A Study of Thai Research University Management Model Applied by Balanced Scorecard*

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ABSTRACT

This study aimed to examine and described the current condition and issues of the Thai research university as well as to propose the model for the management of the Thai research university under the context of management measurement standards, the Balanced Scorecard. The researcher chose to employ a grounded theory approach to analyze the data collected from in-depth interviews with nine participants representing Thai research university, through purposive sampling. The participants consisted of Vice President and Assistant Vice President from Chiang Mai University, Chulalongkorn University, King Mongkut's University of Technology Thonburi, Kasetsart University, Mahidol University, Prince of Songkla University, Suranaree University of Technology and Thammasat University. Findings of the study identified the current management philosophies, practices and issues of the selected-eight Thai research universities including the awareness and intention to proactively pursue the development of Thai research university into world-class standard. Even though, there were many obstacles from existing environments of Thai research university, including budget allocation, laws and regulations, senior leaders' paradigms, mismanagement from related official organizations, and internal processes such as commercialization, the Thai research universities still prevailed and focused on their core competencies, researches and innovations with the developments of the Center of Excellence. The first priority of Thai research university was to provide academic and community services for the communities at large and to strive to fill the research and innovation gaps, locally, regionally and globally while aligning with the national agenda, Thailand 4.0. Then, the second priority was world-rankings improvement.

The study also disclosed the current management philosophies and practices which categorized into the four perspectives of the Balanced Scorecard, namely, Financial Perspective, Customer Perspective, Process Perspective and Learning and Growth Perspective. These perspectives were linked to revenue opportunities expansion, stakeholders' collaboration, research, scholarship and innovation process, and human and organization capital, respectively.

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INTRODUCTION

A strong higher education system is a basis for sustainable growth and development of a knowledge-based nation. Higher education plays a key role in producing new knowledge and preparing its graduates for an increasingly competitive global economy where knowledge had become a critical driver for economic growth and social development (World Bank, 2009, p. 6). Higher education is driven by globalization. It trains the highly skilled workers and contributed to the research base and capacity for innovation that determining the competitiveness in the knowledge-based global economy (OECD, 2009). Internationally, roles of university are classified into three major groups, including (1) Teaching-learning (2) Research management and administration and (3) Extension service which includes public and service outreach. For Thailand, to preserve and to promote the arts, culture and heritage is another essential role for Thai university.

Research universities, as part of higher education system, has emerged as one of the main components in the global knowledge economy (Marginson, 2009, p. 48). There were many studies indicated that research universities contribute directly to the growth of any nation's economy through increasing productivity and innovation (Altbach, Reisberg, & Rumbley, 2009; NESDB & World Bank, 2008; OECD, 2009; Ozturk, 2001; Stevens & Weale, 2003; Termpitayapaisit, 2006; World Bank EAP, 2012; World Bank, 2007; 2009; UNESCO, 2005). Altbach and Salmi (2011) reported that the concept of the university as a research institution began in 19th-century Germany, at a time when the Industrial Revolution had moved upon the world in the age of outburst of new ideas.

Altbach and Salmi (2011, p. 3) defined top research universities and to understand the fundamentals and environments of successful research universities, as Salmi (2009), UNESCO European Centre for Higher Education Shanghai Jiao Tong University (Sadlak & Cai, 2009), and Russell International Excellence Group (2012) asserted that the astounding outputs from these institutions derived from superior graduated, leading edge research, and dynamic knowledge and technology transfer.

RATIONALE

Research university worldwide has been recognized as the beacon for higher education because of its direct and indirect justifiable benefits. It contributes not only to its own nation, but to others as well including economy growth, innovations which improve human wellbeing, reducing poverty and increasing life spans (World Bank, 2009, p. 6). In order to establish a research university with the world-class standard, it requires significant resources

of monetary and non-monetary, sincere commitment and perseverance of senior leaders, namely, government officers and business enterprises, university leaders with global and long-term vision within the more complex higher education environment and effective management system, including financial, research and scholarship, commercialization and assessment system (Altbach and Salmi, 2011, p. 3).

BACKGROUND OF THE STUDY

Thailand first engagement in comprehensive higher education reform was in the end of 1980s when the Ministry of University Affairs created the first 15-year higher education plan, covering 1990-2004. The atmosphere at that time was on economic booming and international competitiveness. But during 2009 onward, the economy underwent a deep recession followed by a long recovery period. The global and regional marketplaces also suffered a dramatic transformation during this same period. Thailand faced increasing economic competition from its neighbors (World Bank, 2009).

A new constitution was declared in 1997 and the first National Education Act was enacted in 1999. The National Education Act was the country's master legislation on education and provides a comprehensive vision for education reform. The 1999 National Education Act initiated reformation of the Thai education system. There were considerable changes in the structure of management and administration to support teaching and learning stipulated by the 1999 National Education Act (World Bank, 2009).

Thai research university faces multi-dimensional obstacles, from policy level encompassing deficiency of information, incentive-gaps, inequality of access to tertiary education (World Bank EAP, 2012, p. 4), insufficient allocation budget toward research and innovation, or one of the basic building blocks of higher education institutions, English proficiency. These obstacles are disseminated within Thai research university creating the quantity versus quality dilemma. The policy of autonomous university creates double-edged effect to individual research university while the attempt to increase research activity without suitable pre-defined management system appears to counter productivity.

OBJECTIVE

The primary objective of this research was to study the current conditions and issues from the management perspective of the Thai national research university and the second objective was to propose the management model of the Thai national research university applied by the Balanced Scorecard.

SIGNIFICANCE OF THE RESEARCH

For middle-income and developing countries like Thailand as well as some industrial nations, a major challenge for building and sustaining successful research university is determined the mechanisms that allows those universities to participate effectively in the global knowledge network on an equal basis with the top academic institutions in the world. As part of higher education institution, research university is needed to be seen as a system including both institutions and the stakeholders that interact with them (World Bank, 2007). According to World Bank (2009, p. 47), what Thailand requires may not necessarily be more world-class research university, especially if more fundamental higher education's needs are not being met. World-class research universities normally require enormous financial obligations, an intensity of exceptional human capital, and governance policies that allowed for teaching and research excellence.

THE UNDERLYING DIMENSIONS OF RESEARCH UNIVERSITY MANAGEMENT MODEL

Office of the Higher Education Commission announced the following criteria for universities in Thailand to be classified as research university. First, utilizing Times Higher Education (THE-QS) ranking system; second, ability to publish quality research in Scopus database; third, percentile of lecturer with doctorate degree higher than 40 per cent; if any universities do not match the above three criteria then university must publishes research paper in the Scopus database more than 100 papers every year for the previous 5 years.

There were two main components for the proposed management model of the Thai research university applied by Balanced Scorecard, including management's conceptual framework and the details of the general characteristic of world-class university.

1. To derive at the general characteristics of world-class university, researcher applied the studies by Niland (2000) and Altbach (2004), three critical success factors described by Salmi (2009), and eight characteristics of world-class university, the Emerging Global Model (EGM), from Mohrman and Baker (2008).

2. Mohrman and Baker (2008) suggested that in a knowledge intensive society, the research university is a key institution for social and economic development. Focuses on the discovery of new knowledge and the development of the next generation of scholars, research universities are also becoming more international in focus. The Emerging Global Model is an intensification and globalization of the development of research universities in general. Some call the Emerging Global Model a 'super research university' to emphasize the worldwide perspective and the high scholarly output of this subset of research universities.

3. To derive at the conceptual framework, researcher synthesized and applied the original structure of the Balanced Scorecard that David Norton and Robert S. Kaplan introduced in a 1992 *Harvard Business Review* article (Kaplan, 2010, P.4), the strategy map links intangible

assets and critical processes to the value proposition and customer and financial outcomes (Kaplan, 2010, P.21-22), and the Higher Education Dashboard Indicators and Possible Cluster Measures for Higher Education Dashboard (Ruben, 1999).

3.1 The original structure for the Balanced Scorecard: according to Kaplan and Norton, "The Balanced Scorecard should translate a business unit's mission and strategy into tangible objectives and measures. The measures represent a balance between external measures for shareholders and customers, and internal measures of critical business processes, innovation, and learning and growth" (as cited in Ruben, 1999, p. 2). The Balanced Scorecard retains financial metrics as the ultimate outcome measures for company success, but includes those with metrics from three additional perspectives – customer, internal process, and learning and growth-that authors proposed as the drivers for creating long-term shareholder value (Kaplan, 2010, p. 4).

3.2 The strategy map links intangible assets and critical processes to the value proposition and customer and financial outcomes (Kaplan, 2010, p. 21).

3.3 Higher Education Dashboard Indicators and Possible Cluster Measures for Higher Education Dashboard: According to Ruben (1999, p. 3), in higher education, rather than emphasizing financial measures, higher education has historically emphasized academic measures. Motives, as with business, by issues of external accountability and comparability, measurement in higher education has generally emphasized those academically related variables that are most easily quantifiable. Ruben (1999, p.4) asserted that "the fundamental mission of research universities and their academic units and program is the advancement of excellence in the creation, sharing and application of knowledge, described in terms of teaching, scholarship/research, and public service/outreach." To fulfill this mission, they requires successful engagement with a number of different groups, including prospective students, current students, research contract agencies, families, alumni, employers, colleagues at other institutions, governing boards, local community, friends, interested individuals, donors, legislators, and the general public, faculties and staff.

Building on the preceding framework, a university's mission, vision, and goals are translated into "dashboard indicators" with five indicator clusters, each composed of a variety of constituent measures. The five indicators areas are teaching/learning, scholarship/ research, service/outreach, workplace satisfaction, and financial (Ruben, 1999, p.4).

4. Teaching/Learning is composed of quality assessments in two main areas, which are 1) programs and courses, and 2) student outcomes. Student outcome includes measure of program/course preferences, selectivity, and involvement, learning outcomes such as knowledge and competency acquisition, fulfillment of expectation, satisfaction, retention, preparedness, placement, and motivation for life-long learning.

5. Scholarship and Research is composed of assessments of quality in the areas of: 1) productivity and 2) impact. Typically, productivity indicators include activity level. Impact measures for research and scholarship include publication rate, selectivity and stature of journals or publishers, citation, awards and recognition, editorial board membership, peer assessments of scholarly excellence, funding of research.

6. The public service and outreach indicator cluster is composed of measures of the extent to which the university, unit or program addresses the needs and expectations of key external stakeholder groups.

7. Workplace satisfaction for faculty and staff. Inputs to indicators for each group include measures of attractiveness of the institution as a workplace, turnover, compensation, assessments of workplace climate, and faculty and staff morale and satisfaction.

8. Finance includes revenues by source, such an annual budget allocation, tuition, donations, endowments and grants; expenditures included operating budgets, debt service, credit rations and ratios, deferred maintenance and expenditures for the university/unit.

The previous two dimensions underlined the research university management model were used in the development of the conceptualized model proposed in this research.

METHODOLOGY

In order to study the current condition and issues of Thai research university management perspective and to propose the management model for Thai research university, a case study approach focusing on the nine senior level administrators from eight leading research universities of Thailand (Chiang Mai, Chulalongkorn, King Mongkut Thonburi, Kasetsart, Mahidol, Prince of Songkla, Suranaree and Thammasat) were selected as they were the first tier of Thai research university which had the potential to develop into world-class university in the future under the Office of Higher Education Commission's definition. This research was undertaken to study the current administration and management of Thai research university as the main objective with the attempt to propose the management model applied by the Balanced Scorecard as the final output.

Researcher utilized a qualitative study to discover insights and understanding from the perspectives of Thai research university in relation to four major perspective elements, including 1) Customer perspective, 2) Internal business process perspective, 3) Financial perspective, and 4) Learning and growth perspective (Niland, 2000). University's mission, vision, and goals were interpreted into "dashboard indicators" with five indicator groups, each of them composed of a variety of principal measures. The five indicators areas were teaching/ learning, scholarship/ research, service/outreach, workplace satisfaction, and financial (Ruben, 1999, p. 4).

Sample

The number of cases depended greatly on the research design and what types of inference the researcher attempted to make (King, Keohane, and Verba 1994). For this study, the research was designed to observe variations in institutional characteristics of eight-selected Thai research universities, using the case study of Thailand, while employing each of the Thai research universities as a unit of analysis.

King, Keohane, and Verba (1994) suggested some sample figures ranging from five to twenty observations for a typical qualitative study (p. 216). Researcher selected eight, out of nine, Thai research universities including the following universities, Chiang Mai University, Chulalongkorn University, King Mongkut's University of Technology Thonburi, Kasetsart University, Mahidol University, Prince of Songkla University, Suranaree University of Technology and Thammasat University. Seeing that this research sought to present analytical summaries of the Thai research university as a whole, rather than to discuss case after case, researcher particularly looked for prototypical cases of Thai research university, thus Presidents and Vice-presidents or Assistance Vice-president in research and innovation were selected through purposive sampling for in-depth interview.

Construction of instrument

The research instrument was 13 open-ended questions for in-depth interview. All the questions covered the contents of conceptual framework which applied by Balanced Scorecard. They were validated by five expert panels who dealt with the research university.

Validation of interview questions by five expert panels

The IOC values of the 13 interview questions showed between 0.60-1.00

Fieldwork and in-depth interview

Permission to conduct face-to-face in-depth interviews in nine-selected Thai research universities was granted by the Burapha University Ethics Committee prior to the endorsements received from Chiang Mai University, Chulalongkorn University, King Mongkut's University of Technology Thonburi, Kasetsart University, Khon Kaen University, Mahidol University, Prince of Songkla University, Suranaree University of Technology and Thammasat University. The study took place between June 13 and Nov 11, 2016. Copies of the official letters were hand delivered to each of the universities' presidents of the nine Thai research universities enclosing the ethics approval form, research proposal, and request letter for permission for semi-structured interviews. These informants were then follow-up through telephone calls and emails in order to organize the in-depth interviews.

Analysis of in-depth interview data

Managing the Data

In facilitating the transcription of face-to-face in-depth interviews undertaken in this study, the researcher employed two mobile phones with build-in recording application with power bank to ensure uninterrupted recording. All interviews and field-note observations were carefully transcribed. To protect the anonymity of subjects, the researcher ensured the omission of all identifying characteristics. For deeper analysis while maintaining integrity of data, data management was facilitated using the ATLAS.ti, one of the software assisting in qualitative research.

Using ATLAS.ti for content analysis

As cited in Ducharme (2014), in qualitative research, data collection and analysis proceeded simultaneously (Merriam, 2009). For information from the in-depth interviews of the nine senior administrators from the eight leading Thai research universities, the data was coded and analyzed to develop themes with the help of ATLAS.ti software. Krippendorff (2013) asserted that the use of ATLAS.ti software provided an advantage, because the text explorations were systematic “countering the natural tendency of humans to read and recall selectively” (p. 356).

Content analysis

Krippendorff (2013) defined content analysis as a “research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use” (p. 24). The researcher used ATLAS.ti software to assist in conducting the three components, including coding, reducing, and inferring. However, the software did not write the report for the researcher, but helped the researcher in the narrating component by providing visual representations and readily available quotes to be incorporated in the reports. To abstract themes, the researcher flew from raw data to relevance to the research questions. In this way, the research questions were grounded in the data by using an inductive approach, starting with a large quantity of observations to develop key themes about the topic.

CONCLUSION

From the study, researcher summarized key learning regarding the current conditions and issues from the management perspective of the Thai research university into four distinct perspectives, namely, financial, customer, process and learning and growth.

Firstly, under Financial Perspective, there were monetary and non-monetary measurements; Thai research university’s non-monetary objectives were included reducing poverty, pollution, diseases, school dropout rates, improving health, biodiversity, education,

and economic opportunities. For monetary measurements, all participants indicated clearly that all Thai research universities were under budget allocation with less than 0.5% of GDP, while other developed and developing nations including Japan, South Korea, Singapore and Malaysia were allocated between 1 to 4% of GDP into research and innovation. Thai research university depended on the internal sources of income including admission and academic services and external incomes including research collaborations with stakeholders, namely, public and private enterprises, both local and international.

Secondly, under Customer Perspective, which included current students and stakeholders, all participants agreed that there were too many graduate students and insufficient post-graduates due to the financial requirement. They had to increase the number of post-graduate and doctorate students while maintaining the current number of under graduate students in order to improve their research outputs. All participants agreed that it was difficult to attract talented students, specifically, the post-graduates from local and international, because of Thai research universities were unable to offer attractive scholarships packages. To counter the above-mentioned scenarios, all participants agreed that, firstly, they had to establish the center of excellence with world-class standard to attract academics, both researchers and lecturers, from overseas and local, to participate in medium or long term projects with Thai research university; thus, talented students were enticed to join the selected Thai research university. Regarding stakeholders, specifically, public and private organizations, all Thai research universities agreed that private enterprises were important strategic partners for Thai research universities. Currently, Thai research universities with long establishment were cultivating fruitful research collaborations with local enterprises, namely, CP Group, Siam Cement Group or Betagro. On the other hand, small and shorter establishment Thai research universities found it difficult to work with local conglomerates. For smaller Thai research universities, they worked with some of the local public entities such as The Sub district Administrative Organization (SAP) and discovered many issues pertaining to corruptions from officials.

Thirdly, regarding Process Perspective, all participants agreed to the importance of research, scholarship and innovation process, sales, marketing and marketing communication process and teaching and learning process, respectively. All participants emphasized the importance for establishing the center of excellences which focused on individual Thai research university core strength. Due to under budgeting, many Thai research universities faced difficulty to undertaken more advanced research or basic research because of limited resources and equipment and difficulty to justify ROI. From the study, the first priority for the university was to address the development of innovations to fill the local and global innovation gaps while aligning with the national agenda, Thailand 4.0, rather than pursuing world rankings. To attract talented academics, including local and international researchers

and student, Thai research university had to create the center of excellences with attractive remuneration packages. This research environment enticed talents to work together to generate research outputs that created social impact locally, internationally and globally. In order to fulfill researchers' financial requirements and the university's financial objectives, Thai research university had to establish an effective commercialization system.

Finally, Learning and Growth Perspective which was considered to be the 'black box' to some business enterprises due to its intangibility nature. The main emphases were on human capital, leadership and alignment, respectively. All participants agreed that human capital was one of the key success factors for the successful Thai research university and these required tremendous effort to manage the process effectively. Currently, for the long established Thai research universities with heritage and strong reputation, they had sufficient academics from local and international. However, the smaller Thai research university with shorter establishment had to offer double or triple the remuneration packages in order to attract talents especially those Thai research universities which were located in provincial cities. Thai research university had to offer challenging research and innovation environment within its center of excellence with effective commercialization system to address the researcher personal requirements, monetary and non-monetary values. Otherwise, many Thai research universities soon discovered that their researchers went 'underground' in order to commercialize their intellectual properties and innovations direct to buyer, namely, private enterprises. Consequently, Thai research universities forfeited opportunity to increase their publications and citations as well as losing the revenue generating opportunities from commercializing intellectual properties.

All participants addressed the crucial roles of leaders and their leadership in Thai research universities. It was imperative that leader had global vision with local strategic action to the development of Thai research university to world-class standard, while the senior leaders such as the president subjected to political agenda. Therefore, there was the initial inactive period, one or two years, transition from the previous president to the new president. Other Thai research universities mentioned that the new elected president generally carried on the projects that were approved by the university council which aligned with the Thai research university's strategic project or with the national agenda, Thailand 4.0.

Through this study, researcher identified the management model of the Thai research university which aligned with the Balanced Scorecards management model, including Financial Perspective, Customer Perspective, Process Perspective and Learning and Growth Perspective.

The following diagram was the proposed management model for Thai research university applied by Balanced Scorecard.

RECOMMENDATION

Researcher classified the recommendations into two groups of audiences, including the policy level and practice level.

Recommendation for the Policy Level

Policy should mandate, initiate and facilitate the Thai research university selection criteria and process. Regarding with process perspective, through center of excellence, the policy should promote research and innovation and to create world-class ambience as one of the national agendas. Center of excellence would attract talents, including students and academics locally and internationally and this would facilitate the win-win collaboration of research and innovation between business enterprise and Thai research university.

Regarding with learning and growth perspective, policy should reinforce the concept of autonomous university and define research clusters that align with national agenda. Policy should review and adjust relevant laws and regulations to facilitate the process of research and innovation while reviewing roles and responsibilities of related public organization to the Thai research university development, namely Office of Higher Education Commission and Department of Intellectual Property. Policy should also promote English as one of the official languages and 'Sufficiency Thinking' to fight the corruption.

For the financial perspective, the government planned to inject sufficient budget to Thai research university of more than 2% of GDP by 2036, which matched with China and Singapore in 2014.

Recommendation for the Practice Level

Regarding the learning and growth perspective, Thai research universities should have global mission with strategic vision. Thai research universities should support the new nation's initiative (2016), Thailand 4.0. The internationalization would be crucial including collaborations with strategic partners, locally and globally. They should promote global recruitment for talented academics and students as well as to promote autonomy of academic freedom and accountability. They would have to manage under greater complexity with well-defined autonomous governance structure and supportive regulatory framework. They would require to establish the new relationships with government, namely, Office of Higher Education Commission and to align with national agenda, Thailand 4.0. They should create and promote workplace satisfaction for faculty and staff; faculties should be pleased to serve on the faculty of a leading, well-supported institution, enjoy respect locally, nationally and internationally.

Regarding with process perspective, Thai research university should develop and promote center of excellence with world-class standard which emphasis in the excellence in management system including scholarship, research, commercialization and academics and personnel assessment. They should be excellent in teaching and learning including quality of the programs and courses and quality of academics.

Regarding with financial perspective, Thai research university should expand both internal and external source of revenue opportunities, including fund raising from alumni and other stakeholders, endowments, diversified funding, high level of government sources of funding, management of the investment portfolios and research funds.

Regarding with customer perspective, Thai research university should promote student development programs to enhance the graduate preferred characteristic including enthusiasm, preparedness, involvement, knowledge and competency acquisition, life-long learning, globally competence to become global-citizen.

Recommendation for the future study

Researcher recommended the future study to focus on the effective management model for Thai research university which, based on current study, lacked two processes including validation and appropriateness. Researcher proposed the future study to include three focus groups of ten experts; each group would compose of faculties' senior managements from Thai research universities, universities' experts and representatives from the Office of Higher Education Commission to validate the proposed model. Next, researcher recommended the future study to employ the quantitative study using structured questionnaires with the five-point Likert Scale to quantify the appropriateness among 300 of Thai research universities' operational administrators, including deans and directors. Furthermore, to improve insights in other areas of Balanced Scorecard, researcher recommended the future study to include interviews with Vice-presidents of finance and human resource department. Additionally, researcher recommended to investigate the learning and growth perspective on human capital and organization capital because of their intangibilities and difficulties to establish proper measurements which considered to be the building blocks of any organization. To enrich future study, researcher suggested to consider acquire a leading ASEAN's research university, for instance the National University of Singapore or Nanyang Technological University of Singapore in the study panel. This would broaden the future study from insights obtained from the top 100 world-class ranking universities in Singapore.

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