



The scenarios of entrepreneurial university in 2030: A case study of Thai private universities

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Abstract

Higher education in most countries is facing globalization and challenges in the 21st century such as enhancing research capacity and education quality to compete in university ranking, surviving the reduction of students through various marketing strategies, encouraging the education service to serve the society etc. Currently, universities across the world are adopting and aligning the concept of entrepreneurial universities into university practices and activities. This study used multi- method research including documentary research, Delphi, and scenario planning technique aiming to investigate the entrepreneurial universities and practices across American, European, and Asian continents; studies characteristics of entrepreneurial universities; and develops scenarios of entrepreneurial universities in 2030. The result revealed that entrepreneurial practices encompass expertise, objectives, centers, operations, consequences, success factors and obstacles; characteristics of entrepreneurial universities are entrepreneurial leadership and strategies, teaching and instruction for entrepreneurship development, interdependence and relationship engagement, internationalization, and technology implementation; scenarios of entrepreneurial universities and its strategic challenges. This study will be of benefit for both worldwide research universities to transform to be authentic entrepreneurial universities and the research area of entrepreneurship education for sustainable development in the future.

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Introduction

Universally, universities have to perform teaching, research, and contribute to the regional economy in the model of the triple helix of state-university-industry

relations which is highly conducive to innovation (Etzkowitz, Andrew, Christian, & Branca, 2000) and can be regarded as regional economic development. No matter whether a public or private university, the triple helix model has long demonstrated that it leads to entrepreneurial success and achievement in various universities on the American, European, and Asian continents (Etzkowitz, Andrew, Christian, & Branca, 2000). From this perspective, these universities are also supporters of its exploitation and commercialization

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through entrepreneurial activities. Such universities are known as entrepreneurial universities (Premus, Nadia, & Ravi, 2003), which refers to leadership and governance, organizational capacity, people and incentives, teaching and learning, entrepreneur pathway, external relationships, internationalization, impact measurement (EDI, 2017; Karen, 2015).

Also, the UN (2017) noted that entrepreneurial universities are transforming the traditional university by encouraging interaction among universities, industries, and states. This is the key to innovation in a knowledge-based society. In the event of Thai universities, it is necessary to develop the curriculum of community enterprises, teaching and instruction, research, university-industry interdependence. Future scenarios of successful entrepreneurial universities come from the current context and perspectives since these can guide and enable universities to follow a suitable direction. They can also enable universities to see the potential trends and future strategic planning. (Burta & Nairb, 2020).

Therefore, for this reason, the researchers studied the best entrepreneurial practices from the best entrepreneurial universities from across 3 continents to help nurturing and shaping entrepreneurial universities in Thailand for the clearest and the best potential future scenarios by formulating questions in Delphi process including interviewing stakeholders in terms of entrepreneurial dimension thoroughly to understand what and how they think for the future scenarios. Moreover, driving forces and uncertainty were also investigated. All this resulted in scenario foresight and sustainable solutions.

Objectives

The objectives of this research were: (1) to study the entrepreneurial universities and practices in countries across American, European, and Asian continents; (2) to investigate the characteristics of the entrepreneurial university; and (3) to develop scenarios and its strategic challenges for entrepreneurial university in 2030.

Literature Review

Entrepreneurial University and Strategic Challenges in the Future

The “entrepreneurial university” concept was firstly introduced by Etzkowitz (2003). Its application has been widely used across several nations (Etzkowitz, 2014). For improvement of academic knowledge transfer, Top-notch

entrepreneurial universities like Stanford and Massachusetts Institute of Technology were the first generation agitating new firms, elucidating a university broad entrepreneurial policy, setting up futuristic technology policy, and generating university-business collaboration.

Later, a second generation took place in Western Europe. Ivory tower universities converted into entrepreneurial universities encouraging academic authorities. Due to new born economies contributing to the third generation, a high level of academic entrepreneurship was found (Dalmarcoa, Hulsinkb, & Bloisa, 2018). Additionally, the entrepreneurial university executes social interrelation, autonomy, state and industry interplay (Kakouris & Liargovas, 2018). To emphasize entrepreneurial mindset congruous with global transformation and challenges in the 21st century, it would be crucial that universities foster and exercise adjustment of the concept of entrepreneurial universities and practices (United Nations [UN], 2017).

Several entrepreneurial universities increased from the original to the third wave, which mirrored the mechanism of social change and economic advancement (Klofsten, Fayolle, Guerrero, Mian, Urbano, & Wright, 2019). Entrepreneurial universities performed as a stimulus for social and economic development in the sense of entrepreneurship education, entrepreneurial knowledge transfer, new spin-off business enterprises, pecuniary and cultural matters (Klofsten et al., 2019). They additionally performed as major drivers to create technological advancement in ambitious society through the support from state and business sectors. They generated new knowledge, partnership relation, and strategic mechanisms of research (Guerrero, Cunningham, & Urbano, 2015).

With regard to analysis and synthesis of entrepreneurial practices, factors, developing guideline, policy and operating schemes (Bloom, 2013; Guerrero, Cunningham, & Urbano, 2015) from 9 entrepreneurial universities including framework of entrepreneurial universities (Organisation for Economic Co-operation and Development [OECD], 2012), the main aspects investigated were the following: entrepreneurial expertise; entrepreneurial objectives; entrepreneurial center; entrepreneurial operation; entrepreneurial consequence; and key success factors and obstacles.

Methodology

The study was a multi-method research which involved documentary research, Delphi, and scenario

planning technique. The research methodology consisted of a three-step procedure.

The first procedure was the study of the entrepreneurial universities and practices which were investigated by a documentary research through the 9 top-notch entrepreneurial universities and practices from 9 countries across 3 continents in America, Europe, and Asia. For the American continent, the entrepreneurial universities selected constituted Massachusetts Institute of Technology (MIT) in the USA, Stanford University in the USA, and University of Waterloo in Canada. For the European continent, the entrepreneurial universities selected included Estonian Entrepreneurship University of Applied Sciences (EUAS) in Estonia, Chalmers University in Sweden, and University of Twente (UT) in the Netherlands. For the Asian continent, the entrepreneurial universities selected constituted National University of Singapore (NUS) in Singapore, Chinese University of Hong Kong (CUHK) in Hong Kong, and Tsinghua University in China. The main aspects investigated were as follows: entrepreneurial expertise; entrepreneurial objectives; entrepreneurial center; entrepreneurial operation; entrepreneurial consequence; and key success factors and obstacles.

For the second procedure, the results from entrepreneurial universities and practices were synthesized into 5 aspects of characteristics of the entrepreneurial university which were entrepreneurial leadership and strategies; teaching and instruction for entrepreneurship development; interdependence and relationship engagement; internationalization; and technology implementation. These characteristics were investigated by Delphi technique using in-depth interview and Delphi survey in 2 rounds with 45 experts selected from a purposive sampling method from policy makers, stakeholders from top-rank private universities in Thailand which focused on business entrepreneurship such as administrators, lecturers, international relations of university, students, parents, supporting staff, academic networking.

To ensure reliability and validity of the research findings data were selected from stakeholders who held a minimum of 10 years of experience in the industry of entrepreneurial policies and operations, entrepreneurial business and startups (Etzkowitz, 2003). Since the research study focused on plausible scenarios of entrepreneurial universities in Thailand, data collection from the entrepreneurial experienced stakeholders would provide the most lucid and realistic future scenarios. Regarding the data analysis, the data collected were analyzed by using descriptive statistics (mean, median,

interquartile range) to explain the feature of the data. The characteristics with IQR higher than 2 were normally excluded and not considered. Besides, content analysis was also used for the study. The meanings, relationship, inferences of concepts were analyzed.

The third procedure consisted of the study on the results from entrepreneurial universities and practices, entrepreneurial university characteristics, and the exploration of driving forces and uncertainties by documentary research, which was used as inputs for scenario planning techniques to develop scenarios for entrepreneurial university in 2030. The scenario planning was an extensive strategic planning across organizations (Bezjian, Stoyanovab, McKiernanb, & MacKaye, 2020) and was utilized for improving organization foresight (Burta & Nairb, 2020). Further, it was widely used as a technique to obtain the major uncertainties encountered by policy makers (Bezjian et al., 2020). Scenario planning was also a recognized practice for developing foresight of organizations (Cairns & Wright, 2018). Scenario planning workshop was conducted with 20 participants selected by purposive sampling from policy makers, stakeholders from top-rank private universities in Thailand. The data were analyzed by using content analysis.

Results

Entrepreneurial Universities and Practices

Prominent aspects of the entrepreneurial universities and practices investigated from 9 countries across 3 continents in America, Europe, and Asia are shown in Table 1.

Characteristics of Entrepreneurial Universities

The finding from the study showed that there are 40 main characteristics of entrepreneurial universities in 5 aspects: Entrepreneurial leadership and strategies, teaching and instruction for entrepreneurship development, interdependence and relationship engagement, internationalization, and technology implementation. They are expressed by the descriptive statistics of median (MDN) and interquartile range (IQR). Entrepreneurial Leadership and Strategies constituted 11 items: Entrepreneurship as a university strategy; high commitment to entrepreneurial strategy; integration of entrepreneurial activities; regional support for entrepreneurship development; financial support from stakeholders; financial support sustainability;

entrepreneurial mindset; entrepreneurial investment of staff development; rewards and incentives; external stakeholders' value; impact assessment; entrepreneurship engagement education and the start-up support activities. Teaching and Instruction for Entrepreneurship Development constituted 13 items: Entrepreneurial skill development; entrepreneurial approach promotion, diversity and innovation; the entrepreneurial behaviour support; entrepreneurship learning outcomes; external stakeholders engagement; entrepreneurship education integration; entrepreneurial awareness; individually entrepreneurial support, entrepreneurship experience; entrepreneurial action and practice; mentoring service availability; financial facilitating access; business incubation access. Interdependence and Relationship Engagement were comprised of 6 items: Knowledge exchange; stakeholder involvement; connection with incubators; business and external environment support; mobility mechanism; research incorporation. Internationalization was comprised of 5 items: Internationalization as a university strategy; international mobility support; international and entrepreneurial individuals; internationalization in teaching approach; international network participation. Technology Implementation constitutes 5 items: Active encouragement of technological use; innovative technology investment; the coordination with technological business sector coordination; technological education and training; technological implication impact assessment.

Scenarios of Entrepreneurial Universities

Entrepreneurial universities and vigorous circumstances

Thai private entrepreneurial universities in 2030 will be able: (1) to run the powerful enterprising and creative administration and management efficiently and systematically; (2) to team up and expedite extra body of knowledge and data in entrepreneurship education considerably; (3) to specialize in applying innovation more rapidly and resourcefully; (4) to present a robust business collaboration by employing creative innovation; and (5) to take part in the constructive business development in Asian and other regions with entrepreneurial co-formation of the cross-institutional coordinated effort, collateral business stakeholders and industries, and inter-state allied support.

Entrepreneurial universities and weak circumstances

Thai private entrepreneurial universities in 2030 will be able: (1) to empower their future enterprising laborers,

resources, and entrepreneurial understudies to be more dynamic entrepreneurs in the worldwide advancement commercial center; (2) to offer cost-effective channels and asset savings though global warming, climate change, emerging contagious diseases still increasing in the future; (3) to contain a capacity to create a modern and virtual learning conditions in a broad system; (4) to assume a noteworthy job in an adjustment of instructive setting with development to the increase of new inventive thoughts; and (5) to provide backings as alternatives which are in contrast to the administration of nature strategies both in and outside organizations.

Entrepreneurial universities and vicious circumstances

Thai private entrepreneurial universities in 2030 will be able: (1) to encounter the maturing society as a result of innovation and development headway; (2) to hold present day innovation utilization and the advancement based idea; (3) to abruptly stop this issue of maturing age with unattended errors of innovation use in their everyday life; (4) to neglect entrepreneurial speculation in spite of certain economic and political changes in Thailand and in the worldwide difficulties; and (5) to maintain number of subsidies from stakeholders.

The research findings were reliable and valid since the data were collected from specific groups of stakeholders involved in the area of entrepreneurial universities. The higher level of involvement the stakeholders engaged, the clearer the scenarios were received (Etzkowitz, Andrew, Christiane, & Branca, 2000).

Discussion

The key findings with reliability and validity not only resulted from robust research methodology regarding to data collection and analysis (Etzkowitz, 2003; 2014), but they also met three objectives as follows: Entrepreneurial Universities and Practices, Characteristics of Entrepreneurial Universities, and Scenarios of Entrepreneurial Universities.

First, a number of universities in countries across American, European and Asian continents have long possessed entrepreneurial practices as a full driver to bring knowledge to bear on the world's great challenges as indicated in **Table 1**. Conversely, certain aspects and key practices of the entrepreneurial universities in Asia are still significantly different. Such findings concur with the idea of OECD (2012), which notified that universities on the Asian continent are not likely to be originally entrepreneurial.

Table 1 The analysis of entrepreneurial universities and practices of the continents of America, Europe, and Asia

Items	America			Europe			Asia		
	US	US	Canada	Estonia	Sweden	Netherlands	Singapore	Hong Kong	China
Expertise	MIT	Stanford	Waterloo	EUAS	Chalmers	Twente	NUS	CUHK	Tsinghua
Objective	Startup initiatives	Startup enhancement	Entrepreneur bonding	International working environment recognition	Ideal entrepreneur solution and teaching	Economic and social co-creation	Entrepreneur ideas to functional practices	Experiential learning, entrepreneur integration	Entrepreneur knowledge sharing
Center	The Martin Trust Center	Entrepreneur Studies Center	Conrad BET Center	The Center of Startup Entrepreneurship	The Chalmers Innovation Center	NIKOS-ESIM	NUS Enterprise	CUHK Center for Entrepreneurship	Tsinghua x-lab
Operation	The Three Principles	Entrepreneur resources involvement and education	Entrepreneur world drive	The Triple-Helix model principles	Entrepreneur education, venture capital	The notion of sensitivity and competencies for generating business	Entrepreneur spirit motivation and passion	Micro enterprises cultivation, technology pilot project	Global connection
Consequence	Extra fund and investment	Monetary support to university, break-through	Exponential economic impact return	Strong connection of triple helix	Attention from investors, alumni	Draw on entrepreneurial programs, curriculum	Attention from alumni donors	Huge return of financial position	High entrepreneurial ability of students
Success Factors(+)	Entrepreneur strong ties	Abundant capital authorities	Skillful authorities	Dynamic Entrepreneurial organizations	Exclusive framework of incentives	Unique entrepreneurial ecosystem of the university	Delicate curriculum structure	State contribution, initial and professional services	Substantial joint projects
Obstacle(-)	Repetitive work	Intra-campus and mutual knowledge	Unavailable entrepreneurship resources	Retard and incomplete feedback analysis	Entrepreneurial challenge	Insufficient entrepreneurship courses	Need of investments	Lack of well-trained individuals	Lack of venture capital

For objective 2, the critical factors in developing entrepreneurial ecosystems involved entrepreneurial leadership and strategies. A university could be entrepreneurial regardless of entrepreneurship as a principal part of university strategy (IQR = 2) as well as the high level of commitment to implementing entrepreneurial strategy (IQR = 2). Positive and responsive leadership is what maintains a dynamic and successful organization, particularly in the circumstance of uncertainty, unpredictability and complexity. The finding concurs with the idea by Rao and Mulloth (2017), who stated that leadership and governance can stimulate innovation of all kinds in an organization that is held together by a shared vision and culture, not overloaded with managerial systems, constantly striving for its autonomy via the entrepreneurial management of its various interdependencies with stakeholders.

In addition, teaching and instruction for entrepreneurship development helped reinforce entrepreneurship. Such finding is accordance with the notion by Karen (2015), who pointed out that an entrepreneurial university requires something else than standard textbooks and ordinary classroom settings. An “entrepreneurial” pedagogy seeks to enhance entrepreneurial capacities and capabilities amongst students.

For objective 3, as regards knowledge of entrepreneurship, such is in the era of information and technological advances, which are credibly increasing. This corresponds to the concept by Kwiek (2012), who emphasized that basic changes in information are a key enabler for the paradigm shift in knowledge creation, higher education institutions may claim to be the preponderant repository of and discovery agent for knowledge. In addition, Thai private entrepreneurial universities in 2030 will be progressively experiencing an aging society, which is a critical issue in Thailand, and such numbers will greatly increase. This corresponds to the World Economic Forum (2018), which noted that at present till 2050, the sector of the populace maturing at 60 will increase in several countries. The quantity of aging personnel will, therefore, directly and definitely affect entrepreneurial practices and management.

Furthermore, Thai private entrepreneurial universities in 2030 will have effective entrepreneurial administration and management towards the policy of Thailand 4.0. This means efficient entrepreneurial arrangement of Thai private entrepreneurial universities in 2030 is fully needed to meet the government policy. This is in line with the concept by Buasawan (2018), who stated that entrepreneurial universities in Thailand are required to

apply innovation understanding to the entrepreneurial management in conjunction with Thailand 4.0 policy.

However, in spite of the alteration of Thailand economic aspects, entrepreneurial speculation will be overlooked by Thai private entrepreneurial universities in 2030. It is considered that speculative neglect will have a negative effect on states, universities, and industries. This is in line with the notion by Bloom (2013), who noted that economic vulnerability is reduced by short-run speculation and appropriate estimation. Entrepreneurial universities should have a pioneering system, including developing and maintaining innovative training for their forthcoming and current undergraduates, to greatly develop a variety of information and experience to keep up with the future conceivable vulnerability.

Conclusion and Recommendation

According to the research findings, it can be concluded that the research study will offer valuable contributions theoretically and practically; that is, educational leaders and administrators, policy makers, future strategic planners will be able to adopt or apply entrepreneurial theories and practices to schools and universities systematically and efficiently. Besides, the government will be able to provide communal and international collaboration. For business and private sectors, financial support will be allocated through entrepreneurial programs of universities. The triple helix of state-university-industry relation will exercise the mechanism of entrepreneurial universities sustainably. The improvement of an education system to become entrepreneurial is really crucial. Universities should contain entrepreneurial knowledge in accordance with international and world-class standards. This mobilizes the world with full potential of entrepreneurial management. Schools and faculties should establish programs to meet entrepreneurial characteristics. Students, parents, and stakeholders should have more involvement in an entrepreneurial ecosystem. Regarding research application and implementation, such assists universities to obtain strategic planning efficiently and sustainably. This gives rise to better entrepreneurial support, entrepreneurial innovation, entrepreneurship of universities, sustainable education, and entrepreneurial evaluation and measurement for the 21st century and beyond. As for studies in the future, implementations and effective practices in other contexts are strongly recommended.

Conflict of Interest

There is no conflict of interest.

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