ICT AND EXPERIENTIAL LEARNING IN ENTREPRENEURSHIP DEVELOPMENT PROGRAM FOR STUDENTS AND ALUMNI OF PARAHYANGAN CATHOLIC UNIVERSITY

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ABSTRACT

Parahyangan Catholic University is still not optimal yet in increasing the number of entrepreneurs. Although there are already courses and even a concentration of entrepreneurship in one of the study programs, it is unfortunate that the business they are starting only lasts after the course or final project is completed. The information and communication technologies (ICT) and experiential learning in Entrepreneurship Development Program for students and alumni at Parahyangan Catholic University is needed to increase the number of new entrepreneurs. This research aims to provide programs for the provision of facilities and infrastructure, applied teaching (experiential learning) in the form of management and creativity, mentoring, coaching, business matching and registrating of intellectual property rights for new brands. The study can be claimed the first empirical study using ICT and experiential learning approach for entrepreneurship learning from case study of students and alumni in Parahyangan Catholic University. This program should support new entrepreneurs or someone who has started a business as well as learning of product innovation is provided so that the business can be sustainable. This paper contributions to face the problems of identifying and discussing the best practices and methods of entrepreneurship programs by describing several of the processes that are currently being implemented in some creative way of the most highly regarded educational institutions in entrepreneurship especially and can increase new entrepreneurs based on technology and uphold business ethics by participating in solving social and economic problems in the surrounding environment in particular and the nation in general.

Keywords: Entrepreneurship Program, ICT, Experiential Learning, Student and Alumni

INTRODUCTION

Entrepreneurs in the digital era should be aware of information and communication technologies (ICT). There are many gaps that serve as a key impediment to growth in ICT because of under-investment in technology to enhance productivity and growth. The necessity for entrepreneurs to use ICT is compelling (Orser, et. al, 2019). Adoption of information, communication and technology of ICT in entrepreneurship drives competitiveness, growth, productivity and revenue improvements that result from investments. Furthermore, the advancement of information technology and networking is reducing the costs and barriers to entry for entrepreneurs (Cho & Lee, 2018). Despite the fact that several study programs currently include entrepreneurship courses, Parahyangan Catholic University has challenges in growing the number of student entrepreneurs and alumni, especially in ICT approaches.

The knowledge-based economy has become integrally associated with the economic diversification and economic policies that encourage technology development, innovation, entrepreneurship, the development of human capital skills, and the development of ICT infrastructure (Mishrif, 2018). The primary goal of this study is to build a complete framework that incorporates the relationship between ICT and an organization's level of innovation on the one hand, and a company's performance on the other. The significance of this goal stems from the fact that each company's ICT resources are unique (Anaya et al., 2015; Coltman et al., 2015).

The impact of entrepreneurship education on entrepreneurial intention was discovered to be negatively impacted by the students' past entrepreneurship experience. Because the average degree of expertise among fledgling or overall early-stage entrepreneurs is high, instructional efficacy may be limited (Fayolle & Gailly, 2015). Experience with and acceptance of entrepreneurial failure is associated with creating new businesses, implying that experiential entrepreneurship education provides a key framework to experience and failure progress (Politis and Gabrielsson 2009). The entrepreneurship programs examined aim to challenge students far beyond their comfort zones in order to cultivate an entrepreneurial mindset as well as entrepreneurial skills to be an entrepreneur.

We conducted a study of 97 students and alumni in Parahyangan Catholic University to know what and how of their entrepreneurial behavior. We wanted to find out the answers to the following study questions:

RQ1 : What are the motivations and goals for students and alumni to participate in ICT and experiential learning in entrepreneurship development programs?

RQ2 : What are the benefits and uses of ICT and experiential learning in entrepreneurship development programs?

RQ3 : What are the expectations of students and alumni in ICT and experiential learning in entrepreneurship development programs to achieve their goals?

RQ4 : What are the perceived or actual barriers to providing in ICT and experiential entrepreneurship programs?

In this research, the reader ought to be aware that we address motives, reasons, and aims with a high degree of definitional interoperability. These two terms have a lot in common. Indeed, one commonly used definition of motivation is "a reason or reasons for acting or behaving in a particular way" (Simpson and Weiner, 2019). While academic institutions provided a variety of facilities for experiential entrepreneurship programs, a frequent difficulty was a lack of enough "innovation space" (Mandel & Noyes, 2015).

This paper contributions to face the problems of identifying and discussing the best practices and methods of entrepreneurship programs by describing several of the processes that are currently being implemented in some creative way of the most highly regarded educational institutions in entrepreneurship especially and can increase new entrepreneurs based on technology and uphold business ethics by participating in solving social and economic problems in the surrounding environment in particular and the nation in general. The study can be claimed the first empirical study using ICT and experiential learning approach for entrepreneurship learning from case study of students and alumni in Parahyangan Catholic University. The objectives of this study are to analyze the motivations, goals, benefits, expectations, and joining significant perceived or actual barriers to entrepreneurship program that is included ICT and experiential learning to enhance the number of student entrepreneurs and alumni of Parahyangan Catholic University.

LITERATURE REVIEW

Entrepreneurship as study and practice has grown in popularity across the world (Colette and Kate, 2018; Nabi, Linan, Fayolle, Krueger, & Walmsley, 2017) as a result, several nations now support it in order to improve entrepreneurship (Dehghanpour Farashah, 2013). There is little research on heterogeneity in entrepreneurship education and training programs, and even less about challenges and solution implementations (Mandel and Noyes, 2015). Stakeholders can have a significant impact on the implementation, evaluation, and restructure of entrepreneurship programs since they can influence the programs' success either positively or negatively (Bischoff et al., 2018). According to Fretschner and Weber (2013) that activities in business school entrepreneurship programs are dominated by high-stakes elevator pitches, incubators, accelerators, and student-run businesses.

Many people believe that entrepreneurship is a beneficial move as a tool for addressing economic, social, and environmental concerns and inventing sustainable development (Markman et al., 2016). As a result, entrepreneurship as practice asserts that studying entrepreneurship is only conceivable by explicating how entrepreneurial activities are really lived in and through practices (Champenois et al., 2019; Thompson et al., 2020). The vocational development of teachers is based on their values, being able to reflect their own *modus operandi* as a teacher and having the potential to develop their teaching methods and thus to develop as a teacher. We think that this kind of potential and motivation could be very useful, particularly in the teaching profession (Rönkkö and Lepistö, 2015). This means that business models are powerful tools that can be adopted to understand, analyze and develop an organized set of strategic actions (George and Bock, 2011). In line with Zott *et al.* (2011) who affirm that "business models emphasize a system-level, holistic approach to explaining how firms 'do business'", Pisano, Ferrari and Fasone link the concept of business model to the managerial literature on territory governance and networks.

According to the GEM report (2017), there are 2 types of motivations for early-stage entrepreneurial engagement. First, there is necessity-driven early-stage entrepreneurial activity, which involves entrepreneurial activity that is motivated by a lack of alternative income-generating possibilities. Second, there is opportunity-driven early-stage entrepreneurial activity, which comprises entrepreneurial activity that is motivated in part or entirely by opportunity rather than a lack of alternative job possibilities. Research on entrepreneurship learning is based mainly on a conceptual understanding of entrepreneurship and learning (Ruskovaara and Pihkala, 2013). In order to understand assessment practice as it is undertaken by educators in field, it was argued previously that some form of typology must be developed to take into consideration different forms of learning practice. In a now well-documented typology, researchers have recently been arguing for such distinctions and have presented a typology based on four forms of entrepreneurship learning (Pittaway and Edwards, 2012).

ICT supports entrepreneurship learning or programs. ICT identified 23 elements that can delay or prevent its assessment in the context of Building Information Modelling. These are classified into five clusters: "Customer," "Company," "Social Aspects," "Technology," and "Supporting Elements" (Tulenheimo, 2015). ICT literacy can be defined as the capacity to explore, analyze, and create information proficiently and analytically using a variety of digital tools. Moreover, ICT literacy requires the user to "recognize and apply that power, to adjust and modify electronic media, to distribute pervasively and to react appropriately to various forms" (Ukachi, 2015).

According to Bencivenga (2017), several studies on older adults' attitudes toward ICT have already been conducted. The real questions are whether mature students are ready to embrace digital learning, and what happens to those who lack ICT literacy to take advantage of these emerging platforms (i.e. "non-digital natives"). Indicators emphasizing the university's essential role in projects that deviate from standard frameworks to define cause—effect links between academic activities and social and economic growth through technology innovation and disruptive entrepreneurship (Cota et.al., 2020). Many diverse knowledge-based economy perspectives identify ICT as the primary driver of a fundamental technoeconomic change toward a knowledge-based economy. The ICT industry promotes economic diversification and growth, fosters innovation and entrepreneurship, and generates job opportunities (Hassen, 2020). It is a critical driver of social transformation and economic strength (European Bank for Reconstruction and Development (EBRD), 2019).

Experiential learning, according to Kolb, is "knowledge generated through the transformation of experience" (1984) with a reliance on reflection and implementation. The value and efficacy of experiential learning in education generally and in entrepreneurial education particularly, is practically beyond debate, as evidenced by the extensive literature. Interestingly, the literature offers relatively little explanation of the abundance and variety of experiential programs and courses actually offered in university entrepreneurship programs, much less the challenges to establishing such courses and programs or recommended solutions to such challenges (Mandel & Noyes, 2015). Entrepreneurship students can improve entrepreneurial skills by design thinking to be an entrepreneur (Danil, L., 2021). Defining entrepreneurship learning is challenging because it is connected to both the definition of entrepreneurship and the concept of learning in many different interpretations. Entrepreneurial intentions,

however, are affected not just by personal characteristics (Zhao et al., 2005) and contextual factors (Alam et al., 2011), but also by education (Linan et al., 2011).

SOCIAL COMPLEXITY OF NEGOTIATING RELATIONSHIPS
WITH CUSTOMERS AND SUPPLIERS

RELATIONSHIP WITH
ENTREPRENEURIAL TEAM

STUDENT

PROACTIVENESS IN EXPLORING AND
DEFINING ENTREPRENEURIAL OPPORTUNITIES

FIGURE 1: Experiential Entrepreneurship Education Model

Source: Mandel & Noyes, 2015

Universities that provide support to encourage entrepreneurship learning will experience this growth but will be confronted by the ongoing issues of providing supportive leadership and sustainable funding. Financial support for a campus program typically comes from students enrolled in courses, but in campus-wide entrepreneurship programs these may be double-counted between the individual school or college and the university entrepreneurship office (Antal et. al., 2014).

Previous study has highlighted the importance of going beyond the classic distinction between opportunity and requirement motivation because entrepreneurs might be motivated by other factors (Josep & Elisabet, 2021). Motivation for venture creation has been linked to the search for market opportunities (Kautonen and Palmroos, 2010), a lack of employment opportunities and the need for achievement (Kautonen & Palmroos, 2010). Recently, the desire to contribute to society has been included in the list of motivations for entrepreneurship (Omorede, 2014). In this sense, the profiling of mentor characteristics based on competency is essential because this knowledge may be utilized to design personalized mentoring education and the major goal of mentoring is to assist a less experienced person in gaining the information and skills needed to deliver professional, and responsible. (Tuomikoski, Ruotsalainen, Mikkonen, & Kaarlainen, 2020). Micro enterprises, idea development exercises, projects, partnership, and challenges with the local community are examples of practical entrepreneurial activity (Young, 2014; Moberg, 2014; Eurydice, 2016).

However, because startups are unburdened by an organizational background, it is unknown whether this issue also applies to start-up enterprises. Some scholars, in particular, have claimed that the relationship between climate and business performance varies depending on the context (McMullen, 2018; Russo Spena & Di Paola, 2020; Hang, Geyer-Klingeberg, & Rathgeber, 2018). One of key challenges to obstruct start-up businesses' capability to grow and expand their contribution and operations (Herman & Williams, 2013).

RESEARCH METHODOLOGY

The empirical study is based on the Entrepreneurship Program for students and alumni of Parahyangan Catholic University. Entrepreneurship learning program that exposes students and alumni to the "realistic" environment and provide access to resources that support the creation of business processes, the conditions of technological development that facilitate the entrepreneurial process and experiential learning from entrepreneurs.

The authors investigated the real importance of entrepreneurship programs, as well as whether the entrepreneurship literature had any evaluation of what sorts of such education were now being provided within the curriculum of students and alumni entrepreneurship programs as it has been usually applied in previous research to assess how people think and act entrepreneurially during the venture creation and development phase (Newman et al., 2019). In the absence of such a study, the authors surveyed students, alumni, coaches, mentors, and entrepreneurs who the most well-known entrepreneurship programs, asking not just what ICT benefits and experiential alternatives they provided, but also what student experiences these programs aspired to foster. Furthermore, the writers inquired as to what obstacles, if any, students and alumni had in seeking to implement their intended entrepreneurship programs.

The leader of entrepreneurship program was identified and the following four open-ended questions were asked:

- (1) Please describe the motivations and goals joining entrepreneurship program that are included ICT and experiential learning;
- (2) Please describe any benefits and uses that you encountered in offering ICT and experiential learning in entrepreneurship program;

- Please describe specific he expectations in ICT and experiential learning in entrepreneurship development programs to achieve their goals:
- Please describe any significant perceived or actual barriers in ICT and experiential learning in entrepreneurship program

Özsungur (2020) described many motivation variables, including the environment, emotions, and others, have pushed or drawn people toward entrepreneurship. These variables are divided into four categories: emotional, push (i.g. education, family safety, business potential, and other opportunities are all made possible by freedom and considerable independence in financial and otherwise), pull (i.g. loss of job, dissatisfaction with current job, and frustration), and balance. Motivation drove opportunitybased Entrepreneurship to explore and capitalize on business possibilities. Start-up entrepreneurs who are opportunity-based participate in entrepreneurial activity because they want to take advantage of business possibilities that they feel will lead to particular desired outcomes (Sahasranamam and Sud, 2016).

According to survey responses, the concept of ICT and experiential learning in entrepreneurship programs were adequate. Furthermore, poll results suggested that the four questions were feasible and relevant. The survey responses were evaluated and analyzed by the authors in order to identify and define patterns and trends in the responses, as well as to make some preliminary conclusions about the study questions.

| Data Source | Total | Details |
|---------------|--|--|
| Surveys | 2 survey rounds | 97 respondents were completed the study surveys both in the beginning and the end of entrepreneurship program |
| Interviews | 17 interviews | 11 students and alumni, 4 entrepreneurs, 2 coaches and mentors were interviewed |
| Reports | 2 reports | Students and Alumni's Entrepreneurship Program of Parahyangan Catholic University reports, peiod of 2019 and 2021 |
| Study's Notes | 4 Webinars and 7 mentoring / coaching on ZOOM meetings | Observations from students and alumni in ZOOM meetings |

TABLE 1: Empirical Data

FINDINGS

The research began by examining aspects of ICT and experiential learning in entrepreneurship programs as well as a history of research findings that support its value. Firstly, the motivations and goals of joining entrepreneurship programs include ICT and experiential learning that students and alumni are typically motivated to join in this KDP activity because they expect to be successful businessmen/entrepreneurs in the future. They want to learn more about entrepreneurship from any entrepreneur who is a resource and an expert in his industry; this program enhances their competencies in order to unleash possibilities and prospects for starting their own business; in the presence of ambiguity and uncertainty. One of the students described this set of competencies as follows:

.... I hope this entrepreneurship program prevents me from failure in business...

Another student explains;

.... I hope I will get reputable advice from entrepreneurs as a mentor or coach to guide business progress or development through the entrepreneurship learning process....

Second study in this research is benefits and uses that students and alumni encountered in offering ICT and experiential learning in entrepreneurship program; students and alumni acquired valuable knowledge and insight from practitioners that they had not previously gotten, as well as a lesson for the future because they aim to create a business; critical figures and approaches for direct application might be used to investigate another's own and one's surroundings' strengths for personal aims and interests. One of the students explained the benefit of entrepreneurship program as follows:

...I do implement business plans, calculate the cost of goods sold, and create a network with possible investors through business matching...

This study describe specific students and alumni's expectations in ICT and experiential learning in entrepreneurship development programs to achieve their goals; activities should be held offline or in a hybrid format to optimize effectiveness and experience, which can assist students in developing entrepreneurial skills; training according to more specific aspects and connect to external business community; presenting speakers with highly contagious enterprises more frequently, especially among teens who are more inspiring, so that they learn more understanding personal; mentoring or coaching activities in small groups to guide, contribute thoughts, and answers to the growth of an idea or business being conducted; funding and business matching for students looking to start their own business. In these situations, one of the entrepreneurs of this entrepreneurship program act source of experiential learning for students and alumni states as follows:

...participant of this entrepreneurship program will practice design thinking directly and speaker persons are directly involved in the mentoring process using ICT and experiential learning....

Significant perceived or actual barriers in ICT and experiential learning in entrepreneurship program is human capital, environment in campus ecosystem, i.g. unstable network issues and devices in online activities; schedule of the entrepreneurship program does not correspond to the student's or alumni's available time; entrepreneurship skill/competency of mentors or coaches that are less specific to the students and alumni's areas of business. Campus ecosystem is a network that enables organizations and people work together to stimulate, support, and sustain entrepreneurial activity on campus.

Respondents from various experiences, backgrounds and skills in digital technology offered suggestions to inform entrepreneurship programs as a method of minimizing the digital gap. Recommendations to inform curriculum or module of entrepreneurship were made. Foundational digital abilities and competences were found, including the capacity to create a "technology transformation strategy" that corresponds with the participant's expectations from experiential learning progress from entrepreneurs as a trainer, mentor, or coach ini this entrepreneurship program.

FIGURE 2
ICT and Experiential Learning in Entrepreneurship Program

Experiental Learning

Campus Ecatroproneurship Program

Campus Ecatropreneurs

Exterpreneurs

Campus Ecatropreneurs

Exterpreneurs

ICT

ICT

DISCUSSION

One student stated that learning in ICT and experiential learning on entrepreneurship programs can be easily understood because it makes use of examples that have been practised so that we can understand them properly.

Suggestions from college students and alumni can be found below:

- a. Increasing the duration of the entrepreneurship program so that business ideas become more mature and ready to implement to increase the motivations of students and alumni to join this entrepreneurship program; the opportunity to open a business is the main motivation in participating in the entrepreneurship program with business matching with expert entrepreneur.
- b. The benefits of this entrepreneurship program especially in coaching and mentoring progress are more effective with one by one is more effective than small, even big groups.
- c. Students and alumni are expecting that the entrepreneurship program can support their businesses that can be successful and avoid failure. This can be obtained with training materials and guidance from mentors and coaches who share their experiences
- d. The actual barriers in ICT and experiential learning of this entrepreneurship program is campus ecosystem including human capital, especially in skilled and appropriate coaches or mentors that should be entrepreneur who has specific competency fields correspond with student or alumni;

LIMITATION AND FUTURE RESEARCH

When the sample size is limited, it might be difficult for researchers to capture broad conclusions. As a result, while this study examines ICT and experiential learning in entrepreneurship programs, it also provides for further research on other topics. In fact, we're concerned that our findings could be case-specific. Despite the fact how this exclusion is due to the study's specific goal of focusing on entrepreneurship program procedures that encourage and result in the adoption of ICT and experiential learning, further research on the function of in entrepreneurship learning is needed. As a result, the current study leaves room for more investigation on a variety of grounds:

- a. The benefits of ICT and experiential learning in entrepreneurship program for the social-preneur, and;
- b. It would be interesting to compare the situation of entrepreneurship program more systematically with that of other higher education in Indonesia or other countries, something that we hope to be able to do in future research.

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