specific entrepreneurship participants that could add value of the research, for example entrepreneurship education that could benefit from realistic assessment of life-cycle, e.g. entrepreneurial intention of undergraduate vs. postgraduate students vs. mature adults. Second, researcher also could conduct an in-depth interview towards the content, design, and delivery which are practical and optimal for students. This might provide benefits to researchers on participants' emotions which could be useful in increasing validity of entrepreneurial intention. Third, future research can focus on the length and duration of entrepreneurial education program, in other words, intensity of the program that could impact entrepreneurial intention. This suggestion is strongly encouraged for a follow-up research from this study as the findings of this study shows that there were a number of decreases in values between graduated vs. current students. In particular, example could be the more students learn, the more the effectiveness until which point of entrepreneurial intention increases or decreases. Therefore, it could be worthwhile to investigate whether or not over-education does impact entrepreneurial intention.



## REFERENCES

- Acs, Z.J. and Audretsch, D.B. (1990). *Innovation and Small Firms*. Cambridge, MA: MIT Press.
- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50, 179-211.
- Akrathit P., and Sapprasert K. (2013). Global entrepreneurship Monitor (GEM) Thailand School of Entrepreneurship and Management Bangkok University (BUSEM).
- Bruyat, C., and Julien, P. (2001). Defining the field of research in entrepreneurship. *Journal of Business Venturing*, 16(2), 165.
- Cuervo A., Ribeiro D., & Roig S., (n.d.). Entrepreneurship: Concepts, Theory and Perspective. Introduction.
- Fayolle, A., Gailly, B. and Lassas-Clerc, N. (2006). Assessing the impact of entrepreneurship education programmes: a new methodology. *Journal of European Industrial Training*, 30(9), 701-720.
- Liñán, F. (2008). Skill and value perceptions: how do they affect entrepreneurial intentions? *IntEnsstrep Mang J*, 4, 257-272.
- Lorz, M., (2011). Entrepreneurship Education: A Meta-Analysis of Impact Studies and Applied Methodologies, Conference Paper, FGF G-Forum 2011. Zurich.  
Management, Knowledge and Learning International Conference.
- Menzies, T. V. (2012). Encouraging technology-based ventures: entrepreneurship education and engineering graduates. *New England Journal of Entrepreneurship & Regional Development*, 5(2): 57-64.
- Osberg S., and Martin R. (2007). Social Entrepreneurship: The Case For Definition. *Stanford Social Innovation Review*, 5(1), 28-39.
- Phagaphasvivat, S. (n.d.). *Entrepreneurship in Thailand*. Retrieved from [hrd.apec.org/images/0/0b/42.3.pdf](http://hrd.apec.org/images/0/0b/42.3.pdf).

- Pruett, M., Shinnar, R., Toney, B., Lopis, F. and Fox, J. (2009). Explaining entrepreneurial intentions of university students: a cross-cultural study. *International Journal of Entrepreneurial Behaviour & Research*, 15(6), 571-594.
- Remeikiene R., Startiene G. and Dumciuviene D. (2013). *Explaining Entrepreneurial Intention of University Students: The role of Entrepreneurial Education*.
- Robinson, P. B. and Sexton, E. A. (1994). The effect of education and experience on self employment success. *Journal of Business Venturing*, 9 (2), 145-156.
- Sánchez, J. C. (2011). University training for entrepreneurial competencies: Its impact on intention of venture creation. *Int Entrep Mang J*, 7, 239-254.
- Sivarajah K. and Achchuthan S., (2013). Entrepreneurial Intention among Undergraduates: Review of Literature. *European Journal of Business and Management*, 5(5), 172-186.
- Summers, D. F. (2000). *The formation of entrepreneurial intentions*. New York: Garland Publishing.
- Tkachev, A. and Kolvereid, L. (1999). Self-employment intentions among Russian students. *Entrepreneurship & Regional Development*, 11(3), 269-280.
- Turker, D. and Selcuk, S. S. (2009). Which factors affect entrepreneurial intention of university students? *Journal of European Industrial Training*, 33(2), 142-159.
- Tushman, M.L. and Anderson, P. (1986). Technological discontinuities and organizational environments. *Administrative Science Quarterly*, 31, 439-465.
- Valerio A., Parton B. and Robb A. (2013). *Entrepreneurship Education and Training Programs around the World Dimension for Success*. Washington: World Bank.
- Woessmann, L. (2011). School competition and student's entrepreneurial intentions: international evidence using historical Catholic roots of private schooling. *Published in: Small Business Economics*, 40 (2), 459-478.



## Appendix A: Entrepreneur Education Program- Detailed Structure

Program characteristics	Program design	Design	Local partnerships
		Design	Selection process
	Trainers and delivery	Finance	Source of funding
		Trainers	Unit cost (program and participant)
			Teacher/educator
		Delivery	Practitioner
			Consultant
		Class size	Face to face
			Online
		Intensity	Experiential
			10 or less
		Duration	11 to 30
			31 to 60
		Content	61 to 100
			More than 100
		Curricula	Daily
			Weekly/bi-weekly
	Content and curriculum	Individual	Monthly
			One-off
Wrap-around services		Firm	Less than 2 weeks
			2 weeks to 3 months
			3 to 6 months
			6 months to 1 year
			More than 1 year
			Financial literacy/accounting
			Marketing sales
			General business/management
			Vocational
			Leadership and teamwork
			Strategic planning
			Socio-emotional skills
			Mixed methods
			Tests/assessments
			Presentations/competitions
			Mentoring and coaching
			Networking
			Job counseling
			Access to finance
			Technical assistance

Source: World Bank

## 1. Program Characteristics- CMMU's Trainer and Delivery

Program Characteristics	CMMU's Independent Variables	
Trainer and Delivery	Trainer	Instructors
		Entrepreneur Guest Speaker
	Delivery	Face to Face
		Simulation
		Experiential
	Class Size	25-35
	Intensity	3 days/ week
	Duration	1.5 years

## 2. Independent Sample test- Sig. (2-tailed) of 16B and 17A experimental groups of Attitude towards Behavior

Independent Samples Test			
ATTITUDE TOWARDS BEHAVIOR		t-test for Equality of Means	
		Sig. (2-tailed)	Mean Difference
Among various career options, becoming an entrepreneur is attractive for me.	Equal variances not	.973	.008
Being an entrepreneur implies more advantages than disadvantages to me	Equal variances not	.286	.230
Being an entrepreneur would give great satisfaction for me	Equal variances not	.497	.159
My life goal is to become an entrepreneur	Equal variances not	.536	.143
I am ready to do anything to become an entrepreneur	Equal variances not	.465	.294
I am determined to make my best effort to start and run my own firm	Equal variances not	.737	-.095

3. Independent Sample test- Sig. (2-tailed) of 16B and 17A experimental groups of Perceived Behavioral Control

PERCIEVED BEHAVIORAL CONTROL		t-test for Equality of Means	
		tailed)	Difference
Opportunity Recognition	Equal variances not	.953	-.016
Idea Development	Equal variances not	.673	-.151
New Product & Service Development	Equal variances not	.549	-.214
Start-up & Business Planning	Equal variances not	.000	-1.262
Business Models	Equal variances not	.854	.063
Strategic Planning	Equal variances not	.395	.317
Market the Product & Service	Equal variances not	.547	-.230
Intellectual Property	Equal variances not	.576	.262
Accounting Management	Equal variances not	.126	.603
Financial Management	Equal variances not	.173	.484
Leadership Skills	Equal variances not	.213	.357
Employee Management	Equal variances not	.379	-.270
I know all the necessary practical details to start a firm	Equal variances not assumed	.659	-.135
I can develop a new business	Equal variances not assumed	.327	.341
I can control and run a new firm	Equal variances not assumed	.463	.230
To start a firm and keep it running would be easy for me	Equal variances not assumed	.747	-.119
To run a new firm, I would have high probability of succeeding	Equal variances not assumed	.385	-.302
Overall capability for a start-up business	Equal variances not assumed	.000	-1.262

4. Independent Sample test- Sig. (2-tailed) of 16B and 17A experimental groups of Social Norms

SOCIAL NORMS		t-test for Equality of Means	
		Sig. (2-tailed)	Mean Difference
My friends in the program have a positive influence on my desire to become an entrepreneur.	Equal variances not assumed	.416	-.310
Program instructors inspire me to become an entrepreneur.	Equal variances not assumed	.048	-.802
Guest speakers who are entrepreneurs (or business owners) inspire me to become an entrepreneur myself.	Equal variances not assumed	.503	.230

5. Independent Sample test- Sig. (2-tailed) of 16B and 16C experimental groups of Attitude towards Behavior

Independent Samples Test			
ATTITUDE TOWARDS BEHAVIOR		t-test for Equality of Means	
		Sig. (2-tailed)	Mean Difference
Among various career options, becoming an entrepreneur is attractive for me.	Equal variances not	.627	.161
Being an entrepreneur implies more advantages than disadvantages to me	Equal variances not	.138	.536
Being an entrepreneur would give great satisfaction for me	Equal variances not	.327	.339
My life goal is to become an entrepreneur	Equal variances not	.145	.518
I am ready to do anything to become an entrepreneur	Equal variances not	.245	.509
I am determined to make my best effort to start and run my own firm	Equal variances not	.849	.071



6. Independent Sample test- Sig. (2-tailed) of 16B and 16C experimental groups of Perceived Behavioral Control

PERCIEVED BEHAVIORAL CONTROL		t-test for Equality of Means	
		Sig. (2-tailed)	Difference
Opportunity Recognition	Equal variances not	.695	.116
Idea Development	Equal variances not	.509	-.241
New Product & Service Development	Equal variances not	.214	-.464
Start-up & Business Planning	Equal variances not	.061	-.741
Business Models	Equal variances not	.473	.286
Strategic Planning	Equal variances not	.501	-.259
Market the Product & Service	Equal variances not	.481	-.286
Intellectual Property	Equal variances not	.918	.054
Accounting Management	Equal variances not	.313	.402
Financial Management	Equal variances not	.238	.554
Leadership Skills	Equal variances not	.534	-.205
Employee Management	Equal variances not	.357	-.277
I know all the necessary practical details to start a firm	Equal variances not assumed	.232	-.232
I can develop a new business	Equal variances not assumed	.187	-.402
I can control and run a new firm	Equal variances not assumed	.760	-.089
To start a firm and keep it running would be easy for me	Equal variances not assumed	.302	-.348
To run a new firm, I would have high probability of succeeding	Equal variances not assumed	.619	-.170
Overall capability for a start-up business	Equal variances not assumed	.277	-5.866

7. Independent Sample test- Sig. (2-tailed) of 16B and 16C experimental groups of Perceived Behavioral Control

SOCIAL NORMS		t-test for Equality of Means	
		Sig. (2-tailed)	Mean Difference
My friends in the program have a positive influence on my desire to become an entrepreneur.	Equal variances not assumed	.799	.107
Program instructors inspire me to become an entrepreneur.	Equal variances not assumed	.632	-.232
Guest speakers who are entrepreneurs (or business owners) inspire me to become an entrepreneur myself.	Equal variances not assumed	.583	.161

**Summary of Independent Sample test-Sig. (2-tailed) of mean scores towards other demographic data from experimental groups**

**Age:** Participants who are in older age ranges tend to have significant higher mean scores of attitude towards behavior than participants in younger age ranges; however those who are older tend to have significant lower mean scores towards perceived behavioral control.

**Gender:** Only significant difference was found- “Friends” of social norms’ mean scores found to be higher in female towards the desirability to become an entrepreneur.

**Self-Employ:** 1) Participants who are self-employed tend to have significant higher mean scores towards perceived behavioral control than participants who are not self-employed.

2) Participants who are self-employed and had their own start-up business tend to have significant higher mean scores towards perceived behavioral control than participants who do not have one.

## **Appendix B: Questionnaire Survey**

### **Entrepreneurial Intention Survey**

You are invited to participate in a research study conducted by Mr. Veerakorn Cheerjaraswongse in the Entrepreneurship Management Program at the College of Management Mahidol University (CMMU). The study is to investigate “The Impact of Master Degree’s Entrepreneurship Program on Entrepreneurial Intention in Thailand”. You are going to complete a questionnaire. It will take around 5 to 10 minutes.

Your participation is voluntary. There will not be any risk and discomfort towards your grade and study at CMMU. But if you do feel discomfort, you can stop to do the questionnaire at any time without negative consequences. There will be no compensation, direct or potential benefits. There is strict confidentiality in this study and that the information obtained in it will be used for research purposes only. Only the authorized university personnel can access to the data.

Please allow me to express my sincere gratitude for your precious time in doing the questionnaire. If you have any questions or concerns about the research, please feel free to contact Mr. Veerakorn Cheerjaraswongse, by email at [Titee\\_ac120@hotmail.com](mailto:Titee_ac120@hotmail.com).

**Please check the box that most closely resembles your answer:**

**Section I**

1. Age:

- ☐ 21-25
- ☐ 26-30
- ☐ 31-35
- ☐ 36-40
- ☐ Over 41

2. Gender:

- ☐ Male
- ☐ Female

3. Enrolment Batch

- ☐ 16 B
- ☐ 16 C
- ☐ 17 A

4. What do you expect from the CMMU entrepreneurship Program? Please tick only one answer

- ☐ I have no precise expectation.
- ☐ I want to know whether becoming an entrepreneur is an option for me.
- ☐ I have general interest in entrepreneurship so I want to learn more.
- ☐ I want to become an entrepreneur so I want to learn the necessary skills
- ☐ I am very determined to become an entrepreneur so I want to learn the necessary skills.

5. Are you currently self-employed?

- ☐ Yes
- ☐ No

If yes, please identify kind of business

- ☐ Start-up Company
- ☐ Family Business
- ☐ Independent Worker

How did you experience your work as self-employed?

☐ Positive

☐ Negative

## **Section II**

6. After having attended CMMU Entrepreneurial Program, to what extent do you agree with the following statements regarding your entrepreneurial attitudes?

Statement	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
a) Among various career options, an entrepreneur is attractive for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Being an entrepreneur implies more advantages than disadvantages to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Being an entrepreneur would give great satisfaction for me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) My life goal is to become an entrepreneur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) I am ready to do anything to become an entrepreneur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) I am determined to make my best effort to start and run my own firm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. If you are not self-employed, you want to start a firm...

☐ "Within 2 years

☐ "Within 2 to 5 years

☐ "Within 10 years

☐ I have not yet decided.



9. After having attended CMMU Entrepreneurial Program, to what extent do you agree with the following statements towards your entrepreneurial capacity?

Statement	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
a) I know all the necessary practical details to start a firm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) I can develop new business.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) I can control and run a new firm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) To start a firm and keep it running would be easy for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) To run a new firm, I would have high probability of succeeding.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. In conclusion, Please specify percentage degree from 0-100% on how capable you feel to start-up a business? (Not at all 0 – 100% Totally): \_\_\_\_\_



#### **Section IV**

11. After having attended CMMU Entrepreneurial Program, to what extent of the influence of the following environment at CMMU to your desirability of becoming entrepreneur?

Statement	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
a) My friends in entrepreneur program have influence on my desirability to become an entrepreneur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Instructors can give inspiration towards my desirability in becoming an entrepreneur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Entrepreneur guest speakers can give inspiration towards my desirability in becoming an entrepreneur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>