

# **Essentials of Managing Research Quality in Thai Universities**

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*In Thailand, the increasingly burdensome regulations and oversight mechanisms imposed by state agencies have contributed to a compliance-oriented culture of research in most universities. Any deviation from the stipulated practices can result in swift action by state agencies, such as the Office of Higher Education Commission (OHEC) and Office for National Education Standards and Quality Assessment (ONESQA). This paper draws on relevant data from secondary sources, such as QS Rankings, Google Scholar Transparency Citation Index, IMD, and SCImago Journal and Country Rank from the Scopus database (Elsevier B.V) and also includes primary data from a survey conducted in May 2019. The survey results indicate that Thai universities must enhance incentives, such as grants, scholarships, assistantship, and improve advising skills of Thai faculty, attract foreign talent, and improve Ph.D. operations by providing rich online resources and focus intensely on efficient management of graduate programs.*

**JEL Codes-** M14, M15, M19, M53, M53, M59, O3, 038, P36

## **1. Introduction**

Since the beginning of this new century various issues related to research and quality assurance (QA) have taken a prominent role. Various international rankings have used research output as one of the key indicators of excellence. As a consequence, the issues of QA have become the center of debate in Thai academic, professional, and public policy circles. For quite some time this debate have dominated the multidisciplinary fields of art, science, education, medicine, technology and social studies (Gersten, et al, 2000). To some extent such debates stem from the widespread belief that the quality of research in most universities is often uneven and lack credibility, making it difficult to make a confident, concrete assertion or prediction for improving research practices or standards (Levin & O'Donnell, 1999; Mosteller & Boruch, 2002; Feuer, Michael J et al, 2002). For the last six decades this has been a serious issue for most Thai universities. The debate is also due, in part, to the lack of consensus on assessing quality of research in relation to various international rankings. For example, several Thai researchers have contended that the current peer review processes and standards for assessing quality are not well suited for research in the field of social sciences. Since social issues have local context they must adhere to rules, regulations and expectations of Thai state agencies.

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**1.1 Research & Rankings**

In this new century, universities around the world are clamoring for global rankings and higher status. They are also striving to become more international in their reach by providing cutting edge curriculum, instruction, experiences, research outputs and new innovations. Many universities pride themselves by number of laureate professors, top class researchers and their contributions. They all aspire to climb the ladder of all sorts of world university rankings. The annual QS Ranking uses 11 indicators to compile their ranking. This global survey is based on the input of 83,877 academics and 42,862 recruiters about the Academic Reputation, Employer Reputation, Faculty/Student Ratio, Staff with PhDs, Citations per Paper, Papers per Faculty, International Research Network, International Faculty Ratio, International Student Ratio, Inbound Exchange Students, and Outbound Exchange (Nagi, 2019). The Top-10 list of Asian universities in QS Rankings of 2019 is shown in Table-1. In Asia, Singapore tops the list. Other universities belong to China, Hong Kong and South Korea.

**Table1: QS University Rankings– Top-10 Universities in Asia**

1	National University of Singapore	Singapore
2	University of Hong Kong	Hong Kong
3	Nanyang Technological University	Singapore
4	Tsinghua University	China
5	Peking University	China
6	Fudan University	China
7	Hong Kong University of Science and Technology	Hong Kong
8	Korea Advanced Institute of Science and Technology	S. Korea
9	The Chinese University of Hong Kong	Hong Kong
10	Seoul National University	S. Korea

Source: <https://www.topuniversities.com/university-rankings/world-university-rankings/2019>

**1.2 Objectives**

This paper is focused on the following two main objectives:

- 1) To explore whether Google Transparency Index and other rankings has any relevance for assessing the research output of Thai universities.
- 2) To share the results of a survey titled “Relevance of Ph.D. program” involving Asian researchers and faculty. This brief survey was conducted in May 2019.

**1.3 Research Questions**

This paper will try to address the following two research questions:

- 1) Does the data provided by Google Transparent and other international rankings reflect upon the poor state of university research programs in Thailand?

- 2) Does the results of the survey “Relevance of Ph.D. program” provide any insight for enhancing QA in Thai universities?

The paper is organized as follows: Section 2 deals with literature review and section 3 focuses on methodology. Results are provided in section 5 and last section contains conclusion

## 2. Literature Review

Since the inception of Thailand’s Office of Higher Education Commission (OHEC), expansion, equity and excellence have been the three main objectives of higher education policy. OHEC is a department-level agency of the Thai government. It is the operating body of the Higher Education Commission, which oversees the country's universities and other higher education institutions. It was established as the Ministry of State University Affairs in 1972, operating as a sub-ministry under the Office of the Prime Minister. It was elevated to ministry level in 1977, and became known as the Ministry of University Affairs until 2003, when it was restructured under the Ministry of Education as the OHEC. In 2019, it was transferred to the new Ministry of Higher Education, Science, Research and Innovation. With the concerted efforts by the OHEC and sustained public investment over time, higher education in Thailand had made major headways to become the single largest system of higher education in terms of number of state regulated institutions.

According to Narongrit et al. (2009), for the first time, Office of the Higher Education Commission (OHEC), Ministry of Education in Thailand announced a list of 9 outstanding research universities from its pool of 24 to be the world-class universities. However, the research performances of these 24 universities have never been evaluated and revealed. Using the Web of Science (WoS) database, the results suggested that the top 6 universities on list had actually lower number of published articles in terms of average citation/articles.

According to Siripitakchai and Miyazaki (2009) only quantitative indicators, provides insufficient information for evaluating a country’s strategic research areas. In their study based on multiphase analysis beginning with benchmarking of research performance and then identifying research strengths of the Thailand National Research Universities (NRUs) via a content-based co-citation.

Another study by Morton (2015) emphasize that the use of research is a complex process and careful systems approach is needed, rather than replicating simple handoff procedures from one research to another research. Her Research Contribution Framework (RCF) method offers promising potential to help develop effective practices. Cryer (1997) suggested that the skills acquired during the PhD process could be divided into four broad areas: *specialist, generalist, self-reliance and teamwork*. But cultivating such skills also requires good a adviser, a guide or a mentor. In addition, research skills also require other abilities, such as, strong writing and communication skills, critical thinking and self-discipline.

In his study Hodgson (2017) found out that in the early stages, most PhD students often did not know what is expected of their thesis, or what examiners will scrutinize and comment on. This problem is widespread in Thai universities. Although most Thai universities provide some sort of framework or tools to assist students, but lack of advising skills of faculty members complicates the quality of research. There are many other serious policy issues dealing with the QA in research institutions. The most important being the skills and experience of the advisors (Malaney, 1998;Slavin, 2002).

### **3. Methodology**

Consensus among universities and ranking agencies is one of the most respected means of quality assessment. Strategies for reaching consensus about QA include position statements, indicators, benchmarks, rankings, citations, and systematic review. The methodology used for this paper includes sources of primary and secondary data. Primary data was collected using Survey Monkey in the month of May 2019. This brief survey titled “Relevance of Ph.D. Program” consisted of 12 questions. Although the sample size is a small group of 24 professors and researchers, but their responses as practitioners are crucial for understanding the currents issues related to PhD programs in Thailand. The secondary sources of data includes four major sources- the QS World Ranking of universities, Google Transparent Ranking provided by Webometrics, a Spanish non-for- profit organization (NGO), IMD, and SCImago Journal & Country Rank.

### **4. Results & Discussion**

This section will first discuss the sources of secondary data, such as, the Google Transparent Ranking. It is followed by discussion based on the data provided by other three reputed international ranking agencies-QS, IMD and SCImago.

**Table 2: Transparent Ranking Data for Top 10 Thai Universities (Goggle Scholar)**

Rank	University	Citations
1	Chulalongkorn University	203412
2	Mahidol University	176195
3	Kasetsart University	65725
4	King Mongkut's University of Technology Thonburi	53724
5	Chiang Mai University	51623
6	KhonKaen University	47961
7	Asian Institute of Technology	47347
8	Thammasat University	47226
9	Prince of Songkla University	34360
10	King Mongkut's University of Technology North Bangkok	31041
	<b>TOTAL</b>	<b>758614</b>

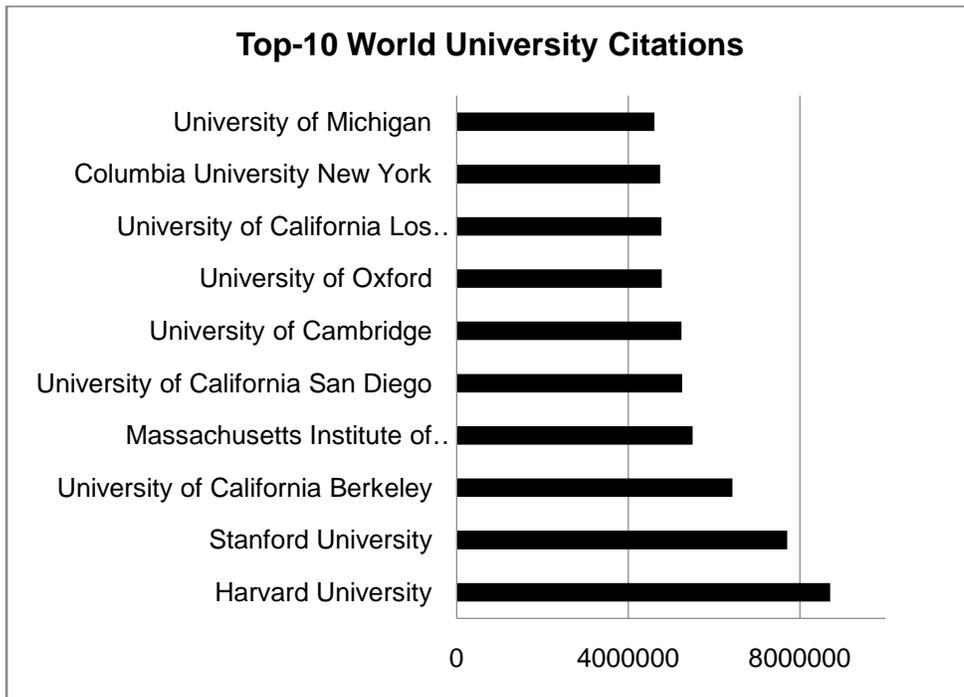
Source: <http://www.webometrics.info/en/transparent>

Author's own survey conducted in May 2019 is also highlighted by using a series of table and graphs

As per the transparent ranking of top universities published by Webometrics 8th Edition (July 2019 version 8.1.1 Beta), Harvard University (USA) topped the list with 8704969 citations of their research papers. Out of the world's Top-10 universities by citations (Figure-1), 8 are from the USA and rest of the 2 universities belongs to UK. A closer look at Google Transparent Rankings shows that among the 360 or more universities from Asean included in the list, the maximum number belong to Indonesia (+180). Singapore is listed with only 13 universities with the maximum citations of 555472. With more than 180 universities listed, Indonesian shows a combined citation of 99154, about 456,318 lower than Singapore.

Among the 48 Thai universities, the Top-10 listed in Table-2 show the number of total citations. A careful examination of the data in the third column shows that total number of citations from Thai universities (758614) is about 42 times lower than the Harvard and other universities listed as the Top-10 in the world.

**Figure 1: Top-10 World University Citations**

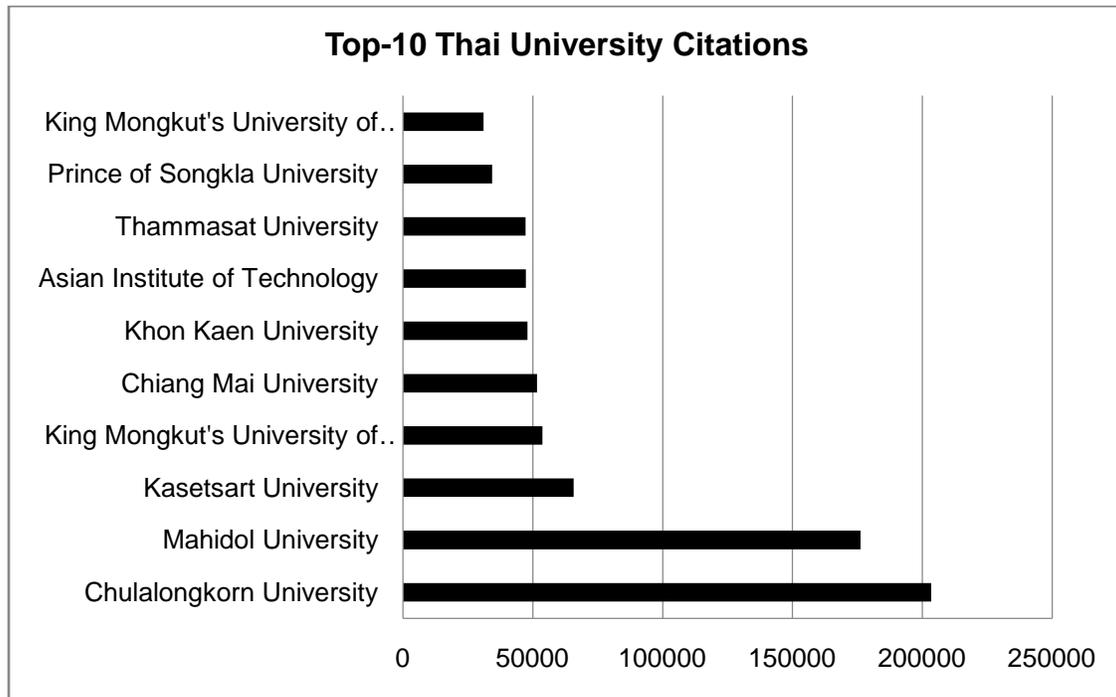


Source: <http://www.webometrics.info/en/transparent>

Among the top of the list of Thailand, Chulalongkorn University (Figure-2) has been involved in research and development for more than a century. It was originally founded during King Chulalongkorn's reign as a school for training royal personnel and civil servants in 1899. It was later established as a national university in 1917, making it the oldest institute of higher education in Thailand. For Thailand, a total of 44 universities are listed. Within Asean, the maximum number of citations of research papers belong to the universities located in Singapore.

As listed in the table the citations from Top-10 Thai universities is 758614. Cambodia, Laos and Myanmar are missing from the list. Although these are approximate calculations derived from the most recent Google Transparent rankings but they do provide a big picture about research activities in the universities in Asean. A comparison of Top-10 university citation is the world with the Top-10 Thai universities is depicted below in Figure-3. This figure indicate that number of citations of research work by Thai universities is in a dismal state. The series of graphs provided below are valid at the time of collection (around June 20-30th 2019). This version from Webomtarics consist only of Top entries (citations>1000), about 5000 institutions and use non-zero values for about an additional 5 000 institutions. Details can be accessed via the URL provided in the source.

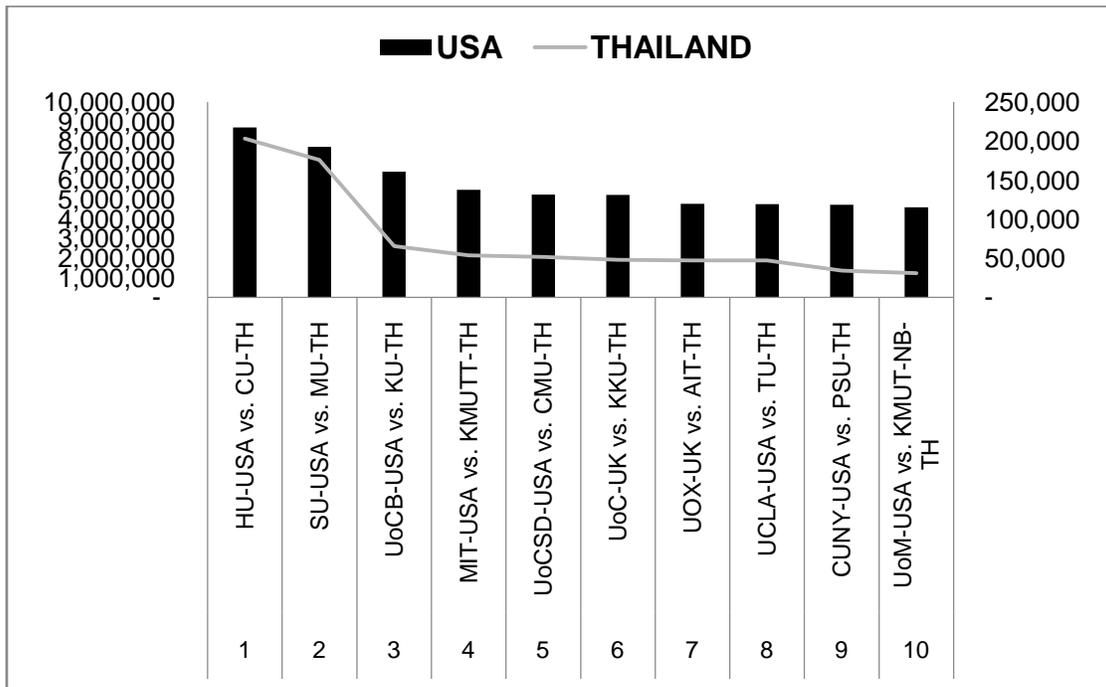
**Figure 2: Top-10 Thai University Citations**



Source: <http://www.webometrics.info/en/transparent>

A comparative graph of citations of Top-10 countries of USA versus Thailand provides a clear contrast of the status of research output and number of citations. This graph (Figure-3) is indicative of the ongoing crisis in the research output and QA in Thai universities.

Figure 3: Top-10 Country Citations Comparison-World vs Thailand

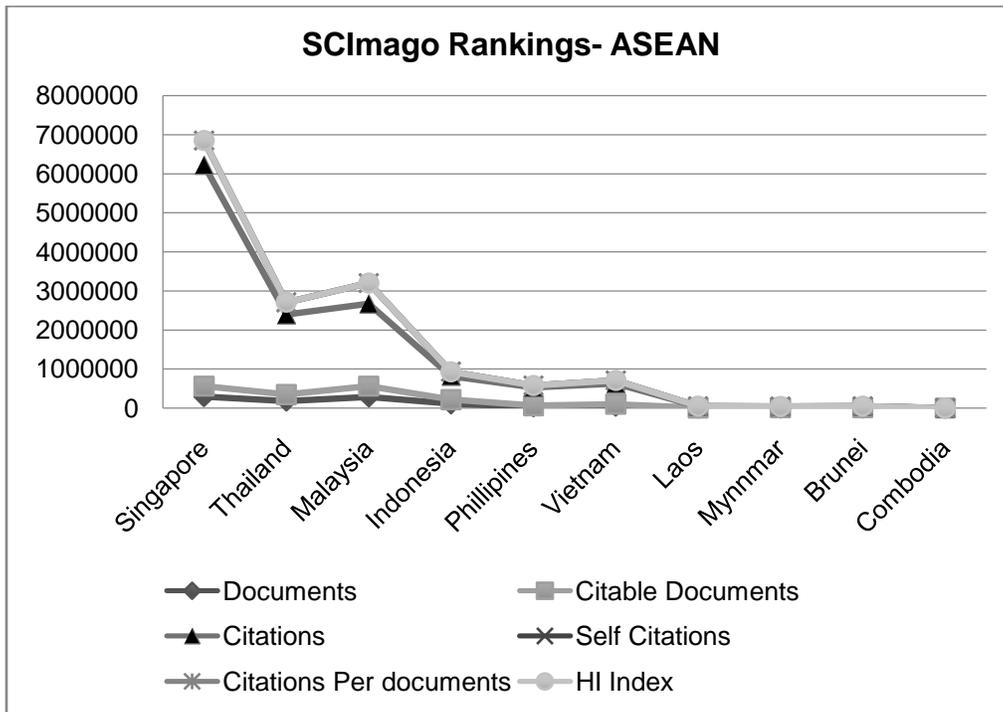


Source: <http://www.webometrics.info/en/transparent>

Another well-known resource, the SCImago Journal & Country Rank is a publicly available portal that includes the journals and country scientific indicators developed from the information contained in the Scopus database (Elsevier B.V.). This platform takes its name from the SCImago Journal Rank (SJR) indicator (PDF), developed by SCImago from the widely known algorithm Google Page Rank. These indicators are often used to assess and analyze scientific domains. Journals published worldwide are compared or analyzed separately. Country rankings are also compared or analyzed separately. Journals are mainly grouped by subject area (27 major thematic areas), subject category (313 specific subject categories) or by country. Citation data is drawn from over 34,100 titles from more than 5,000 international publishers and country performance metrics from 239 countries worldwide. The SJCR allows any researcher to access the data. This indicator shows the visibility of the journals contained in the Scopus database from 1996. For the purposes of understanding the value of the indicators, only two are described below (SCImago, 2019).

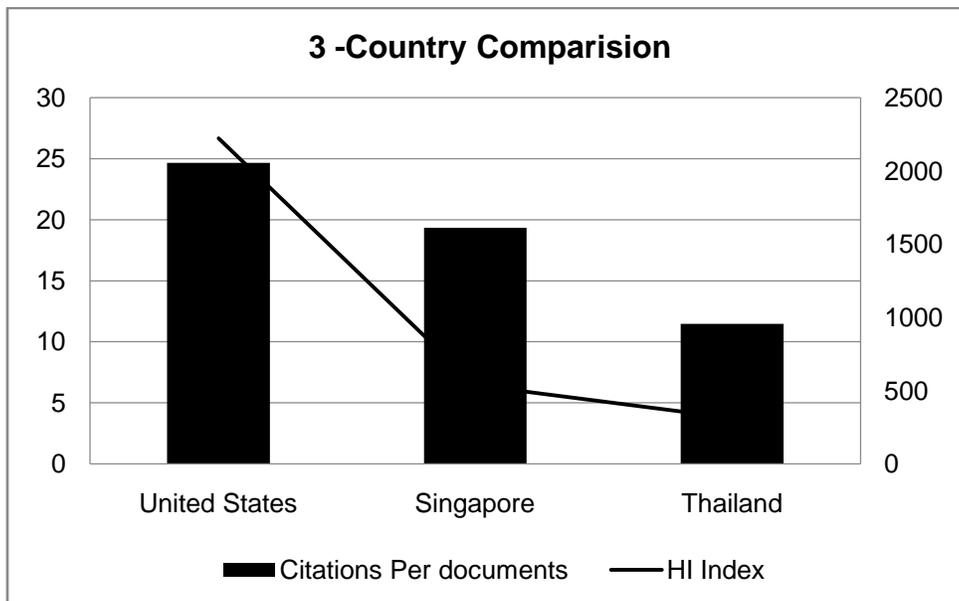
A total of 21 Thai universities are listed in the Scimago ranking of 2019 for Thailand. Chulalongkorn University is ranked first followed by the Mahidol University. For the purposes of understanding (Figure-4) only 2 indicators out of 6- Citations and HI Index is briefly described as follows.

**Figure 4: SCImago Ranking of ASEAN members (1996-2018)**



Citations means number of citations by the documents published during the source year, for example, citations in years X, X+1, X+2, X+3... to documents published during the year X.

**Figure 5: Comparison of SCImago Ranking of 3-Countries (1996-2018)**



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When referring to the period 1996-2018, all published documents are considered and included in Figure-4 and Figure-5.

And HI index is a country's number of articles (h) that have received at least h citations. It quantifies both- the country scientific productivity and scientific impact. It is also applicable to the scientists and journals.

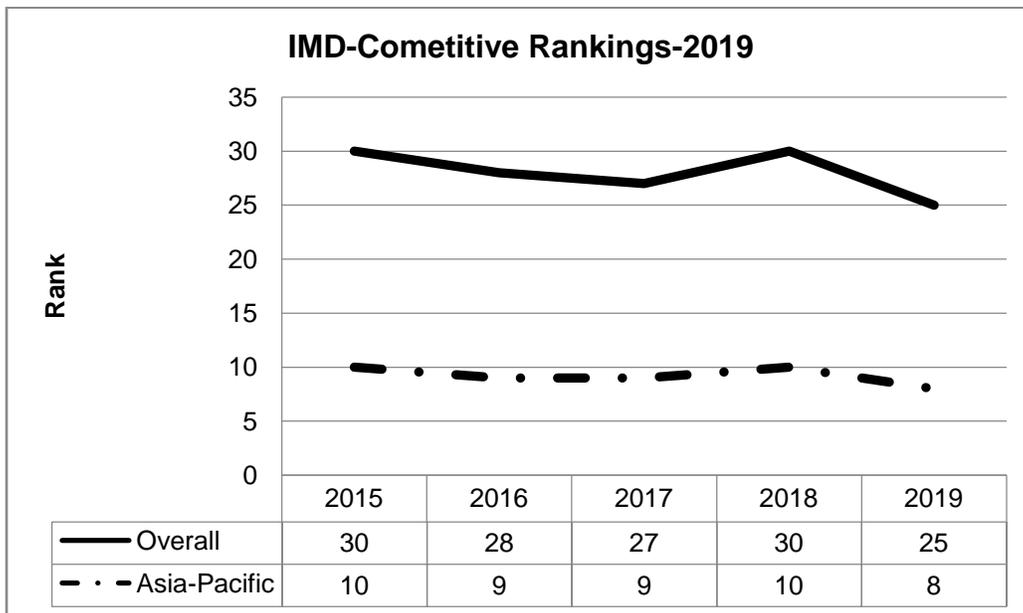
In the Figure-5 given above, Singapore is ranked 32 in the world and it is at the very top in Asean. Its Citations per documents is 19.34 and HI Index is 535. In comparison, Thailand's score are 11.47 and 311.

To provide a broader perspective, other two main competitors, the USA and Singapore are also included. In the graph provided above the Citations per documents and HI Index for the USA is 24.6 and 2222; for Singapore it is 19.34 and 535; and for Thailand it is 11.47 and 311. These two figures together provide a clear evidence about the state of the higher education and research in these three countries from 1996 to 2018. Moving forward to 2019 and beyond the state of research programs in Thailand does not look very promising. The following section provides a glimpse of what is missing in the research programs offered by Thai universities.

### 4.1 Higher Education, Skill Development and Workforce

Another global rankings provided by IMD has been focusing on why the competitive workforces in a country matters? Since 2014, The IMD World Competitiveness Center has been assessing how 63 economies develop, attract and retain highly-skilled professionals. Cultivating a skilled and educated workforce is crucial to strengthening competitiveness and achieving long-term prosperity.

**Figure 6: IMD Competitive Index 2019**



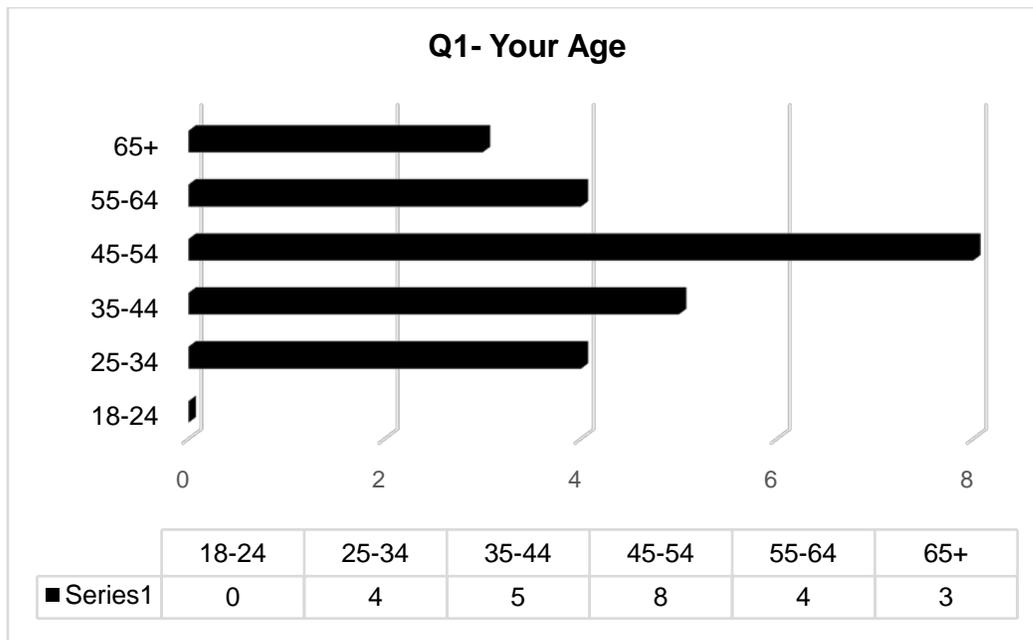
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In May 2019, IMD announced its findings in its 31st edition of the IMD World Competitiveness Yearbook. IMD which is based in Switzerland and Singapore compiles its rankings using 235 indicators. It uses hard data, such as, national employment and trade statistics which are weighted twice as much as the soft data from an Executive Opinion Survey that measures the business perception of issues, such as, corruption, environmental concerns and quality of life. This year 63 countries were ranked. The Figure-6 given below indicates that overall ranking of Thailand has been **30/63**. Globally Singapore has ranked as the world's most competitive economy for the first time since 2010 as the United States slipped from the top spot, while economic uncertainty took its toll on conditions in Europe (IMD, 2019). IMD ranking indicates that since 2015 Thailand has not shown any significant improvement in its ranking. In the last 5 years its ranking fluctuated between 25 and 30.

### 4.2 Survey Results: Relevance of Ph.D. Programs

A survey titled "Relevance of Ph.D. Programs" was conducted during the month of May 2019. It consisted of 12 questions that focused on the components of a university research program leading to a Ph.D. degree. Analysis of the collected data is provided by a series of figures shown in the following section. A total of 24 people responded to this brief survey in the short period of two weeks.

Figure 7: Age Group



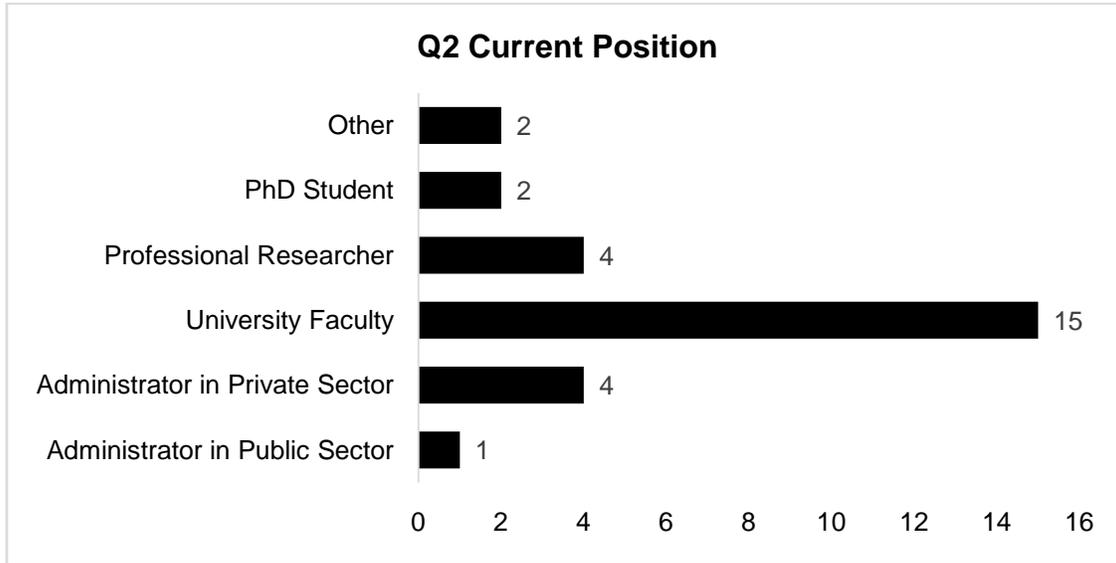
As shown in Figure-7, the majority of respondents to this survey were between the age of 33 and 54.

More than 60% the respondents to this survey (Figure-8) were university faculty. About 20% identified themselves as professional researchers. Others identified themselves as

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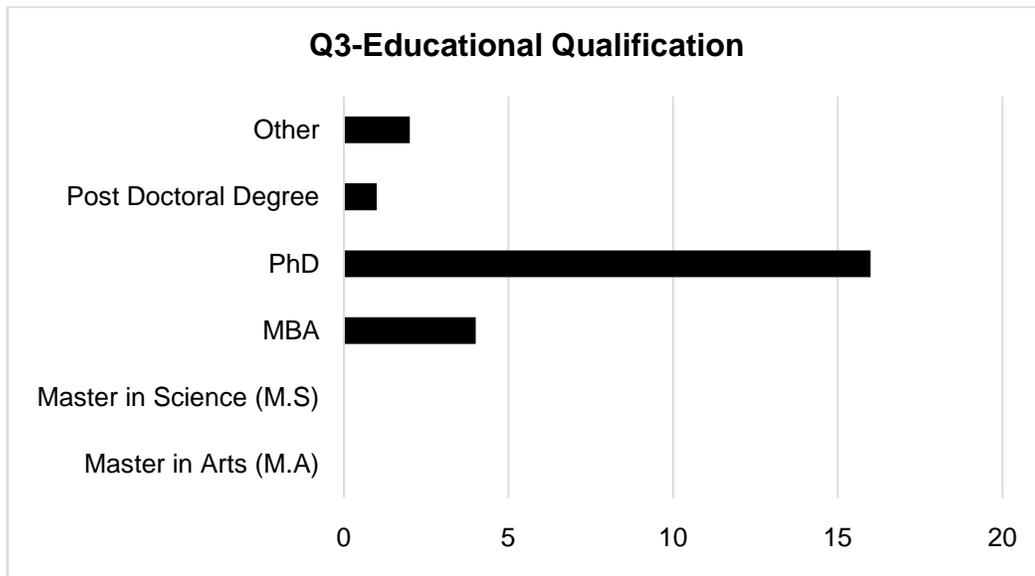
Administrators in public and private sector and other two as Ph.D. students. Only two participants were PhD students along with 5 administrators. In a nutshell, the majority were closely associated with research programs in their universities.

**Figure 8: Current Position**



The sample consisted of more than 70% of the participants (Figure-9) holding PhD and post-doctoral degree.

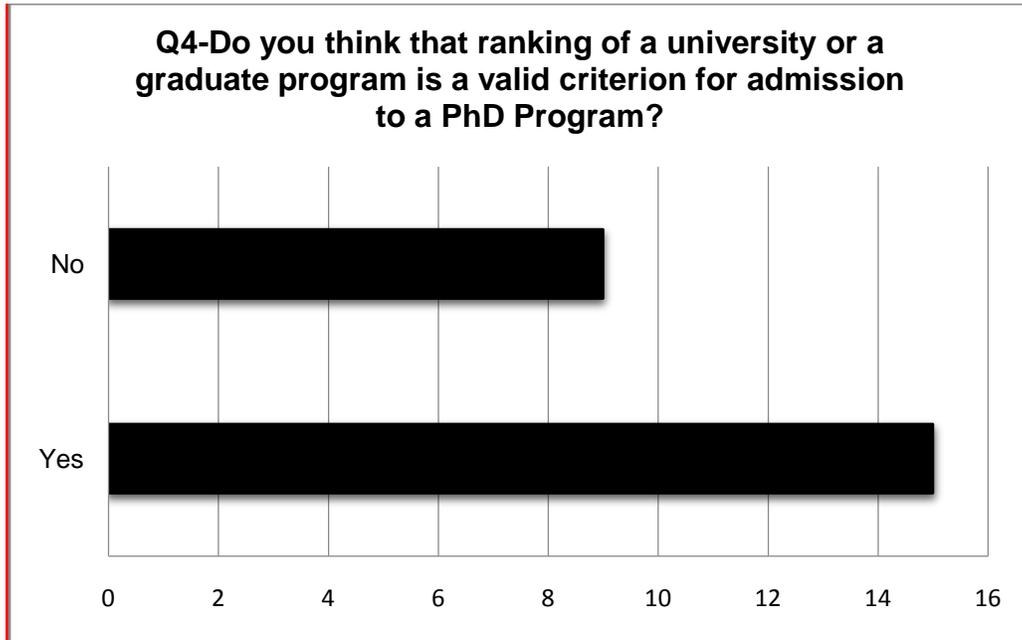
**Figure 9: Educational Qualification**



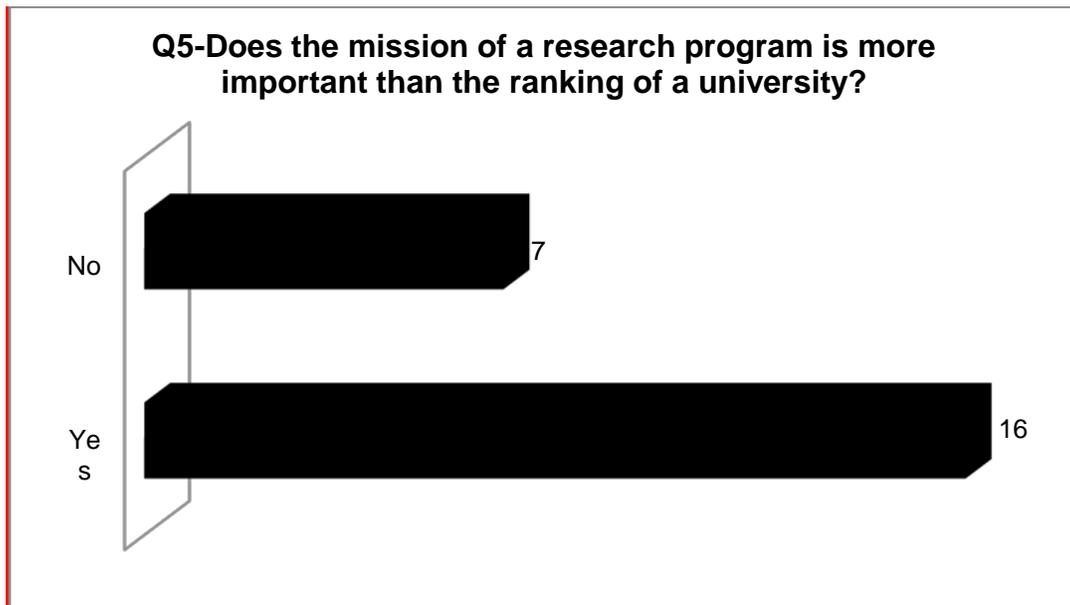
When asked if university rankings (Figure-10) of a research or a graduate program is a valid criteria for applying, 15 out of 24 responded as "yes." Other 11 participants indicated that rankings are not important. When asked a related question whether the

mission of a research program (Figure-11) is more important than the ranking of a university, the majority responded that the mission was more important than the ranking. In some ways the response to Q5 contradicts the previous question that asked their opinion about university rankings.

**Figure 10: Importance of Rankings**



**Figure 11: Mission vs. Ranking**

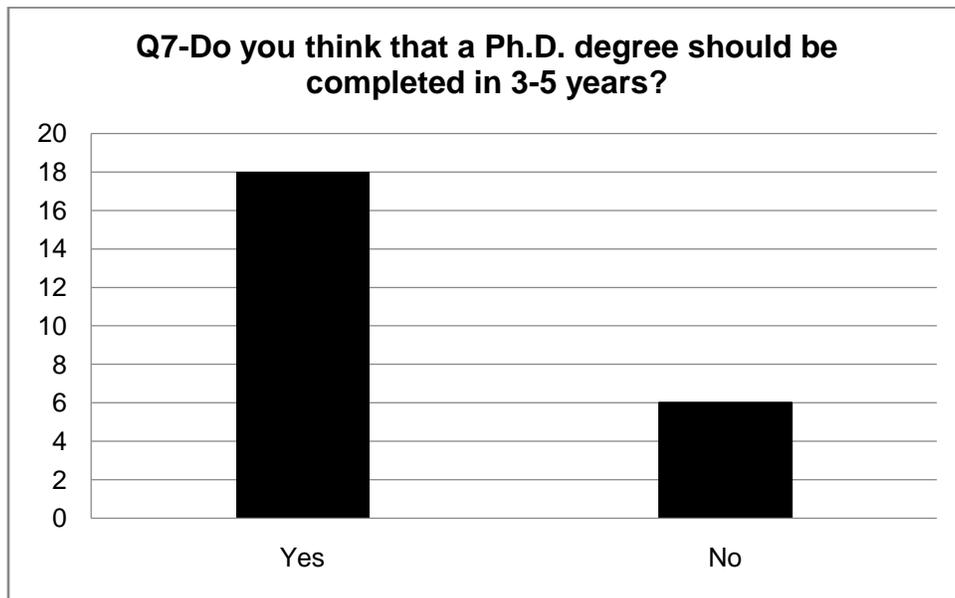


There is wide range of duration for the completion of PhD degrees offered around the world. Earning a Doctor of Philosophy degree, regardless of the subject of study

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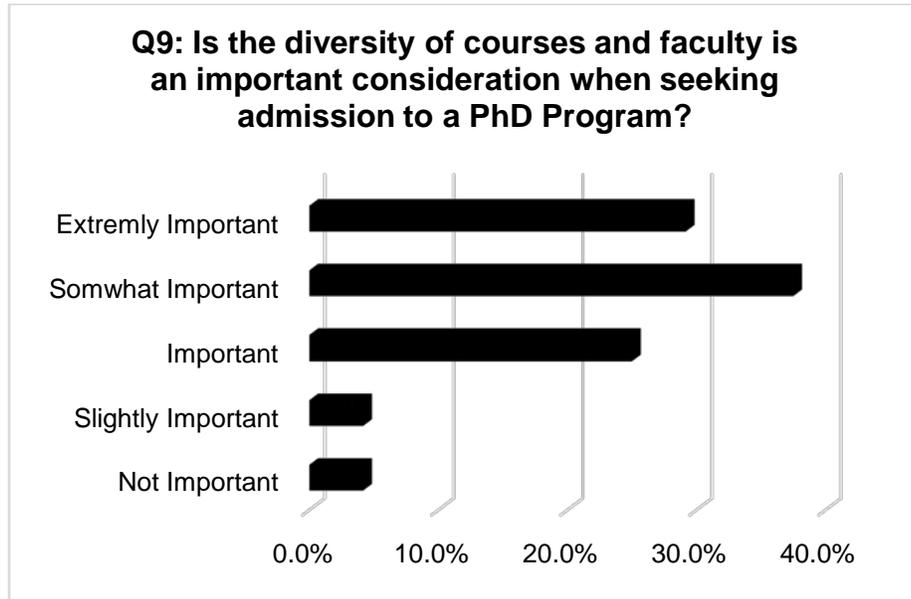
typically takes 5-7 years to complete. Many Thai students can prolong their studies up to 10 or more years. To curb this tendency, OHEC, Thailand has come out with a new regulation to limit the duration to a maximum of 6 years. In most Thai universities students must first take required courses in their field for first few years and complete a series of comprehensive exams. After this is accomplished, PhD students must write a comprehensive dissertation followed by publication of research papers before graduation. To the question about duration of the PhD programs (Figure-12) the participants agreed that the PhD degree should be completed within 3-5 years.

**Figure 12: Duration of PhD Degree Program**



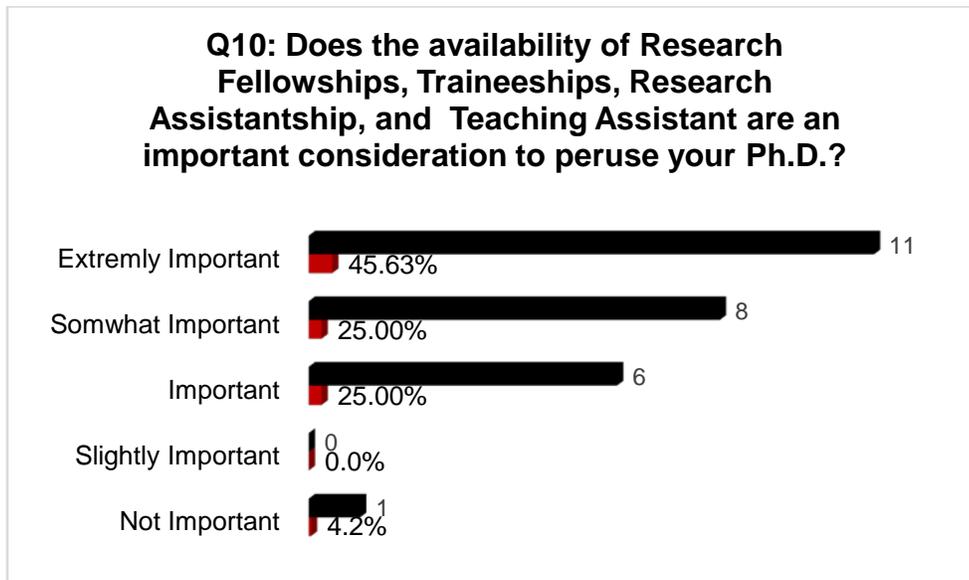
When asked about the diversity of faculty in the research program the majority indicated that it was very important. Diversity usually includes sexual, racial, ethnic and cultural dimensions.

**Figure13: Diversity of Faculty**



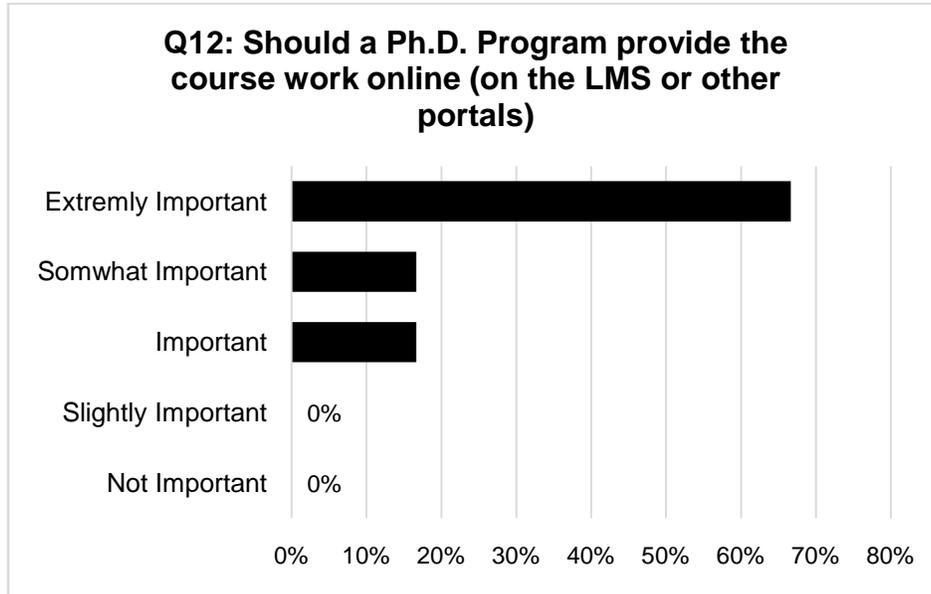
This response matches to what Effken et al (2008) indicated about differences between supervisors' perceptions concerning their own role and students' needs. Many issues related to advising are effectively resolved by employing a diversity faculty. Participants in this survey also indicated that availability of Research Fellowships, Traineeships, Research Assistantship, and Teaching Assistant are an important consideration for perusing Ph.D.

**Figure14: Research Fellowship and Others Incentives**



The advent of internet, enhanced connectivity and exponential growth of websites and research related databases have created a wide variety of options for students conducting their research or pursuing their PhDs.

**Figure15: Provide Coursework Online**



Majority of respondents in this survey indicated that university programs should provide access to course work online. Broome et al (2011) found distance-accessible or online doctoral education effective for scholarly mentoring and sharing best practices. Evaluation of online program at Indiana University School of Nursing indicated that graduates were well positioned to provide leadership in the areas of knowledge development for nursing science, practice, and education.

## 5. Conclusion

Research output of a university is an indicator of its excellence. Every global ranking system uses the research output as major indicator. Excellence through research and innovation is a capability that cannot be acquired by poor quality of PhD programs and advising skills of the faculty. Attitude for delivering highest quality of research output or innovations can only come from the quality of people. Excepting for three to four Thai universities and a few PhD programs, most have not been able to excel owing to their excessive obsession with command, control and government regulations (Mala, 2018). In addition, lack of English proficiency, communication skills and critical thinking by all- the faculty, students, principals, politicians, professors, researchers and the likes is the biggest cause of the poor quality of education. Another crisis in Thailand is an outcome of its unwarranted obsession to becoming an advanced country without enhancing the quality of higher education.

The way to improve quality of research programs in Thailand will not only require changes in attitude but also require good faculty. Although several Thai government

agencies are promoting regulations related to QA, but the actual management practices have very little to do with QA. It is evident from indicators used by QS, IMD, SCImago and other international rankings that quality of programs can only be enhanced by a combination of autonomy in higher education and hiring talented faculty. The faculty associated with PhD programs must have the capabilities and skills for advising that can enhance the research potential of graduates and postgraduates. Enhancing proficiency in English language is also very critical for elevating their regional and world rankings. In spite of the fact that all rankings provide a mountain of evidence, the Thai universities have miserably failed to use them to improve the management practices. Although the OHEC, policy makers and university rectors believe that they are moving in the right direction, but they need to fine tune and implement their management and QA strategy for reforming the graduate and research degree programs.

In conclusion, the increasingly burdensome regulations and oversight mechanisms imposed by Thai Ministry of Education and its allied agencies have contributed to a compliance-oriented culture in most degree programs. Although rules and regulations can be important in ensuring that institutions and participants are protected, it is arguably desirable or necessary to promote very pragmatic management guidelines as well. Thai universities and researchers are continually facing issues that require them to make decisions based on state regulation rather than simply following common sense rules. In any country, the desirable role of regulatory agencies is to enhance QA. But it is unclear how poorly formulated policies by Thai agencies will be effective in this regard. One potential approach would be to bring about changes in organizational culture by following the successful models and practices that are being used by the universities world over, especially in the neighboring country like Singapore. Three potential approaches for managing and enhancing QA in research output are closely linked to university autonomy, English language proficiency and the quality and the advising skills of the faculty.

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