

*The Impact of Educational Logistics on Entrepreneurial Success in Higher Education*

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Abstract

The higher education sector is rapidly changing and growing along with its desire for global competitiveness. Entrepreneurial activities contribute to the competitive advantage of a firm as it aims to improve operations and add value to products being served to final customers. This in turn enhances customer satisfaction and ultimately leads to increased profits. It has been well documented that the higher education sector has used business models in their managerialistic approach to organizational structures as well as applied entrepreneurial strategies in satisfying the needs and preferences of their stakeholders. In this regard, the researcher reviewed concepts and theories on entrepreneurship as applied to the business sector and to the field of education. Moreover, the researcher would like to identify and investigate entrepreneurial activities and strategies which universities apply to the different processes of educational logistics. A structured interview was conducted to obtain data regarding entrepreneurial activities carried out by six of the top universities in Thailand. Although most of the expected results were stated by the representatives of universities, some answers fell under the definition of entrepreneurial activities but which weren't expected by the author. Also, the entrepreneurial activities and strategies discovered through the interviews were not limited or confined only to the educational logistics processes adopted by the author. The results of the study will aid universities in identifying opportunities for innovation and strategies in fueling educational entrepreneurship applied to educational logistics. Accordingly, expected outcomes could lead to the identification of a university's competitive advantage.

*Keywords: entrepreneurship, academic entrepreneurship, entrepreneurial success, higher education, logistics, educational logistics*

## Introduction

Thailand's education reform instigated by the National Education Act in 1999 started the transformation of the Higher Education sector. One of the aims of the reform is to permit public universities to enjoy more autonomy when it comes to its management of academic affairs and personnel as well as the management of its financial and budget affairs. Traditionally, Thai higher education institutes are dominated by public sectors. But during the last 2 decades, private colleges, backed by the Thai private sector, has provided a significant portion of delivering higher education as the demand for it increased due to an increase in the demand of manpower for modern economic development. Consequently, the application of business models to the higher education sector has precipitated a managerialistic approach to organizational structures (Preston 2001). In as much as the main objective of businesses is to create value to customers, the higher education industry also aims to create value to its customers. The value that customers, which in this case are students of the universities, benefits from higher education should be far greater than the price (tuitions fees and other miscellaneous fees) they are willing to pay. The producers or the higher education institutions will only enjoy the surplus as long as the demand for its services exceeds supply. Also, suppliers (faculty) will enjoy more bargaining power as more new higher education institutions are coming into play. They would have a choice of the best institution where they can be more appreciated in terms of salary, benefits, tenure, and opportunities for research and get published, to say the least. In order for an institution to maintain its competitive advantage among other institutions, strategies and models to sustain the growing future competition in the market should be developed and implemented.

Nowadays, the demand for higher education is increasing due to global competition; so much so, globalization raises the expectations for service quality, availability, and reliability of these higher education institutions. The traditional way on how universities are functioning is not anymore sustainable as industrialization demands more from graduates, thus graduates demand more from academic institutions. Higher education institutions who neglect to strategize and plan their future course of action, as well as disregards the development of new business models may not survive the highly competitive global higher education environment. Accordingly, to provide these changes, the costs of education are consequently and constantly increasing while the perceived surplus acquired from these universities is surprisingly less or not commensurate when compared to the increase in cost. Thus, universities need to identify a source of competitive advantage through its ability to differentiate itself from other competitors by operating its business at a lower cost and at the same time giving more value to its customers.

In the creation of value, universities need to innovate and to engage in entrepreneurial activities, which identify opportunities in the economic system (Penrose 1980) and utilize existing resources for new wealth-producing endeavors (Drucker 1985). Entrepreneurship per se is composed of processes and activities which are not generally done in the ordinary business routine (Schumpeter 1949). Moreover, entrepreneurship exploits innovations and inventions to create new products, new means of production and new forms of organization, in which all must add value to the society (McGrath and MacMillan 2000 citing Schumpeter 1934).

Entrepreneurship involves behaviors such as initiative thinking, ability to organize and reorganize social and economic mechanisms to turn resources and situations to practical account, and an attitude which accepts that there is always a risk of failure (Hisrich, Peters and Shepherd 2007). In recent times where hyper-competitiveness sets the market (Porter 1996), entrepreneurial activities are encouraged by businesses to nurture and maintain continuous innovation (Antoncic and Hisrich 2001) and universities are forced by globalization to engage in these entrepreneurial activities or behavior in order to satisfy their consumers' needs and preferences (Eyal and Inbar 2003).

Entrepreneurs undertake entrepreneurial activities which creates value that consumers are seeking. The students of universities are considered as the consumers of educational output (Vanderstraeten 2004) whereas professors, lecturers, teachers, and the administration are considered as product providers. A strategy or an activity is recognized as entrepreneurial if it builds on innovation and defies the "dominant logic of competition" in an industry, for the purpose of profit creation (Prahalad and Richard 1986). An entrepreneurial activity involves the process of change, emergence and creation (Bruyat and Julien 2000). Furthermore, entrepreneurial activities involve four key considerations: the enterprising human activity, the assembly of unique bundles of resources, identification of market opportunities and/or utilization of innovative capabilities, the significance of the business and wider environments, and the creation of value (Ahmad and Seymour 2008). Implementing a change within the markets are offered in different ways such as an introduction of a new good or quality, new method of production, opening a new market, new supply source of new materials and establishing a new form of organization in an industry (Schumpeter 1934). Because an entrepreneurial activity requires innovation, creativity and originality, entrepreneurs are said to be risk takers (Covin and Slevin 1989); entrepreneurs use creativity and innovation to break through the norms and seize opportunities; entrepreneurs also explore and embark on new territories such as business ventures to generate value (Hisrich, Peters and Shepherd 2005). Entrepreneurs are business owners, incorporated or otherwise (Ahmad and Seymour 2008) who manage to redistribute economic resources from a low productivity area into a high productivity area which yields a greater return (Drucker 1985). In addition, an entrepreneur is a person or an entity who identifies, creates and innovates business opportunities, as well as manage new combinations of resources to gain the most profit (Leibenstein 1968). Moreover, entrepreneurs are 'pro-jectors' (Defoe 2001), a speculator dealing with the uncertainty of conditions in the future (von Mises 1996), a 'co-ordinator' (Walras 1954) and an 'arbitrageur' who identifies profit-earning activities and acts upon it (Kirzner 1973).

The word *entrepreneurship* in relation with the educational or academic context has not been directed to previously discussed concepts of "profit creation", "risk taking" nor the increased leaning to execute market activities. It simply refers to the organization's attitude towards self-reliance (Yokoyama 2006). Entrepreneurial activities, as defined in an educational setting, refer to the activities that encourage social awareness regarding the institution's accountability. Accordingly, entrepreneurialism is the process by which the universities become increasingly involved in these so called entrepreneurial activities (Yokoyama 2006). In a modern-day society, educational success is not achieved if it is limited and static. Dynamism,

adaptability and the ability to respond to the current changes of society, economy, human behavior and experience are all incorporated in the university-industry collaboration which results from being an academic entrepreneur.

Academic entrepreneurship is not a relatively new concept. By definition, it is the leadership process of creating value through acts of organizational creation, renewal or innovation that occurs within or outside the university and results in research and technology commercialization (Yusof et al. 2010). It is an environment that actively supports knowledge exploitation to stimulate entrepreneurial behavior among all the members of the institution as well as the academic community such as the increase of intellectual patenting and licensing and the creation of spin-off companies among academic researchers (Wright et al. 2007; Siegel et al. 2003). Universities and higher educational institutions are becoming more and more engaged in the entrepreneurial concept through understanding the market value of research and the continuous search for new institutional methods that utilizes the benefits of both scientific research and innovation (OECD 2003; Siegel 2006; Rothaermel et al. 2007). Research is an essential part of the process of innovation and its efficient transfer and fulfillment of its commercial role will return great benefits to the economy. Research and technology commercialization is the process of finding, developing and leveraging intellectual property that possesses high potential for commercial application.

Value creation occurs due to the independent participation of individuals (academic entrepreneurs) to instigate, renew, or innovate within or outside the boundaries of the academic community (Yusof et al. 2010). This phenomena result in commercialization of research and technology through university – industry partnership. A study conducted by Yusof and Jain (2007) states that the level of academic entrepreneurship orientation is directly proportional to the number of technological transfer and commercialization activities between the industry and the university. Universities and higher education institutions, as academic entrepreneurs, becomes agents of development in industrial innovation, technological advancement, economic growth and consequently social development. Moreover, as universities contribute and becomes agents of development, it creates a steadfast lean towards a more competitive society, it becomes more motivated in attaining its intellectual and social purpose (improving the quality of life) and becomes more reliable and accountable (Cargill 2006). These macro visions are the factors or challenges that contribute to the concept of entrepreneurial university. Avoiding entrepreneurial activities and behavior will eventually make universities irrelevant in a competitive market wherein alternative entrepreneurial entities are likely to threaten their monopoly (Dnicker 1985).

Educational logistics plays a vital role to reach entrepreneurial success of higher education institutions. It improves the internal dynamics of the institution (management organization) as well as its product generation (curricula, teaching methods, research, etc.) to achieve consumers' criteria (Council of Supply Chain Management Professional 2004). Logistics applied to higher education institutions increase competitiveness in the market by being more customer-focused (Bentley 2001). Consequently, effective development of products leads to a positive result of an increase in product demand and as a result, it steers towards entrepreneurial success.

In order to understand the impact of educational logistics in the entrepreneurial success of universities, this paper aims to identify entrepreneurship as applied to the field of education as well as investigate educational entrepreneurship components and their classified process on the basis of logistics application.

## I. Objectives

Universities today are often becoming entrepreneurial, generally due to two reasons: a stagnant university loses its competitive advantage and insufficient job opportunities for graduates are increasing. The purpose of this study is to investigate and identify entrepreneurial activities and strategies which universities apply to the different processes of educational logistics contributing to the entrepreneurial success of universities. Moreover, this study aims to identify how the processes of educational logistics can contribute in initiating academic entrepreneurship thereby raising the quality of education. In order to explore the ideas stated in this paper and to seek empirical evidence on the impact of educational logistics to entrepreneurial success of universities, the researcher set her study objectives as follows:

- a. To identify entrepreneurship as applied to the field of education.
- b. To identify and study the educational entrepreneurship components and their classified process on the basis of logistics application.

## II. Materials and methods

The scope of the study outlines the impact to a university's entrepreneurial success of entrepreneurial activities classified into educational logistics processes being implemented by several universities in Thailand. A comprehensive exploratory research was conducted to obtain data and information that helps the author increase her understanding of the concepts involved in this study, as well as the identification of the variables of the study.

Entrepreneurship components of universities was identified by the author and it includes: university's competency, product, human resource management, research and development, financial flexibility, estate management, student population growth, business industry collaborative efforts, contribution to the economic development of the country and social responsibility of the university. Processes of educational logistics adopted by the author and used in the study includes, but not limited to: student information management, examination, flexible study path of the individual student, staff workload planning, planning and timetabling, and space management (Bergstrom & Bulter 2009). In addition, logistics components also adopted by the author and utilized in the study includes: information & control, transport, inventory, packaging & utilization, and storage, warehousing and materials handling (Rushton, Croucker and Baker 2006). The study also dealt with entrepreneurial success of a university; it is often equated to a firm's success and its success depends on the effective methods being implemented to gain satisfaction from various stakeholders such as customers, employees, suppliers, government and the community (Pickle & Friedlander 1967; Robinson 1983). Also, entrepreneurial success of a university can be measured and expressed using financial and non-financial measures (Chivukula et al. 2009). A firm's success is generally measured using three factors: profit, which is the essential outcome of an entrepreneurial activity ( Cantillon 1931), employment

creation, which indicates a firm's growth and social success that is it helps provide jobs to the community, and lastly, duration, or the length of active period (Lussier and Pfeiffer 2001).

### Data Collection and Respondents

The author made use of a structured interview arranged for top administrators, department heads and/or professors of universities in Thailand. The study focused on six of the top universities in Thailand in terms of Quality Assurance scores given by the Ministry of Education. These universities were chosen so as to get reliable information about entrepreneurial activities being implemented by successful universities in terms of quality assurance components. Four interviewees per university were asked about several questions pertaining to the entrepreneurial activities and strategies implemented in the operations of the university. Furthermore, the entrepreneurial activities identified through a structured interview revealed some expected results by the author, as well as unexpected results which will be stated later on in this article.

### Data Processing

The author summarized and classified entrepreneurial activities being implemented by the universities according to the components of logistics and educational logistics. The author presented qualitative data based on the questions of the structured interview. A summary of data were generated in order to present the findings of expected results. Unexpected results were also enumerated and described according to the author's interpretation of the data gathered.

## III. Discussion of Results

Data were gathered through the use of a structured interview and expected results were accomplished as well as unexpected results. A detailed summary of the findings per entrepreneurship component in the questionnaire and the frequency of answers based on four interviewees per university or a total of 24 interviewees are presented below.

*Question 1: How does the university encourage and support innovation and creativity throughout the university, including teaching, research, service and all operations?*

This question pertains to data regarding the competency of the university. Expected data gathered includes innovation or creativity in teaching methods, research and academic services. A summary of results from the six universities is presented in Table 1.

Table 1 Frequency of answers to question 1

1.	The university offers study trips and company visits in and out of Thailand to expose students to different industries and experts in the field. [22/24]
2.	The university uses social media networks to post and share ideas such as new breakthroughs, case studies, etc. to reach a wide number of audiences. [4/24]
3.	The university uses an ERP system in its operation to manage its information flow between its stakeholders. [14/24]
4.	The university uses an e-office (used for example: online conferences) to effectively communicate between departments and campuses. [3/24]
5.	The university uses LMS or Learning Management System which utilizes media technologies in teaching and learning. [2/24]
6.	The university has an online database and an open-access journal wherein students, staff and the faculty can use for research. [24/24]
7.	The university utilizes CAI (computer assisted instruction) medium of teaching such as on-line writing labs, e-classrooms, e-learning portals, etc.) [7/24]
8.	The university houses their own commercial businesses (restaurants, airlines/aviation institute, etc.) to serve as training grounds for the students. [4/24]
9.	The university emphasizes on “Active Learning” wherein students get to learn more on real world situations rather than textbook teaching. [4/24]

Table 1 presents the answers of the 24 respondents regarding innovative practices and activities supported by the university. Among the nine answers given by the respondents, the highest frequency on entrepreneurial activity in relation to innovation lies with the benefit of having an online database which students, staff and faculty could access for research. All of the respondents from six universities stated this as one of their entrepreneurial activity contributing to the success of the university. Followed by study trips and company visits offered to students by the university which garnered a 92% response rate from the respondents. This shows that the respondents’ perception on having an easy access to online databases and open-access journals is an entrepreneurial activity which encourages its students, faculty and staff to conduct their own research. Moreover, going to study trips and company visits are perceived as innovative teaching methods and is seen as necessary to include in their program, apart from the traditional classroom learning. Additional answer includes an in-house newspaper used for dissemination of information.

*Question 2: How does the university offer a course profile that reflects student demand and to meet workforce needs?*

This question pertains to data regarding the product of the university. Expected data gathered includes course profiles offered by the university, as well as the process of offering new courses/programs. A summary of results from the six universities is presented in Table 2.

Table 2 Frequency of answers to question 2

1.	The university regularly and rigidly evaluates the need to create or change curriculum through surveys and meetings with experts in the field of study, alumni and academic administrators. [22/24]
2.	The university regularly evaluates its lecturers and professors’ performance in terms of teaching, advising, and research. [21/24]
3.	The university hires professional experts in the field to teach courses offered. [23/24]

4.	The university conducts follow-up surveys on its graduates in order to gauge the compatibility of teachings and real-life working conditions. [3/24]
5.	The university offers courses which focuses on the vocational field. [2/24]
6.	The university offers courses that would meet the ASEAN standards. [2/24]
7.	The university regularly amends the course syllabus to make it more current. [2/4]
8.	The university offers a special course for entrepreneurial students, taught by successful business owners and CEOs, with the aim of doing a collaborative project between the business and the students. [2/24]
9.	The university has opened an international program to accommodate the growing number of foreign students who wants to enroll at the university. [2/24]

In this section, the author received three dominant answers from respondents. 96% of the respondents (23 out of 24 respondents) stated that hiring professional experts in the field to teach the courses they are offering are perceived as a strategy that responds to student demands in relation to course profiles relevant in today's market. 92 % or a total of 22 out of 24 respondents stated that the university conducts a thorough investigation first through surveys and meetings with experts in the field, alumni and academicians before they create or change the curriculum/program and /or courses offered to students. They wanted to make sure that it will be more in line with what the industry needs with regards to the skills attained by students through these course programs. The third response which received a 87.5% response rate from interviewees confirmed that professors and/or lecturers are constantly evaluated to ensure the quality of teaching methods, advising skills and research works.

*Question 3: How does the university attract and maintain high quality workforce?*

This question pertains to data regarding the human resource management of the university. Expected data gathered includes strategies to attract and maintain high quality workforce. A summary of results from the six universities is presented in Table 3.

**Table 3** Frequency of answers to question 3

1.	The university provides orientation for new staff and faculty in order to communicate the expectation of the university, as well as motivate them by expressing their role in its success. [7/24]
2.	The university offers free workshops and training seminars to faculty and staff for skill development. [23/24]
3.	The university offers teacher and staff exchange programmes to widen their perspective and knowledge. [7/24]
4.	The university awards promotions, scholarships, recognition and financial rewards based on work performance and/or research quality. [23/24]
5.	The university awards promotions to faculty members who can integrate the findings of their research in their teaching strategies. [3/24]
6.	The university encourages each department to conduct peer-evaluation in terms of teaching strategies and to give constructive criticism to its faculty members. [3/24]
7.	The university allows faculty members to maintain the practice of their profession aside from conducting classes (e.g. engineering faculty can still work in the private sector as engineers, professors in college of medicine still work as doctors in hospitals, etc.). [3/24]
8.	The university provides other benefits (health insurance, scholarships, etc.) to the immediate family members of the employee. [2/24]
9.	The university maintains the high standards of its lecturers through filtering – only lecturers with a doctorate degree or in the process of getting their doctorate degree, high standards of English skill, and is research active gets accepted and retained. [2/24]



10.	The university offers very good healthcare plan/benefits for employees. [4/24]
11.	The university has open communication between high management and the faculty and staff. [2/4]
12.	The university encourages its faculty and staff to pursue post-graduate studies and academic rankings for better academic preparedness. [2/4]

Although this section received a total of 12 answers, only two answers were common to the six universities. These two answers, which both received a 96% response rate, were perceived by the respondents to be very good selling points of the university in terms of competing for qualified workforce. The first answer involves trainings and workshops provided by the university, for skill development of their employees. The second answer involves rewards and incentives to employees such as recognitions, promotions, scholarship grants and financial incentives. Most of the interviewees argued that rewards given by the university motivates employees to work harder and stay with the university they are currently employed. They also stated that trainings and workshops, although initially are for the purpose of skill development of the employees, also helps the university to plan for the future with regards to maximizing the utility of talents inside.

*Question 4: How does the university demonstrate their role as co-creators and custodians of knowledge in terms of research?*

This question pertains to data regarding the research and development plan of the university. Expected data gathered includes the universities role in the creation of knowledge through research and its role as custodians of knowledge gained through research. A summary of results from the six universities is presented in Table 4.

Table 4 Frequency of answers to question 4

1.	The university offers adequate funding to support its faculty in doing research. [24/24]
2.	The university houses an intellectual property center wherein it creates, protect and utilize intellectual property as well as enforce the rights of its author/originator through patents. [4/24]
3.	The university provides recognition and rewards for published researches made by the faculty. [20/24]
4.	The university supports researches which aid the community and/or the country by collaborating with other departments and outside organizations to disseminate the information either through seminars and workshops or through project creation. [24/24]
5.	The university provides funding for projects which portrays innovation in the field. [4/24]
6.	The university awards promotions and rewards to faculty members who can integrate the findings of their research in their teaching strategies. [3/24]
7.	The university houses an intellectual property center wherein it creates, protect and utilize intellectual property as well as enforce the rights of its author/originator through patents. [4/24]

Table 4 presents the responses given regarding the role of universities in the creation of knowledge through research works. Two answers received a full 100% agreement by the respondents. First, the respondents stated that the university has adequate research funds available to the faculty. The three public universities pride themselves for being recognized as research universities in Thailand. They said that the faculty is very much encouraged to pursue and focus on their expertise, but were given free reign in terms of research areas. The second 100%-response stated that the university supports research work that aids the community. They encourage their faculty to collaborate with other departments or organizations to create spin-off projects and knowledge dissemination to increase awareness of new information, business

practices and methods. The university is also motivating them through their second highest response which is the provision of rewards and incentives for published works.

*Question 5: How has the university established a sustainable financial position?*

This question pertains to data regarding the financial flexibility of the university. Expected data gathered includes strategies in sustaining financial position. A summary of results from the six universities is presented in Table 5.

**Table 5** Frequency of answers to question 5

1.	The university employs a risk management system, and an investment analysis and planning system, to avoid unnecessary risks, control the probability and/or impact of unfortunate events, and to maximize the realization of investment opportunities. [19/24]
2.	The university aims to balance its short and long term plans in terms of finances. [2/24]
3.	The university has a financial expert (e.g. university management company) as its partner/investor which plans its finances. [4/24]

This section of the questionnaire involves the financial flexibility of the university in terms of a perceived sustainable financial position. Although almost all of the respondents stated that they were not very familiar or directly involved with the finances of the university, they said that they could relate this to the annual and interim reports that they receive or discussed during meetings. They also reiterated that every department has adequate budgets but every project which requires a substantial amount needs to go through a process or a committee to be evaluated and get approval. Some also mentioned that they have a clear audit process or a check and balance when it comes to finances.

*Question 6: How will the university expand and maintain its estate over the next five years?*

This question pertains to data regarding the estate management of the university. Expected data gathered includes planning estate expansion in the near future or over the next five years. It also includes how the university is maintaining its own estate and will maintain its estate in the future. A summary of results from the six universities is presented in Table 6.

**Table 6** Frequency of answers to question 6

1.	The university regularly checks the satisfaction rate of users (students, staff and faculty) of university's assets. [7/24]
2.	The university has ongoing renovations of old buildings and construction of new buildings. [2/24]
3.	The university keeps an updated database of all its assets. [3/24]
4.	The university has long-term plans of increasing the number of its investments in terms of fixed assets. [24/24]
5.	The university has plans of increasing its business and commercial zones (e.g. malls/restaurants/stalls inside the campus that are paying rent). [9/24]
6.	The university effectively manages its wastelands and garbage collection in support of the university's image of being a green university. [4/24]
7.	The university continuously improve its estate through the construction of land improvements (e.g. bicycle lanes, tram lanes, e.g.) and expansion and renovation of rooms and buildings (e.g. skywalks to

	connect buildings, new building for library, new laboratories, mock rooms for special trainings, etc.). [20/24]
8.	The university has a regular maintenance schedule for all its assets. [8/24]
9.	The university keeps an updated database of all its assets. [4/24]
10.	The university keeps a master plan for flood crisis management. [2/24]

Table 6 presents the findings on entrepreneurial activities pursued by the university for the management of its estate. All of the respondents affirmed that the university they are currently employed have long term plans of increasing its investments on fixed assets. They also reiterated that continuous expansion, improvements and renovations have been on-going every year to maintain its estate. This is also for the purpose of accommodating a growing number of students, as well as improving and updating the facilities used by students, staff and faculty alike. Respondents from three universities mentioned that some of its assets are being rented out for commercial purposes. The primary purpose of this is to make those commercial establishments (convenience store, restaurants and fast food stalls, banks, etc.) easily accessible to the students, staff and faculty, while its secondary purpose is to earn extra income through rental fees.

*Question 7: How will the university improve its student population growth over the next five years?*

This question pertains to data regarding the student population growth of the university. Expected data gathered includes strategies, plans and projects used in improving student population growth over the next five years. A summary of results from the six universities is presented in Table 7.

Table 7 Frequency of answers to question 7

1.	The university is planning to increase more on its ‘international’ aspect such as using English as the medium of teaching in certain subjects in the Thai program and offering an ASEAN Language Program in support of the AEC (ASEAN Economic Community). [8/24]
2.	The university is offering student exchange programmes to current and prospective students. [24/24]
3.	The university is offering student scholarships to current and prospective students. [8/24]
4.	The university is aiming to increase the number of students in its graduate programs (Master and Doctorate Degrees) by integrating an international aspect in their programs. [4/24]
5.	The university offers programs with broader scope in terms of job field (e.g. business management). [2/24]
6.	The university aims to raise the quality level of vocational education. [2/24]
7.	The university is aiming to increase the number of students through public relations, road shows in and around Thailand and other media advertising. [4/24]
8.	The university aims to raise the level of Quality Assurance and improve business service to motivate prospective students to enroll. [4/4]
9.	The university has overseas recruitment agencies and is utilizing several forms of advertising to reach a wide number of audiences. [4/24]

This part of the interview questionnaire gives light to the strategies being implemented by the university to attract and expand their student body. 100% of the respondents or 24 out of 24 respondents stated that the university offer student exchange programs to its current and prospective students. They even said that it is now a necessary requirement of students as more and more would like to get an

international perspective and experience. The respondents revealed that since it is now a demand of students for the universities to have connections with other educational institutions, preferably outside the country, the university has no choice but to comply and supply this demand. This in turn can be also a great advantage for universities to strengthen their connections and ties with the academic community, as well as, it will be easier to disseminate information and new knowledge from research. Three of the six universities stated that they are using advertising methods (road shows, print, commercial and online advertisements), in reaching their target market. Consequently, these universities which make use of advertising strategies are all private universities.

*Question 8: How does the university demonstrate a provision of academic expertise to the needs of business development and growth?*

This question pertains to data regarding the business industry collaborative efforts of the university. Expected data gathered includes university's provision of academic expertise in response to the needs of business development and growth. A summary of results from the six universities is presented in Table 8.

Table 8 Frequency of answers to question 8

1.	The university has an intellectual database, storing original patented researches, wherein companies can have access. [8/24]
2.	The university has a research department which offers consultation and actual research for companies. [22/24]
3.	The university formed partnerships and collaborations with companies in order to communicate business practices through seminars and conferences. [4/24]
4.	The university offers seminars, workshops and trainings to various companies for the dissemination of best industry practices (e.g. HR practices, usage of IT software, etc.). [4/24]

Table 8 discusses the answers to business industry collaborative efforts which focus on the sharing of knowledge and current business practices and methods to the local industry. All six universities stated that they offer business advices and consultations, as well as industry & market research, and scientific and technological research to businesses.

*Question 9: How does the university contribute to the economic development of the community in terms of job creation?*

This question pertains to data regarding the economic development of the university. Expected data gathered focuses on job creation through university's strategies, action plans and projects. A summary of results from the six universities is presented in Table 9.

Table 9 Frequency of answers to question 9

1.	The university promotes and encourages students to apply for internships and on-the-job trainings to increase their experience before they become part of the workforce. [24/24]
2.	The university provides seminars, workshops and in-house job training in order to increase the working skills of students for better job placement. [24/24]
3.	The university encourages students to create business plans and market research for local businesses and entrepreneurs in order to help the community. [16/24]

This section received a lot of answers from the respondents, while some answers overlap the answers to the next question which is about social responsibility of the university. All 24 respondents indicated that the university, especially the advisers of students, encourages the students to apply for an internship program or an on-the-job training. They argue that this experience would widen their perspective of when it comes to being a part of the workforce. It will also increase their interpersonal skills such as being a good team player working with a diverse group of people. Although some of the respondents stated that an internship course is not a requirement for the completion of a degree, it is still part of the curriculum and offered as an elective. Additionally, in order to better prepare their graduates and be employable by companies, universities deem it as a necessity to offer skill-building and improvement seminars, trainings and workshops. Even though not all of the companies stated that they encourage their students to join seminars, conferences, and workshops on creating business plans and research, most of the respondents state that they motivate students to get connected with the local industries through this. In this way, not only will the skills of students be enhanced, but also, students will get noticed by these local companies where they would most likely get employment. This is also a move of the university in order to push their graduates into getting hired by companies; simply by introducing them and letting the companies witness the skills of students through these types of projects.

*Question 10: How does the university ensure the dissemination of existing best practices in the field to other universities, government agencies and stakeholders?*

This question pertains to data regarding the social responsibility of the university. Expected data gathered includes strategies, action plans and projects to ensure the dissemination of existing best practices in the field to other universities, government agencies and stakeholders. A summary of results from the six universities is presented in Table 10.

Table 10 Frequency of answers to question 10

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1.	The university joins and/or hosts seminars, workshops and conferences to share knowledge from published academic works and researches (sample topics: strategies and procedures in starting up a business, knowledge about health and how to improve their daily lives, farming techniques and practices, etc.). [24/24]
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The answer to the last question received 100% response rate from the respondents. They stated that seminars, workshops and conferences are the means through which they share new knowledge and be updated in their fields. Other answers in terms of fulfilling the social responsibility of the university includes outreach programs, Thai cultural immersion programs, medical and dental missions, volunteer work such as teaching kids in rural areas, etc.

The study adopted six processes in educational logistics namely: student information management, examination, flexible study path of the individual student, staff workload planning, planning and timetabling, and space management (Bergstrom & Bulter 2009). Most of the results gathered through the interviews did not match or cannot be classified by the author into any of the six educational logistics processes although she has identified the business logistic process the entrepreneurial activity can be classified into. The following table shows the classification of entrepreneurial activities into business logistic processes and educational logistic processes.

Table 11 Entrepreneurial Activities Classification

Entrepreneurial Activity	Business Process	Logistic	Educational Process	Logistic
1. The university offers study trips and company visits in and out of Thailand to expose students to different industries and experts in the field.	Packaging Utilization	&	Flexible Study Path of the Individual Student	
2. The university has an online database and an open-access journal wherein students, staff and the faculty can use for research.	Storage, Warehousing, & Materials Handling		-	
3. The university regularly and rigidly evaluates the need to create or change curriculum through surveys and meetings with experts in the field of study, alumni and academic administrators.	Inventory		-	
4. The university regularly evaluates its lecturers and professors' performance in terms of teaching, advising, and research.	Transport		-	
5. The university hires professional experts in the field to teach courses offered.	Transport		-	
6. The university offers free workshops and training seminars to faculty and staff for skill development.	Information Control	&	-	
7. The university awards promotions, scholarships, recognition and financial rewards based on work performance and/or research quality.	Information Control	&	-	
8. The university offers adequate funding to support its faculty in doing research.	Information Control	&	-	
9. The university provides recognition and rewards for published researches made by the faculty.	Information Control	&	-	
10. The university supports researches which aid the community and/or the country by collaborating with other departments and outside organizations to disseminate the information either through seminars and workshops or through project creation.	Information Control	&	-	
11. The university employs a risk management system, and an investment analysis and planning system, to avoid unnecessary risks, control the probability and/or impact of unfortunate events, and to maximize the realization of investment opportunities.	Information Control	&	-	
12. The university has long-term plans of increasing the number of its investments in terms of fixed assets.	Storage, Warehousing, & Materials Handling		Space Management	
13. The university continuously improve its estate through the construction of land improvements (e.g. bicycle lanes, tram lanes, e.g.) and expansion and renovation of rooms and buildings (e.g. skywalks to connect buildings, new building for library, new laboratories, mock rooms for special trainings, etc.).	Storage, Warehousing, & Materials Handling		Space Management	
14. The university is offering student exchange programmes to current and prospective students.	Packaging Utilization	&	Flexible Study Path of the Individual Student	
15. The university has a research department which offers consultation and actual research for companies.	Transport		-	
16. The university promotes and encourages students to apply for internships and on-the-job trainings to increase their experience before they become part of the workforce.	Transport		-	
17. The university provides seminars, workshops and in-house job training in order to increase the working skills of students for better job placement.	Transport		-	
18. The university encourages students to create business	Transport		-	

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plans and market research for local businesses and entrepreneurs in order to help the community.

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---|
| 19. The university joins and/or hosts seminars, workshops and conferences to share knowledge from published academic works and researches (sample topics: strategies and procedures in starting up a business, knowledge about health and how to improve their daily lives, farming techniques and practices, etc.). | Transport | - |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---|
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#### IV. Conclusion

This study has explored and determined entrepreneurial activities and strategies which universities have used in operating different processes of educational logistics in order to develop an approach in achieving their target market therefore strengthening their competitive advantage. Furthermore, this study contributes to the existing knowledge on entrepreneurial activities implemented by Thai universities today. The study revealed that most of the entrepreneurial activities stated by the respondents, through the use of structured interviews, cannot be categorized under the educational logistics processes adopted by the author, although it has been classified under an appropriate business logistic process. This revealed that universities in Thailand are adopting business strategies in order to meet the demands of the industry. Having provided empirical information regarding the activities of universities perceived as innovative and creative, the author further recommends a study on the impact of these activities on the entrepreneurial success of the university in terms of stakeholders' perspective (lecturers and staff, students and the local companies).

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