



## Research Paper

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# Thai higher education institutions (HEIs) are at risk: Proposing opportunities for HEIs with the enterprise risk and opportunity management (EROM) framework

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### ABSTRACT

Higher education institutions (HEIs) in Thailand are now at risk due to demographic transition, the initiation of several learning channels, and global issues. With these challenges, the key risks driving these changes and potential new strategies that could be implemented were researched. Furthermore, three objectives were developed: 1) exploring HEIs key risk factors, 2) assessing the risk management maturity system, and 3) proposing new opportunities. Several theories were employed to construct the research frameworks: the contingency theory, institutional theory, education paradigm theories, and risk management theories. This study also adopted quantitative and qualitative approaches. The results indicated that if there was a constant declining number of students with an outdated curriculum, then approximately 75% of the operating HEIs would soon be forced to close. As such, Thai HEIs have already implemented a risk management system. Several opportunities and a new environment were proposed both for the short term, as this is the period of the global Coronavirus Disease 2019 (COVID-19) pandemic crisis, and the long term. Ultimately, policy recommendations and limitations were included.

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**Key words:** Higher education institutions (HEIs), risk and opportunity, enterprise risk management.

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## INTRODUCTION

Higher education institutions (HEIs) worldwide are at risk. This is being caused by the global demographic transition, which is a result of the convergence of an aging society with a low fertility rate, the initiation of several learning channels due to well-known learning platforms, and social norms.

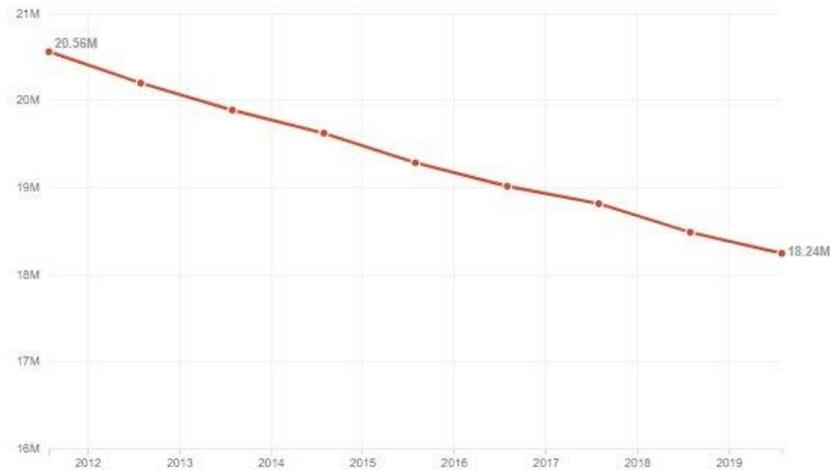
The National Student Clearinghouse Research Center (2019) in the US revealed that since 2011, when the total number of post-secondary enrollments was 20.56 million, there has been a constant decline by 1.3% or more than 231,000 students from the previous year down to 18.24 million students in 2019 (Figure 1).

Every sector of the US HEIs - public, private, community, liberal arts colleges, research colleges, and so on - has dramatically declined, which has been a major concern for small private colleges, where in some cases, the institutions have been forced to close (ibid). The National Student Clearinghouse Research Center also disclosed that in Fall

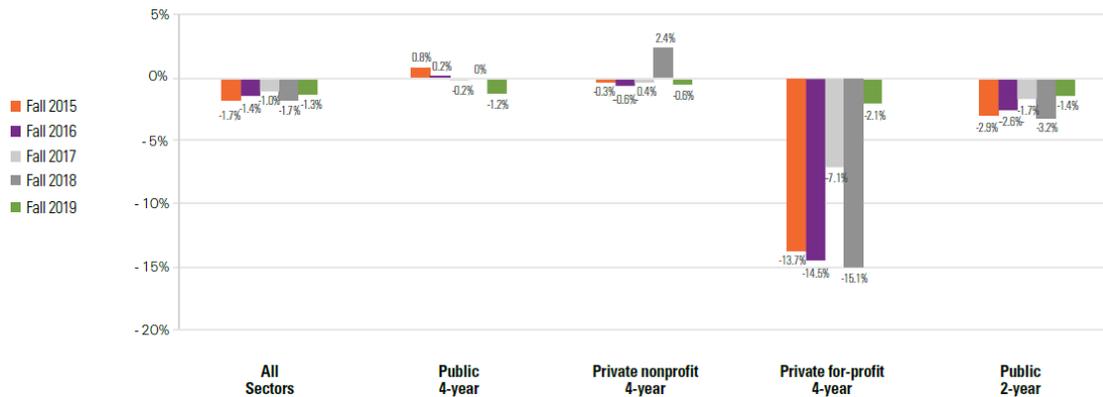
2019, the number of postsecondary enrollments decreased by 1.3% from Fall 2018 (Figure 2), "with the largest drop in the private for-profit four-year sector (-2.1%), closely followed by the public two-year and four-year sectors (-1.4 and -1.2%, respectively) and the private nonprofit four-year sector (-0.6%)".

Notwithstanding that this phenomenon could even happen in a developed country like the US, yet it could occur in developing countries where education is a human foundation. However, obvious evidence was found in 2017, after the Thai HEIs adopted the Thai University Center Admission System (TCAS), a selection process for HEIs for Thai students, which saw some curriculums in particular universities close due to the lack of students.

Thai HEI sources of income are derived from three main streams of revenue: 1) enrollment, 2) research funding, and 3) academic services; however, public HEIs are also



**Figure 1:** US student enrollment for 2011 - 2019.  
**Source:** National Student Clearinghouse Research Center (2019).



**Figure 2:** Changes in enrollment by the institutional sector for 2015 - 2019.  
**Source:** National Student Clearinghouse Research Center (2019).

subsidized by the government. Moreover, with the global recession, the government in particular countries would constantly reduce the HEIs budget; as a consequence, the main source of funding would then come from enrollment, which would be associated with the number of students.

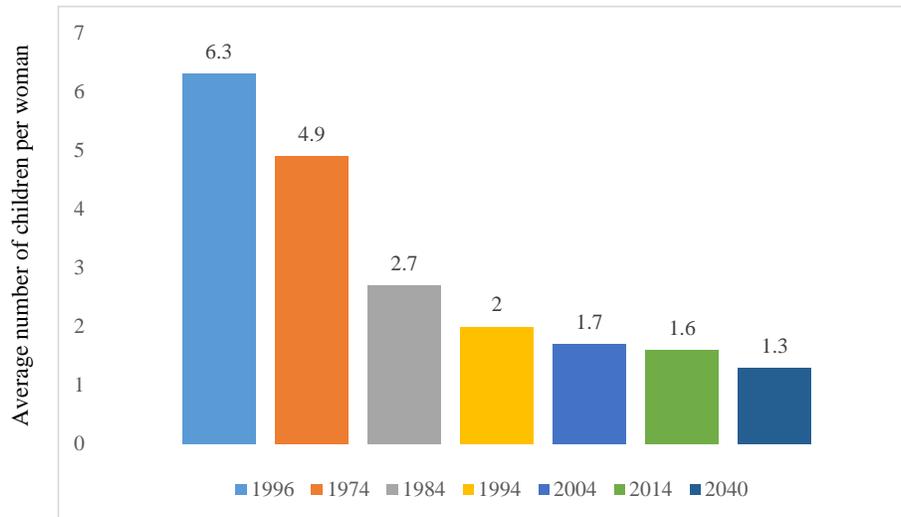
Nevertheless, with advanced technology from the Fourth Industrial Revolution, students or learners are able to access several learning channels. As such, instead of a traditional classroom, distance as well as online learning has penetrated the pedagogy with insignificant quality between the two ways of teaching (Nguyen, 2015). Hence, with the aspect of convenience, distance and online learning are now providing better performance.

In addition, apart from the initiation of several learning channels, the demographic transition in Thai society is a driving cause of the HEIs risk. The convergence of the aging society with a low fertility rate as well as higher life expectancy has resulted in a decline in the HEI market for a number of years (Dimitrijevic and Dakic, 2014). Moreover,

the National Economic and Social Development Board (NESDB) has predicted that the number of Thais aged from 0-21 will decline by 20% of the total population by 2040, a significant drop from 62% in 1980 while within 20 years, the elderly are expected to comprise 20% of Thailand's total population (SCB EIC, 2018).

This is further evidenced in Figure 3, where the average number of children per woman of reproductive age in Thai society (15-49 years) accounted for six children, whereas the current average number of births per woman has dramatically declined to one child. As forecasted, the number of student enrollments in the future will drop while the number of HEIs will remain the same or even decline. Thus, HEIs will face a high risk.

Furthermore, apart from the low fertility rate, Thai universities will experience a crisis as student enrollments, especially at the master's degree level, will decline, which will be a new social trend. To be more precise, at present, young new graduates desire operating their own business



**Figure 3:** Average number of children per woman of reproductive age (15-49 years).  
**Source:** Peek et al. (2015).

rather than studying for a master's degree, which has seen the closure of some master's degree programs, especially in social science (Thanida, 2017). In addition, apart from local HEIs themselves, statistically 75% of Thai universities are at risk of closing over the next few years because of the low enrollment from the increasing number of foreign competitors, which is a result of the government's policy to allow international HEIs to establish campuses near special economic zones (SEZs) along Thailand's borders. Such policy is both an opportunity and risk at the same time (Retrieved May 23, 2017, from <https://www.bangkokpost.com/>).

As explained, Thai HEIs are now at risk. The author has been working in risk management across industries for more than a decade as well as currently works as a lecturer in HEIs that have adopted enterprise risk and opportunity management (EROM) to propose risk mitigation strategies to the HEIs new environment. The framework of EROM is not new for various industries (Sae-Lim, 2018, 2019); however, it is for HEIs. In view of this, the study's objectives were to 1) explore the HEIs key risks given the EROM framework, 2) assess the maturity levels of EROM in HEIs, and 3) propose opportunities for HEIs in a new environment. For this objective, the research questions were how many maturity levels of the risk management system are required, or are there any different views toward a risk management system given the distinctive HEIs entities?

Practically, the author hoped to establish awareness of the HEIs management team to be prepared for the new environment before it was too late. Risk culture rarely cultivates under inertia organizations, as HEIs have experienced a low level of adaption (Salimate and Jones, 2015; Wilbon, 2015). More importantly, at the beginning of 2020 as well as at the time that this paper was drafted, the

world was facing a new global crisis, the Coronavirus Disease 2019 (COVID-19) caused by a newly discovered coronavirus (WHO, 2020) that has caused human losses similar to the severe acute respiratory syndrome (SARS). The impact of this situation has resulted in global disruption, but it is also a time for people to think about the future of HEIs. Therefore, this research would propose a paradigm shift of the educational system.

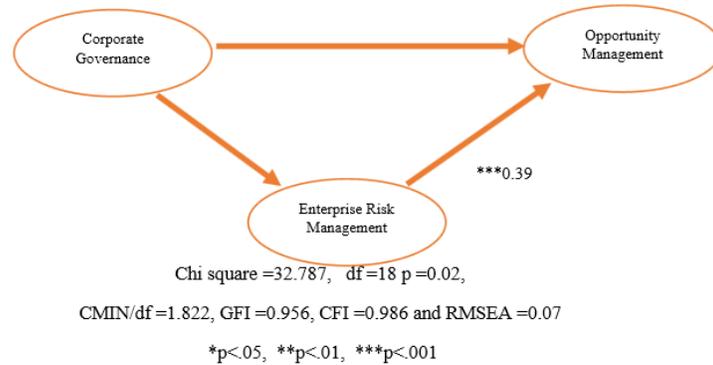
In terms of theoretical contribution, EROM has been adopted in private firms and pioneering scientific and technical organizations (Benjamin, 2017). Consequently, it would be a challenge to locate the convergence between EROM and HEIs. Hence, the next section will elaborate on the EROM framework followed by an explanation of Thailand's HEIs situation and paradigm shift of the education system. A mixed method design, research results, as well as proposing opportunities for HEIs are included in this empirical study.

## LITERATURE REVIEW

### The enterprise risk and opportunity management (EROM) framework

Risk management has been implemented since the introduction of the globalization era. Organizations as an open system have reaped the benefits of globalization with the reduction of operating and communication costs, global sourcing with interconnection, easy circulation, and searching for knowledge (Sae-Lim, 2019); on the contrary, uncertainty due to the dependency of entities driven by globalization has questioned as to why a risk management system has become indispensable.

Risk is a multifaceted term defined by several given



**Figure 4:** Path analysis between risk and opportunity.  
**Source:** Sae-Lim (2018).

theories (Sae-Lim, 2019; Sae-Lim and Jermsittiparsert, 2019). To illustrate, Fraser et al. (2010) specified risk as “the possibility of future performance shortfalls with respect to reach explicitly stated objectives in organizations”. Yet, most of the definitions have indicated that it was a negative term while Benjamin (2017) interpreted risk as an opportunity.

Not only has there been a transition of risk definitions, but also paradigm shifts of risk management systems. Additionally, traditional management (TRM) has shifted toward enterprise risk management (ERM) with the aim to develop risk management as a holistic view (Cican, 2014; Sae-Lim and Jermsittiparsert, 2019). With regard to the former, this is experienced as project-based, piecemeal and isolated; however, for the latter, several components are placed together, e.g. risk management culture, governance, and so on. Thus, the ultimate goal of ERM is to enhance shareholder value (COSO, 2004).

As described, modern risk management has shifted to become ERM. The processes of each paradigm are commonly started with identifying, assessing, managing and monitoring the enterprise risks (COSO, 2004, 2017); however, ERM produces more top-down views by consolidating organizational factors; such as, leadership (Gordon, Loeb and Tseng, 2009; Zhao et al., 2013). This has proven that organizational factors determine the maturity level of ERM, which has been confirmed under the contingency and institutional theories (Sae-Lim, 2017).

To clarify, the determinants of ERM are significantly associated with the internal factors (Sae-Lim, 2017, 2018, 2019), so studying their value are widespread to raise the awareness and participation levels. The latest standard, COSO 2017, integrated with strategy and performance, proposed the newest framework providing five components that were geared toward enhancing shareholder value and embracing opportunity (COSO, 2017). To note this importance, Sae-Lim (2018) empirically demonstrated that ERM had a significant correlation to identify and capitalize on the opportunity in business under a path analysis model (Figure 4). ERM then used the

opportunity term to be defined as an “enterprise risk and opportunity management (EROM)”.

Finally, this study assessed the maturity of the HEIs risk management system provided from the EROM framework from the study of Benjamin (2017), which defined EROM as an “optimal balance between minimizing the potential for loss (risk) while maximizing the potential for gain (opportunity) with respect to organizational mission.” Therefore, the low maturity of the risk management system in this paper only focused on developing risk management as a preventive approach while the HEIs that posited the high maturity of the risk management system then utilized the risk management system with more proactive aspects: enhancing strategic and decision-making.

### Enterprise risks faced by Thailand’s high education

One of the major global factors that all HEIs around the world are confronting is population structure. As shown in Figure 3, Thai society is now experiencing a decline in fertility and an aging population. HEIs, as usual, conduct their business model by recruiting aged people (<=24 years old) to study along with the standard aged. Normally, in this culture, a bachelor degree graduate would complete his/her studies by the age of 24 years. However, according to the current data from National Statistical Office of Thailand, from 2009 to 2018, it can be clearly seen that the non-aged group (more than 24 years old) of population constantly inclined whereas the aged group continuously decreased. Hence, the operational business of HEIs is at risk due to the imbalance between the number of the aged group and number of HEIs.

Some HEIs, however, have responded to such evidence by designing many alternative curriculums, both Thai and international programs, in order to attract new enrollment. Other HEIs have adjusted their curriculums to be more profession orientated than that of academics to attract not the aged, but also the non-aged group. This mitigation has created a one-sided opportunity and another side of risks.

**Table 1:** Identifying the HEIs risks.

Types of HEIs risks	Identifying the HEIs risks
Corporate Level	Financial instability The constant declining number of students Low HEIs ranking
Education	Not achieving active learning Mismatch between graduate competencies and industrial needs Outdated curriculum Several learning channels
Research	Not achieving global and local publications Impractical research
Academic services	Lack of the linkage between HEIs and industries Ineffectiveness of HEIs academic services
Supportive system	Inability to recruit and develop the need of competencies Lack of a succession plan for key positions High staff turnover rate Ineffectiveness of the HEIs information system Lack of a crisis and business continuity system Ineffectiveness of the HEIs management system

To be more precise, some academics, who value the university's ranking, will strongly oppose this solution because it does not meet the educational standard as well as the publications that are important for the university's ranking. Moreover, the Times Higher Education (THE) (Retrieved Feb 8, 2018, from <https://www.bangkokpost.com/>) disclosed that most of Thailand's top universities plummeted in the 2018 Asia University Rankings that focused on 13 indicators, including research performance, teaching and learning environment, and citations.

Apart from the ranking concerns, there has been the expansion of more curriculums but the numbers of Thailand's HEIs are still the same or even increased while the number of the aged group has declined. As a consequence, the demand and supply equilibrium of the HEIs have shifted, so the intensity of the HEIs risk still exists. With this in mind, what is the best strategy for HEIs to deal with such described situations? This was also the last objective in this study.

In addition to the demographic change in Thailand, insider information about risk factors were provided by reliable documents revealed by a risk management center from well-known Thai universities. The author then gathered the HEIs risk factors aligned with the EROM framework and proposed the "HEIs key risks" (Table 1). The lists of the risk factors were employed to analyze and explore the views of risk in the first objective.

## Theory construction

Apart from EROM and the risk management theories, some theories were employed to resolve the research questions as shown in Table 2.

**-Contingency theory:** In following the trends of the globalizing world, institutions started to operate business under an open system. One of the most powerful theories is "Contingency", which states that there is no single best way to embed a particular system in an organization (Galbraith, 1973; Scot, 2003). Then, the best way to operate any system would rest upon a particular internal and/or external environment. Organizational contexts implicate the success of implementing any system. Therefore, for this theory, the author constructed a research framework to resolve the second research question.

**-Institutional theory:** While the contingency theory relies on organizational contexts, the institutional theory proposes an institution's environment that can significantly determine the development of industry/structure (DigMaggio and Powell, 1983; Scott et al., 2000). Galaskiewicz and Burt (1991) stated that the environment covers the cultural belief systems, normative frameworks, and regulatory systems that supply the stability of the industrial sector. For this theory, the author supported the statement that a HEI is either facing closure or surviving as

**Table 2:** Theories employed to resolve the research questions.

Research objectives	Research Questions	Related Theories/Framework
1. To explore the HEIs key risks.	What are the HEIs key risk factors?	<ul style="list-style-type: none"> <li>•EROM</li> <li>•HEI risk management report</li> </ul>
2. To assess the maturity levels of EROM in HEI.	<ul style="list-style-type: none"> <li>• How many maturity level clusters are there in HEIs risk management?</li> <li>•Are there any different views toward a risk management system given the distinctive HEIs entities?</li> </ul>	<ul style="list-style-type: none"> <li>•EROM</li> <li>•Contingency theory</li> </ul>
3. To propose opportunities for HEIs in a new environment.		<ul style="list-style-type: none"> <li>•Contingency theory</li> <li>•Institutional theory</li> <li>•Pedagogy and Andragogy and theories</li> <li>•EROM</li> <li>• Entrepreneurial university</li> </ul>

an institution.

**-Pedagogy and andragogy theories:** Learners together with the instructor are the doctrine of pedagogy while andragogy refers to the methods or techniques employed to teach adults (Kaur, 2016). As explained, the number of the aged group has constantly declined; consequently, HEIs should then attract adult learners (non-aged group). Accordingly, the doctrine of andragogy might be used as a benefit to explain a new opportunity.

**-Entrepreneurial university:** Most of Thailand’s HEIs have set up a strategic direction as an “Entrepreneurial University”. Some people have misinterpreted this term. An “Entrepreneurial University” does not mean to produce graduates as a business owner, but it is about stimulating current students with an “Entrepreneurial Mindset”. The Organization for Economic Co-operation and Development (OECD) (2012) stated that there were no conforming definitions for this term. To have entrepreneurial attributes, people should continually learn (lifelong learning), learn to fail, grasp an opportunity, and make an impact on themselves and the community.

**METHODOLOGY AND RESEARCH DESIGN**

This empirical study utilized a mixed method in which the qualitative and quantitative approaches were used to collect the data. A mixed method is the most appropriate, as it provides better in- depth and generalization inferences (Teddlie and Tashakkori, 2019). In particular, David (2014) stated that there are four basic mixed methods: preliminary qualitative inputs to core quantitative research projects, preliminary quantitative inputs to core qualitative research projects, follow-up qualitative extensions to core quantitative research projects and follow-up quantitative extension to core qualitative research projects. This study

adopted both the preliminary qualitative inputs to core quantitative research projects and qualitative extensions to core quantitative research projects.

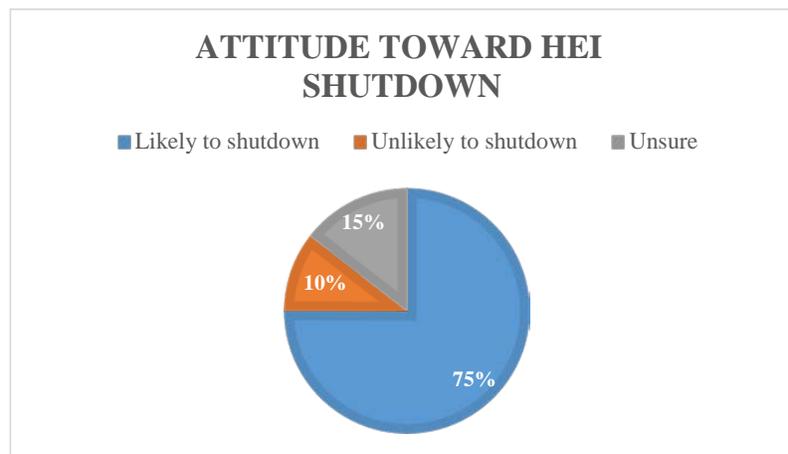
Starting with the quantitative approach, the data were gathered by conducting a survey with all the HEI stakeholders including academic VS non-academic staff, full-time and adjunct lecturers VS executive management in HEIs, current students VS alumni and employers, respectively. The sampling frames were randomly selected with an unknown amount of population. Questionnaires with a test of validation and reliability were distributed to gather the demographic details, opinions of the HEIs closure, attitude toward the exploration of the key risk factors, and rating of the maturity level in the risk management system under an EROM framework.

The results from the quantitative approach were organized and visualized with tables and graphs. Descriptive statistics were employed to describe the phenomenon of the data (Babbie, 2007; Black, 2010) with frequency analysis to explore the likelihood and impact of the HEIs key risks. Apart from the basic descriptive statistics, cluster analysis, an analytical technique to develop meaningful subgroups of objects (Hair et al., 2010), was employed to categorize the maturity level of the HEI EROM system. Ultimately, some basic inferential statistics of the analysis of variance (ANOVA) were inserted to significantly compare the effectiveness of the maturity of the risk system across entities.

The role of the qualitative methodology encapsulated the quantitative approach in two stages. The first stage of the qualitative approach initially started as a document analysis that gathered the key risk factors. The data were indicated in the questionnaire. To extend the quantitative results, again, a qualitative method as a semi structure was inserted to propose new opportunities for HEIs. The semi structure of an in-depth interview was adopted to gather the answers of “why and how” questions with 12 executives. This approach has been employed with several qualitative

**Table 3:** Respondents' status.

Entities	Number	Percentage
Current Student	119	25.37
Graduated Employer	86	18.33
HEI Management	43	9.17
HEI Support Staff	92	19.62
Alumni	46	9.81
Full-time Lecturer	70	14.93
Adjunct Lecturer	13	2.77
Total	469	100%

**Figure 6:** Attitude toward the HEIs closure.

research studies, as it employs a blend of closed- and open-ended questions (Newcomer et al., 2015). After that, the qualitative data were analyzed with “thematic analysis” that identified the themes emerging from the data (Dawson, 2009). Gibson and Brown (2009) recommended three sets of thematic analysis: examining commonality, examining differences and examining relationship.

## EMPIRICAL RESULTS

### Descriptive analysis of the respondents

For the quantitative analysis, the majority of respondents were current students followed by HEI support staff accounting for 25.375 and 19.62%, respectively. As the author engaged several types of stakeholders, graduated employer views were also included in this research (18.33% of the respondents). The remaining levels were lecturers (both fulltime and part-time), students, alumni and HEI management. As such, the respondents were proportionally distributed. Ultimately, the sampling size was beyond 384 (469) while conducting the research with an unknown population (Table 3) (Babbie, 2007).

However, using a mixed method, the dynamic integration of both the qualitative and quantitative approaches could be a concern. With the four types of mixed method mentioned above, the author selected “follow-up qualitative extensions to core quantitative research projects” (David, 2014). Then, to explore more research contributions, semi-structured interviews were inserted by interviewing the executives from well-known HEIs. They had been employed in the HEI for more than one decade as well as held the position of Associate Dean, Dean, Vice President, and President. With regard to the interviews, they posited lots of experiences and understood the HEIs' circumstance.

### Attitude toward the HEIs closure and influential survival factors

Based on the answers of the 469 respondents, 75% stated that some HEIs would soon close, whereas only 49 out of 469 respondents (10.45%) agreed that the HEIs would remain open (Figure 6). The remaining respondents were unsure. From this important finding, based on the current situation, the respondents both inside and outside the HEI concluded that the HEIs were likely to close.

**Table 4:** Influential survival factors for HEIs.

Influential Factors	<p><b>Social Norm:</b></p> <p>The experts concluded that social norm was directly related to the survival chance of the HEIs. If the social norm would permit employable staff who did not have any supporting qualifications, but they were highly capable of conducting their jobs, the role of the HEI would soon decline. This influential factor was supported under the institution theory.</p> <p><b>Level of Adaptability:</b></p> <p>HEIs would exist if all academic and non-academic people were ready to adapt themselves. In the interviewees opinions, no matter if they were public or private HEIs, they would also need to adapt to the new environment.</p> <p><b>Professional affiliation:</b></p> <p>Some experts contended that HEIs could produce graduates only in general fields or based on social science. However, these would soon no longer exist while professional fields in which the graduates would operate under a particular professional affiliation; such as, doctor, engineer, nurse, and so on would exist.</p> <p><b>Specific Field:</b></p> <p>Two interviewees who had been employed in a specific field of HEIs stated that their HEIs would still exist, as they are teaching in specific fields; such as, forestry, fisheries, insect studies, and so on due to the law of demand and supply in the economy.</p>
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As described, the quantitative result from the empirical survey showed that 75% of respondents believed that in the next decade HEIs would be closing as a result of several risks: initiation of several learning channels, the constant declining number of students, outdated curriculum, financial instability, mismatch between graduate competencies and industrial needs, and so on. Yet, from the qualitative interview, the HEI executives did not strongly believe that HEIs would be closing soon. Their opinions on HEIs closing is illustrated as follows:

- 1). Some of the executives insisted that some unpopular HEIs had a high chance to close in the next decade but well-known HEIs would still exist. Identically, with their views, well-known HEIs could be measured from the delivered curriculum. To be precise, HEIs that would be capable of producing graduates in specialized competencies would still survive. To conclude, surviving HEIs in the future would depend on what competent field they would emphasize. The external environment would also determine the HEIs survival level, which would support the contingency theory.
- 2). Most experts said that they were unsure about the

closure of the HEIs; however, there was a high chance of some HEIs merging together.

As mentioned, the qualitative results from the interview did not totally assert that the HEIs would close, as there were important influential factors that would determine their chance of survival (Table 4).

#### **HEIs key risk factors**

This section depicted the first objective. The World Economic Forum (WEF) (2018-2020) has separately proposed major global key risks in terms of likelihood and impact. This research also followed this principle. It has already been stated that the HEIs closure is an enterprise risk. As such, the top five HEI key risk factors based on the empirical survey are shown in Figure 7.

According to Figure 5, based on the respondents opinions, the top five risks in terms of both likelihood and impact were the corporate level and educational risks. Several learning channels also dominated the top risk of likelihood. Moreover, the declining number of students and

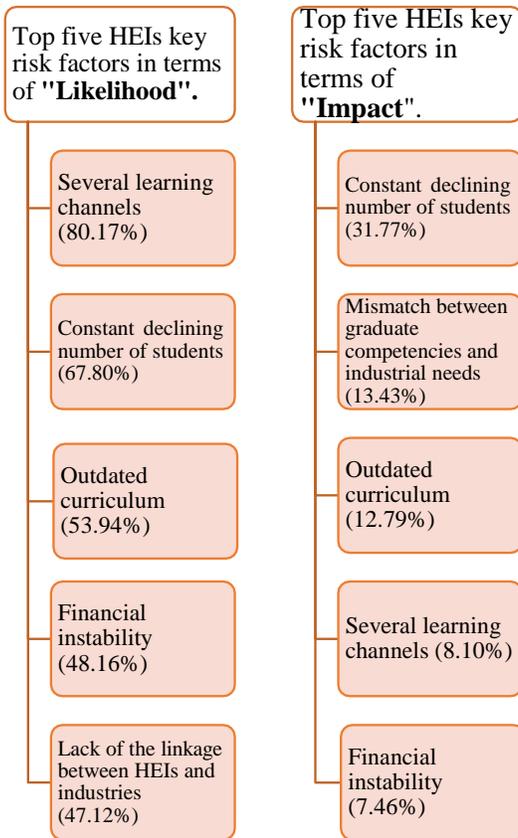


Figure 7: Exploration of the top five HEIs key risk factors under their likelihood and impact.

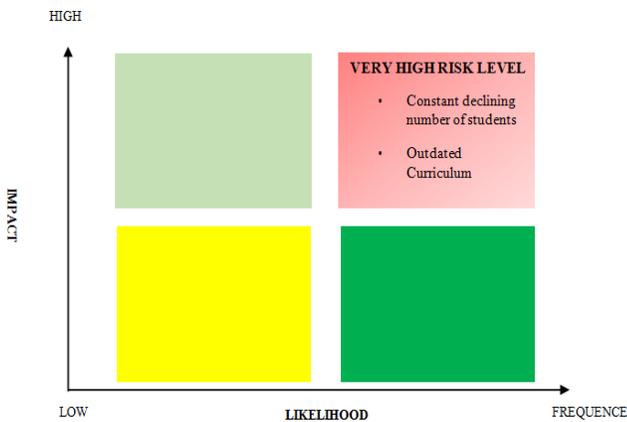


Figure 8: Risk assessment.

outdated curriculum were rated with a high-risk level both by likelihood and impact (Figure 6). Additionally, the top five HEIs key risk factors in terms of likelihood and impact were interdependency. For example, due to the initiation of several learning channels, the number of students would

decline; accordingly, financial hardship would persist.

### Maturity level of HEIs risk management

To resolve the second objective, the last part of the questionnaire gathered views of the HEIs risk management system in which the maturity level was derived. A high maturity level of risk management inferred that the HEIs utilized it more than that of only being a preventive tool. In examining the EROM principle, risk management should deduce a better decision, be employed as a strategic tool, stimulate cultural adaptability, and so on.

For assessing the maturity level of the risk management, a clustering technique employed an intuition concerning the category of the maturity level of the HEIs risk management. The K-mean algorithm proposed two maturity levels of the HEIs risk management system as shown in Table 5.

As shown in Table 5, only 45 from 469 respondents were located in low maturity. Furthermore, most of the HEIs risk management system could enhance the institution more than that of only preventive loss. This somehow resulted in management having a better consensus, being used as a strategic tool, and also embedding this system with other important HEIs systems.

We further analyzed if there would be any significant different levels among the executive management VS non-executive of HEIs, and the opinion of the HEIs closure VS survival to a maturity level. These results could significantly be validated with the contingency theory as proposed. From the ANOVA (Table 6), the executive rated the maturity level of risk management as being common to the non-executive ( $\text{sig} > 0.05$ ). There was also some insignificance about the opinion of the maturity level of the risk management between the respondents who thought that the HEIs would soon close and those who thought that the HEIs would still survive. Therefore, the empirical result was not confirmed under the contingency theory.

### Proposing opportunities for HEIs

According to the thematic analysis, the author proposed the convergent theme as well as the distinctive ideas along with four important strategic directions for HEIs. These were as follows:

#### Educational system

- More than 50% of the key informants' interviews concluded that the opportunity for the HEIs was related to generating an online educational platform. However, some of them proposed a mixed method (between online and offline) as being an advantage. One senior Associate Dean

**Table 5:** Clustering.

<b>Cluster</b>	1: High maturity level of the HEIs risk management system. 424 respondents
	2: Low maturity level of the HEIs risk management system. 45 respondents

**Table 6:** ANOVA.

<b>Compare group</b>	<b>Group</b>	<b>F</b>	<b>Sig.</b>
Executive vs Non-executive	Between Group Within	0.236	0.918
Closure vs Survival	Between Group Within	0.439	0.780

who was employed in a well-known public HEIs for more than two decades insisted that:

“Students need high-touch more than high-tech; then, the classroom should exist. In her view, students need collaboration from their peers more than that of knowledge.”

- Most key informants stated that a new opportunity for them was derived from the attraction of the non-aged group with a non-degree or certificate program. They would need to only teach the students, but also teach adult learners in the industry who would need certified knowledge. This finding confirmed the doctrine of andragogy.

- Three key informants viewed the opportunities of the HEIs as a business operation where the viability could be related to the strategy that the individual was associated. To be more precise, the HEIs should relocate into a blue ocean curriculum. One of the Associate Deans in a public HEI that focuses on science education stated:

“Due to the only curriculum about “fishery study” in Thailand, she can still see all the surrounding opportunities.”

- Apart from the commonality theme, the result showed the relationship between the educational system and academic service. The education system has better quality while the lecturer collaborates with industries and brings the case back to the class.

**Research**

- All key informants interpreted the research domain as being “institutional driven”. The research system is governed by local or global concerns. Thus, the directive opportunity of this domain is to attract, apply and conduct

action research projects that could resolve the country’s issues.

- Apart from local and global concerns, two key informants argued that to grasp an opportunity, the research direction should be aligned with advance innovations and infrastructure. They also both mentioned the Fourth Industrial Revolution.

- An interesting finding was related to the research expectation. Most key informants stated that applied research had more opportunities than that of pure research while for the former, it could not pass the standard of requesting for an academic position. Therefore, it could not be attractive for an individual.

- One senior who was a former dean in a well-known HEI stated that:

“The isolation of a research project lowers the opportunity to obtain funding. Opportunity, to him, is about constructing a connection and building a collaboration.” Thus, the interdisciplinary field offered better opportunities.

**Academic service**

Compared to other dimensions, all key informants saw this dimension as having the most opportunity. Training and certification would generate more income and support to the doctrine of andragogy. Moreover, the opportunities for academic service would be greater than that of training. This would be because of the coordination with industry. One policymaking leader commented that:

“The main revenue model for the HEIs is academic service not education and research.”

**Supportive system**

The supportive system is defined as the vital system apart

from education, research and academic service; such as, information technology (IT), human resources (HR), academic staff, finance, and so on.

- Key informants, mostly, insisted that they all needed high levels of adaption. If they could not even display their crystal clear capability, they would soon be substituted by artificial intelligence (AI). One current Vice president in HR in a very high- ranking Thai HEI argued that:

“The routine job will soon disappear. Supportive staff should not only display their performance, but they also need to show their potential. They need to learn all their life.” This was also supported by andragogy.

- Forty percent of the key informants stated that the opportunities of staff could be defined by their indispensable competencies; for example, digitalization and creativity. Therefore, in order to survive as supportive staff, they need to have a particular competency.

## **CONCLUSIONS AND POLICY RECOMMENDATIONS**

Risk culture cannot be naturally embedded, but in fact it is cultivated from the positive internal factors (Sae-Lim, 2018). During the time of the global COVID-19 pandemic crisis, apart from the internal environment, people are now being forced to experience the external environment. Therefore, the author hopes that this paper could generate awareness and strategies for the future plan of Thailand's HEIs.

With a mixed method integrated with several theories, contingency, institutional, educational paradigm as well as risk management framework, the results explored that the declining numbers of student enrolment was due to the demographic transition, initiation of several learning channels, as well as the outdated curriculum, which were all the key risk factors. About 75% of the respondents believed that some HEIs would soon close if they still operated business in the traditional way. However, in being optimistic, there were some proposed influential factors that would assist them to survive and be further supported by the institutional theory, which are the social norm and the existence of the Federation of Professional Association. To explain, if society still believes in the quality of the HEIs, then they will still be able to operate. Ultimately, deduced by the contingency theory, internal factors; such as, the level of adaption and HEIs particular competency are both determinants.

To resolve the second objective, under a cluster analysis, there were only two levels of the risk management system in Thai HEIs: high and low. Positively, most HEIs are located as high maturity where the adoption of risk management is more than a preventive tool. Thus, they would employ a risk management system as a decision-making and strategic

tool.

Given that there are key people who have been employed in Thailand's HEIs for more than a decade, there are some that still have some opportunities. Educational platforms; such as, Udemy, Coursera, and so on may be an optional learning channel to attract both the aged and non-aged groups, as an online learning channel is appropriate for certification courses. HEIs are where lifelong learning programs are a key opportunity; those are deduced by andragogy. Last but not least, opportunities could be derived when HEIs propose a very unique curriculum.

With regard to research opportunities, the researcher should conduct his/her projects under global and local direction. Action and applied research that resolve the nation's problems would offer more opportunities to generate funding. Moreover, innovative research that is aligned with the Fourth Industrial Revolution would solidify a precise chance. To be better qualified researchers, working as a group that works in collaboration combined with a multidisciplinary field would perform better than that of one in isolation.

At its heart, the new revenue stream of Thai HEIs would come from academic service defined training, certificate programs, industrial services, etc. Finally, this is a difficult time for HEIs supportive staff who are working as routine. They need a higher level of adaption as well as create very vital competency. They also need to prove that they can cope with digital skills.

Apart from resolving the research objectives, there were some importance findings for policy implication. These were as follows:

- i). Operating HEIs in the near future will require the integration of key dimensions. Collaboration would then determine the success, so the educational system should connect with the academic service and research system. Nonetheless, the challenge would still be outward, as academia would persist on “independence and individuality”. What is the incentive to deduce them to work together? What is the shared purpose?
- ii). The failure of operating HEIs would be about the lack of a competent leader. Therefore, the leadership system in the HEI would be very critical. Incentive for leaders in a private organization would be clearly defined, whereas for a HEI leader, it would require sacrifice. Promoting in the academic path would force them to abandon working overall. Hence, a high level of adaptation would produce transformative leaders who are not presented in Thailand's HEIs. Consequently, policymakers would need to be involved to develop a succession plan.
- iii). The research findings corresponded and confirmed with the institutional drive. Thus, the regulator should relax the rules as well as make them be more flexible. To illustrate, staff who work with industries are able to count the workload, whereas action research could be counted as academic promotion items.

iv). Even though educational platforms offer an opportunity, during this time of the COVID- 19 pandemic, numerous schools are conducting full online teaching and meetings. Yet, many Thai HEIs conducted a survey, and the results displayed that students still preferred the traditional method of classroom learning. Thus, how to create a balance between online and offline classes is a challenge?

Finally, this research was portrayed as the initial phase. Future research may extend the results as action plans and policy studies. However, the author hopes that this research could enhance risk awareness and culture.

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