Abstract—This paper is to explore the entrepreneurial attitude and capacity of universities’ students that could be cultivated and excited through off-campus internships program. A questionnaire-based survey was conducted. There are three types of separate questionnaire, for teachers, students, and business staffs were designed. There were 165 questionnaires delivered to teachers and 620 to students from 31 universities in Taiwan. There were 98 valid questionnaires from teachers were received, representing a valid response rate of 59.39%. There were 370 valid questionnaires from students were returned, representing a valid response rate of 59.67%. There were 60 questionnaires were designed. There were 165 questionnaires from teachers were delivered to teachers and 620 to students from 31 universities in Taiwan. There were 98 valid questionnaires from teachers were received, representing a valid response rate of 59.39%. There were 370 valid questionnaires from students were returned, representing a valid response rate of 59.67%. The results show that respondents generally agree that off-campus internships program can cultivate student’s entrepreneurial attitude and excite their entrepreneurial capacity. Finally, there are several recommendations proposed.

Index Terms—Off-campus internship, entrepreneurial capacity, entrepreneurship education, internship education.

1. INTRODUCTION

Entrepreneurship can increase a country’s wealth and may provide many job opportunities. Entrepreneurship is an excellent strategy to promote economic development and maintain economic competitiveness. In other words, entrepreneurship is an important driver of a country’s economic growth, innovation and competitiveness [1]. Many countries regard entrepreneurship education as an approach to solve the societal problem of unemployment. Training and coaching through entrepreneurship courses in schools can enhance students’ entrepreneurial intentions and entrepreneurial skills [2]. Entrepreneurs should possess certain characteristics, abilities and technology that can be developed through education and training [3]. Universities can play an important role in promoting entrepreneurship [4]. Okudan and Rzása (2006) pointed out that teaching methods and learning patterns will affect the success or failure of such entrepreneurship education programs [5]. However, Song (2008) analysis of the entrepreneurship programs established by Taiwan university indicated that such programs fail to provide the skills and knowledge that students need, while also lacking traineeship opportunities and community resources [6]. Chen et al. (2014) analysis of the practical-learning semester undertaken by senior students as part of their elective course ‘Innovation and Entrepreneurship’ at National Penghu University of Science and Technology established that the course did not significantly raise students’ entrepreneurial intention, and also found that entrepreneurship could not be taught to students by way of traditional teaching methods [2]. Harkema and Schout (2008) considered that the key points of entrepreneurship lie in teaching methods, teaching environment and learning resources, while entrepreneurship education based on learning-by-doing could strengthen the understanding of the basics knowledge [1], [7]. Off-campus internships program precisely fills this gap, helping students through learning-by-doing in a work environment to deepen the theoretical knowledge they gleaned from school.

Internship programs are an important part of vocational education [8]. Walmsley, Thomas and Jameson (2006) considered that a traineeship experience helped university students better understood the workplace environment and offered them valuable work experience [9]. Ruhanen, Robinson and Breakey (2013) noted that internships, work experience, and the experience of studying while working were key factors enabling students to convert classroom learning to the workplace [10]. Through internship programs, students could learn practical work skills and interpersonal skills, develop an independent spirit, and expand their social experiences, which should be helpful to their career planning [11]. In other words, internship programs enable students to accumulate experience, develop an early understanding of their strengths and weaknesses, and supplement underdeveloped areas in their studies, thus improving their employability or entrepreneurial competences.

This study aims to understand which entrepreneurial attitudes and entrepreneurial capacity possessed by university students can be cultivated and excited through off-campus internship programs.

II. LITERATURE REVIEW

A. Entrepreneurial Attitude and Entrepreneurial Capacity

Shane and Venkataraman (2000) considered that
entrepreneurship referred to the entrepreneurial spirit that allowed an entrepreneur to discover, evaluate or create opportunities, with its core value being ‘innovation’ [12]. Hsiao et al. pointed out that entrepreneurship referred to combining labor, knowledge, technology, management, capital and other production factors, and to use the entrepreneurial spirit to discover, evaluate or create opportunities for productive activities [13], [14]. These would include creating a business from scratch, acquiring distribution or production licenses, acquiring or establishing a business, or inheriting a family business.

“Capacity” is a potential ability or skill. Cherniss (1991) pointed out that capacity is an individual and innate physical gift, the driving force for an individual’s growth, which under certain circumstances and backgrounds and through certain methods could be developed and manifested [15]. Chang and Chiu (2012) considered entrepreneurial capacity as a key factor for business success [16]. Chang (2003) suggested that an individual must have entrepreneurial capacity before becoming an entrepreneur, and therefore an entrepreneur must have this entrepreneurial capacity, which includes three key elements [17]:

1) Entrepreneurial drive: the driving force to establish one’s own business.
2) Perceived venture feasibility: the ability to perceive the goal of running a business.
3) Propensity to act: personal characteristics of entrepreneurial behavior, including a locus of control, creation, and goal-oriented behavior.

Liñán et al. (2011) pointed out that entrepreneurial capacity should include: the ability to recognize opportunity, creativity, problem-solving skills, leadership skills, communication techniques, the ability to research and develop new services or products, and the ability to grasp the pulse of the market [18]. Zahra and Dess (2001) considered that an individual must possess entrepreneurial capacity prior to become an entrepreneur, regardless of whether this concerns the pursuit of growth in a community or the pursuit of innovation in a large organization [17], [19].

Vazquez et al. (2011) noted that there were five dimensions of an entrepreneurial attitude [20]:

1) Proactiveness: Finding ways to improve in the face of difficulties or changes of events.
2) Responsibility: Willingness to assume the risks of entrepreneurial activity and leading by example.
3) Innovativeness: Ability to predict future needs and trends and to use new methods to solve problems.
4) Independence: Even while constrained in a team, maintaining independent thinking and judgment and making critical decisions.
5) Change Flexibility: In an unstable external environment, knowing how to change an organizational structure and strategic direction.

Chen and Lai (2010) considered that entrepreneurial attitude was a personal conception and evaluation of entrepreneurship and the possession of a propensity to start and operate one’s own business [21]. When an individual has a strong inclination to develop a business, the relationship between attitude and behavior will be comparatively strong. The scale that they used includes four dimensions: cognitive, emotional, motivational and behavioral tendencies. Kuckertz and Wagner (2010) used entrepreneurial attitude scale includes these three items [22]:

1) I want to be a boss rather than an employee.
2) Running a business creates wealth.
3) I prefer establishing a new company to being a manager in an existing company.

B. Implications for Internship Education

Blanchard (2003) said that vocational educational system must serve to demonstrate the abilities of educators to deliver work-ready training converting the youth of today into tomorrow’s technology-oriented labor force [23]. The internship program is a link bridge of students’ training converted between school and industry. Busby and Fiedel (2001) considered that internship programs could provide students with work experience related to their degree through internships that last for a short period, a semester, a holiday, a year, or even longer [24]. Off-campus internship programs exposed students to extracurricular activities in the real world of work [25]. In other words, traineeships enable students to have real or practical experience to apply the knowledge learned in the classroom along with the problems and work encountered in a company [26]. Off-campus internship programs could be said to be an important element in cultivating students with competitiveness by linking universities and industry [27]. Therefore, the design of off-campus internship programs must be highly correlated with industry so that students may learn professional knowledge and skills [11]. Lucas et al. (2009) suggested that the host organizations must provide the students with tasks related to the skills they needed for their future careers, as well as feedback on their performance [26].

The planning of an internship program, as well as its immersion in industry, are important factors affecting whether or not graduates will stay in the industry. Lucas et al. (2009) found that British students returned to school from their traineeship sites had more self-confidence and a better understood of business and technology [26]. In a survey of 307 students from four universities in Hong Kong, Lam and Chin (2007) found three expectations held by students before their traineeships: expanding their work experience, developing technical skills, and having the opportunity to join the host company as an employee [28]. In an investigation of the marketing and logistics-related departments of 21 vocational institutions in Taiwan, Chen et al. (2014) found that three schools (14.3%) indicated that their school had teaching materials for their off-campus traineeship programs, while 18 schools (85.7%) did not, and that therefore teaching materials for off-campus traineeship programs seemed to be needed at all schools in Taiwan [29]. Lucas et al. (2009) survey of 256 junior and senior students from four universities in the UK found that 45.1% of students think that traineeships teach something that they could not learn in courses at school, and that this confirmed the importance of internship [26].

C. Off-campus Internship Programs with an Entrepreneurial Orientation

Traineeship experiences benefit students in their academic or work-related environments through the acquisition of skills
and vocational qualities. In off-campus internship programs, students absorb work experience in a company, gained practical experience. Through the traineeship process, students may develop initiative, independence, and acquire a solid work ethic and thinking ability [30]. Therefore, off-campus internship programs may enhance student competences that are related to entrepreneurship and develop the personality traits of an entrepreneur. Keat et al. (2011) indicated that entrepreneurship education should not be confined to classroom discussion, but should instead engage with the external environment [4]. Only through practice could be developed important entrepreneurial skills, and only through observing, experiencing and feeling the business world could make students obtain real work experience. Karimi et al. (2010) emphasized that entrepreneurship education must include the following: teaching students how to identify market opportunities and commercial thinking to establish a new business in order to seize market opportunities; teaching students how to configure and leverage resources needed to pursue business opportunities; and educating students how to create, manage and operate a commercial organization. These items should be the basis of planning the curriculum of an entrepreneurship-oriented off-campus internship programs [31]. Therefore, Hildebeitel, Leaubly and Larkin (2000) recommends that entrepreneurship education should regard internship programs as an important element [32]. Papaoikonomou, Segarra and Li (2012) pointed out that enterprises should establish appropriate infrastructure and training centers as a good way to encourage and support entrepreneurial activity and provide traineeship opportunities for students [33]. Soysekerci and Erturgut (2010) indicated that students' traineeship processes in NGO's could allow them to apply elements from their internship to entrepreneurial activities [34]. Thus, Beggs et al. (2008) recommended that during student’s traineeships should review their own career development [7]. It also gave them the opportunity to feel the tension and complexity of the workplace, to enhance their innovation and competitiveness by getting their hands dirty, and to have the opportunity to verify theory through practice. Wong, Ho and Singh (2007) pointed out that in Singaporean university curriculums there had a mechanism for their students to do one-year internship programs at overseas companies, and students may also attend entrepreneurship courses at sister universities [35]. So, they could immerse themselves in the entrepreneurship experience within a company. However, they still lack a structure for off-campus internship programs that enhanced their entrepreneurial spirit and ability. If it was without these off-campus internship programs, students may not develop the entrepreneurial mindset and skill set needed. Likewise, Erikson (2002) mentioned that students' need for traineeships and entrepreneurial training to strengthen their entrepreneurial skills and perception [36]. In order to help students establish businesses, universities should provide students with coaching, consulting, training and other support services.

Therefore, internship programs may be regarded as one tool of entrepreneurship education, to help students observe business opportunities and bolster their entrepreneurial ambitions during their traineeships period.

III. RESEARCH METHODS

A. Research Framework

The research framework is shown in Fig. 1. This study tries to understand which entrepreneurial attitudes and entrepreneurial capacity possessed by university students can be cultivated and excited through off-campus internship programs.

The hypotheses H1 is that there is significant difference among teachers, students and business staffs in entrepreneurial attitude.

The hypothesis H2 is that there is significant difference among teachers, students and business staffs in entrepreneurial capacity.

![Fig. 1. Research framework.](image)

B. Measurement Instrument

For entrepreneurial attitude, the scale of Vazquez et al. (2011) was used [20], with a total of 30 items. Among these, eight items relate to “proactiveness”, with a Cronbach's Alpha value of 0.882. Four items relate to “independence”, with a Cronbach's Alpha value of 0.834. Five items relate to “innovativeness”, with a Cronbach's Alpha value of 0.871. Seven items relate to “change flexibility”, with a Cronbach's Alpha value of 0.835. Six items relate to “responsibility”, with a Cronbach's Alpha value of 0.850. The overall Cronbach's Alpha value for all scale was 0.962. The total reliability is acceptable.

The measurement instrument for students’ entrepreneurial capacity that can be excited is a scale by Chang and Chiu (2012) [16], adapted from Liñán et al. (2011) [18]. This scale consists of 6 items, with a Cronbach's Alpha value of 0.907. The reliability is acceptable.

The questionnaires were self-report inventory. Both scales use a 7-point Likert type scale, from strongly agree (7) to strongly disagree (1). The higher the score is, the higher the student’s entrepreneurial capacity and entrepreneurial attitudes that can be cultivated and excited through an off-campus internship programs are. This study was conducted with separate questionnaires designed to avoid common method variance.

C. Implementation Process

This study was conducted by way of a questionnaire-based survey, with separate questionnaires designed for teachers, students, and host business staff. The sampling method employed was a convenient and non-probability sampling approach. The questionnaires were distributed by the marketing and logistics department chairperson of the participating universities. The questionnaires were delivered to 4 teachers who had experience with supervising students in internship programs and to 20 students who had traineeship experience. The survey was distributed to 31 technical
universities, of which 21 universities returned. 98 valid questionnaires were collected from teachers, representing a valid response rate of 59.67%. 370 questionnaires were distributed from students, representing a valid response rate of 59.39%. 21 department chairperson and 77 from teachers. It was 21 universities, of which 21 universities returned. There were 98 teachers, 370 students and 52 business staffs participated this survey. Among them, there were 10 teachers (10.2%) teaching experience below 5 years, 22 teachers (22.5%) teaching experience between 5 years to 10 years, and 66 teachers (67.3%) teaching experience more than 10 years.

In the student's part, there were 134 male students (36.2%), 236 female students (63.8%); there were 62 male students (16.8%) study in public school, and 308 students (83.2%) study in private school; there were 309 students (83.5%) study in technical university, and 61 students (16.5%) work in technical institute. Among them, there were 157 students (42.4%) engaged their internship programs in summer/winter vacation, 80 students (21.6%) study in one semester, and 133 students (36.0%) used one academic year in off-campus internship programs; there were 42 sophomore students (11.4%), 47 junior students (12.7%), and 281 senior students (75.9%); there were 144 students' parents had entrepreneurial experience (38.9%), 226 students’ parents not (61.1%).

In the business staff's part, there were 18 male staffs (34.6%), 34 female staffs (65.4%); there were 16 executive position staffs (30.8%), and 36 non-executive position staffs (69.2%); there were 37 staffs (71.2%) work in sales department, and 15 staffs (18.8%) work in administration department; there were 37 staffs (71.2%) work experience below 3 years, and 15 staffs (18.8%) work experience more than 3 years.

IV. RESULTS

A. Entrepreneurial Attitude

According to the average, the “innovativeness” (M=5.31, SD=0.90) is the highest, followed by “independence” (M=5.24, SD=0.96), “change flexibility” (M=5.19, SD=0.82), “proactiveness” (M=5.07, SD=0.88), and the lowest is “responsibility” (M=5.02, SD=0.91). All dimensions are more than 4, it means that all subject agreed that through off-campus internship programs can cultivate student’s entrepreneurial attitude. It is shown in Table II.

From individual respondents opinions, the “innovativeness” (M=5.18, SD=1.04) is the highest for teachers, followed by “independence” (M=5.13, SD=1.11), “change flexibility” (M=4.98, SD=0.94), “proactiveness” (M=4.89, SD=0.97), and the lowest is “responsibility” (M=4.68, SD=1.02). For students, the “innovativeness” (M=5.34, SD=0.86) is the highest, followed by
“independence” (M=5.25, SD=0.92), “change flexibility” (M=5.23, SD=0.79), “responsibility” (M=5.10, SD=0.87), and the lowest is “proactiveness” (M=5.09, SD=0.85). The rank is little different with teachers opinions. For business staffs, the “innovativeness” (M=5.38, SD=0.90) is the highest, followed by “independence” (M=5.35, SD=0.92), “proactiveness” (M=5.31, SD=0.81), “change flexibility” (M=5.29, SD=0.78), and the lowest is “responsibility” (M=5.13, SD=0.91). The rank is little different with teachers and students.

In ANOVA analysis, in proactiveness, change flexibility, responsibility three dimensions are significant difference among teachers, students and business staffs. H1 is acceptable. After Scheffe’s method analysis, business staffs are strongly agreed that through off-campus internship programs can cultivate student’s proactiveness, change flexibility, responsibility than teachers. Students are strongly agreed that through off-campus internship programs can cultivate student’s change flexibility, responsibility than teachers.

B. Entrepreneurial Capacity

In Table III, it shows that entrepreneurial capacity (M = 5.20, SD = 0.99) is greater than 4. This represents all respondents agreed that through off-campus internship
programs can excite student’s entrepreneurial capacity. According to the average, the "problem-solving skills" (M = 5.44, SD = 1.14) is the highest, followed by "leadership" (M = 5.31, SD = 1.20), "the ability to identify opportunities" (M = 5.14, SD = 1.18), "creativity" (M = 5.12, SD = 1.17), "the ability to grasp the pulse of the market’s" (M = 5.04, SD = 1.25), and the lowest is "the ability to develop new services/products" (M = 4.89, SD = 1.23). These all individual items are more than 4, it means that all respondents agreed that through off-campus internship programs can excite student’s entrepreneurial capacity.

From individual respondents opinions, according to the average, the "problem-solving skills" (M = 5.47, SD = 1.35) is the highest for teachers, followed by "the ability to identify opportunities" (M = 5.08, SD = 1.34), "the ability to grasp the pulse of the market’s" (M = 5.01, SD = 1.45), "leadership" (M = 4.95, SD = 1.38), "creativity" (M = 4.92, SD = 1.42), and the lowest is "the ability to develop new services/products" (M = 4.54, SD = 1.45). For students, the "problem-solving skills" (M = 5.43, SD = 1.08) is the highest, followed by "leadership" (M = 5.40, SD = 1.12), "creativity" (M = 5.18, SD = 1.15) "the ability to identify opportunities" (M = 5.12, SD = 1.14), "the ability to grasp the pulse of the market’s" (M = 5.04, SD = 1.22), and the lowest is "the ability to develop new services/products" (M = 4.97, SD = 1.17). The rank is little different with teachers opinions. For business staffs, the "problem-solving skills" (M = 5.44, SD = 1.20) is the highest, followed by, "the ability to identify opportunities" (M = 5.38, SD = 1.11), "leadership" (M = 5.33, SD = 1.25), "the ability to grasp the pulse of the market’s" (M = 5.17, SD = 1.10), "creativity" (M = 5.12, SD = 1.17), and the lowest is "the ability to develop new services/products" (M = 5.00, SD = 1.12). The rank is little different with teachers and students.

In ANOVA analysis, there is no significant difference among teachers, students and business staffs in entrepreneurial capacity, but in leadership, develop new services/products ability two items are significant difference. H2 is partial acceptable. After Scheffe’s method analysis, students are strongly agreed that through off-campus internship programs can excite student’s leadership, develop new services/products ability than teachers.

Lastly, there is no significant difference among teachers, students and business staffs in entrepreneurial capacity, but in leadership, develop new services/products ability two items are significant difference. After Scheffe’s method analysis, students are strongly agreed that through off-campus internship programs can excite their leadership, develop new services/products ability than teachers.

There are several recommendations of the study. First, an entrepreneurship-oriented design of off-campus internship programs is worth considering for entrepreneurship educators who want to release and strengthen students’ entrepreneurial attitude and entrepreneurial capacity through off-campus traineehip programs.

Secondly, it can establish FACEBOOK groups or LINE groups for students during their off-campus traineeships. Here, an issue-oriented approach may give students the opportunity to engage in group discussions on such topics as: What leadership behaviors of the traineehip supervisor are worth learning? How do employees in the host organization solve problems they encounter? How does the host organization seize market changes? Have you found business opportunities through your internship experience? What innovation practices does your host organization have that are worth learning? Through interviews with entrepreneurs, business owners, and managers, company brochures, executive biographies, internal documents and analyses, as well as other channels, students may observe and acquire information. This may improve the effectiveness of student internship and strengthen students’ entrepreneurial attitude and entrepreneurial capacity.

Thirdly, this study only discusses entrepreneurial attitude and entrepreneurial capacity, it can increase study entrepreneurial intention and to probe the relationship among entrepreneurial attitude, entrepreneurial capacity, and entrepreneurial intention.

Lastly, this study only focus on duty-free shops staffs. When inference to other industries will be limited, it is recommended to survey different industries and to compared with this study.

REFERENCES


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