FRAMEWORK OF SUSTAINABILITY IMPLEMENTATION ASSESSMENT FOR PRIVATE HIGHER EDUCATION INSTITUTIONS IN MALAYSIA

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DEDICATION

This thesis is dedicated to myself who continue dreaming, lost expectation and begin to dream again since 4 years back, which at last found a leave entryway. This thesis is likewise devoted to my kids, who taught me that when life offers thousand reasons to reprieve down and cry, showed life that there million reasons to grin, chuckle and remain solid. It is likewise devoted to my significant other, who instructed me that regardless of what occurs, regardless of how far the separation, never stop believing.

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To person who help directly and indirectly to make this submission success, may *Allah* shower you with full of *barakah*.

ABSTRACT

Various initiatives have been undertaken by higher education institutions (HEIs) abroad to ensure that they meet the sustainability implementation. Yet, it seems that the implementation is still divergent and not well-orderly applied across the HEIs, especially in Malaysian private HEIs. There are seven criteria of sustainability implementation in HEIs, namely education, institutional framework, campus operation, research outreach, on-campus experiences, as well as assessment and reporting, which this study focuses only on education criteria for the sustainability implementation assessment at private HEIs in Malaysia. The aim of this study is to develop a framework of sustainability implementation assessment for private higher education institutions in Malaysia. The research objectives are: to identify the elements of education criteria in sustainability implementation assessment at private HEIs; to examine existing sustainability implementation assessment tools in HEIs worldwide; to assess the constraint factors on the sustainability implementation assessment in private HEIs in Malaysia; to investigate the critical success factors (CSF) in the sustainability implementation assessment at private HEIs; and to propose the sustainability implementation assessment framework for private HEIs in Malaysia. This study used a mixed method in its data collection. In developing the questionnaire, 15 experts were interviewed during the pilot study stage. The questionnaire was distributed to 75 Deputy Vice-Chancellors and Deans from 29 private HEIs. The Rasch model and partial least squares structural equation modelling (PLS-SEM) were used in the analysis. The findings indicate three critical factors for the framework of sustainability implementation assessment for private HEIs: (1) elements of sustainability education criteria with 10 constructs; (2) constraint factors on sustainability implementation assessment with 10 constructs; and (3) CSF in sustainability implementation assessment with 15 constructs. This study also confirms that no specific tools is available to be used for sustainability implementation assessment at private HEIs in Malaysia. The framework has the potential to be adopted as a standard guideline in sustainability implementation assessment in Malaysia. The framework is in line with the Malaysia Education Blueprint and the National Higher Education Strategic Plan, as well as in parallel with the United Nation (UN) Sustainable Development Goals (SDG) in leading the private HEIs to become global prominence in terms of developing future-proof graduates that carry with them crucial humanistic values.

ABSTRAK

Berbagai inisiatif telah dilakukan oleh institusi pendidikan tinggi (IPT) di luar negara untuk memastikan mereka memenuhi pelaksanaan kelestarian. Namun, pelaksanaannya masih berbeza dan tidak diterapkan dengan baik di seluruh IPT, terutama di IPT swasta di Malaysia. Terdapat tujuh kriteria pelaksanaan kelestarian di IPT, iaitu pendidikan, kerangka institusi, operasi kampus, penjangkauan penyelidikan, pengalaman di kampus, serta penilaian dan pelaporan, yang mana kajian ini hanya berfokus pada kriteria pendidikan untuk penilaian pelaksanaan kelestarian di IPT swasta di Malaysia. Tujuan kajian ini adalah untuk membangunkan kerangka penilaian pelaksanaan kelestarian bagi institusi pendidikan tinggi swasta di Malaysia. Objektif penyelidikan adalah: untuk mengenal pasti elemen kriteria pendidikan dalam penilaian pelaksanaan kelestarian di IPT swasta; untuk mengkaji alat penilaian pelaksanaan kelestarian yang ada di IPT di seluruh dunia; untuk menilai faktor kekangan pada penilaian pelaksanaan kelestarian di IPT swasta di Malaysia; untuk mengkaji faktor kejayaan kritikal (CSF) dalam penilaian pelaksanaan keberlanjutan di IPT swasta; dan untuk mencadangkan kerangka penilaian pelaksanaan kelestarian untuk IPT swasta di Malaysia. Kajian ini menggunakan kaedah campuran dalam pengumpulan data. Dalam menyusun soal selidik, 15 pakar ditemu ramah semasa peringkat kajian rintis. Soal selidik diedarkan kepada 75 Timbalan Naib Canselor dan Dekan dari 29 IPT swasta. Model Rasch dan pemodelan persamaan struktur kuadrat separa terkecil (PLS-SEM) digunakan dalam analisis. Penemuan kajian menunjukkan tiga faktor kritikal untuk kerangka penilaian pelaksanaan kelestarian untuk IPT swasta: (1) elemen kriteria pendidikan kelestarian dengan 10 konstruk; (2) faktor kekangan pada penilaian pelaksanaan kelestarian dengan 10 konstruk; dan (3) CSF dalam penilaian pelaksanaan kelestarian dengan 15 konstruk. Kajian ini juga mengesahkan bahawa tidak ada alat penilaian khusus yang digunakan untuk penilaian pelaksanaan kelestarian di IPT Swasta di Malaysia. Kerangka ini sejajar dengan Pelan Pembangunan Pendidikan Malaysia dan Pelan Strategik Pengajian Tinggi Nasional, serta selari dengan Matlamat Pembangunan Kelestarian (SDG) Persatuan Bangsa-bangsa Bersatu (PBB) dalam memimpin IPT swasta menjadi terkenal di dunia dalam membangun masa depan lulusan yang mempunyai nilai kemanusiaan.

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11MP	-	11th Malaysia Plan
AIMST	-	Asian Institute of Medicine, Science and Technology
AISHE	-	Assessment Instrument for Sustainability in Higher Education
AIU	-	Albukhary International University
AKEPT	-	Malaysian Higher Education Leadership Academy
AVE	-	Average Variance Extracted
CAP	-	Critical Agenda Project
CSAF	-	Campus Sustainability Assessment Framework
CSF	-	Critical Success Factors
CSR	-	Corporate Social Responsibilities
EMS	-	Environmental Management System
ESD	-	Education for Sustainable Development
GRI	-	Global Reporting Initiative
HTMT	-	Heterotrait-Monotrait
IPTS	-	Institusi Pengajian Tinggi Swasta
LESTARI	-	Institute for Environment and Development
MAHSA	-	Malaysian Allied Health Sciences Academy
MAPCU	-	Malaysia Association of Private Colleges and Universities
MNSQ	-	Mean-Square Value
MOE	-	Ministry of Education Malaysia
MQA	-	Malaysia Qualification Agency
MUST	-	Malaysia University of Science and Technology
MyRA	-	Malaysia Research Assessment Instrument
OMNSQ	-	Outfit on Mean Square
PCA	-	Principal Component Analysis
PDCA	-	Plan-Do-Check-Act
PIDM	-	Person Item Distribution Map
PLS-SEM	-	Partial Least Square-Structural Equation Model
PMC	-	Point Measure Correlation
R&D&C	-	Research, Development, and Commercialisation

RO	-	Research Objectives
SCU	-	Sustainable Campus Unit
SDG	-	Sustainable Development Goals
SE	-	Standard Error
SR	-	Sustainability Reporting
TDC	-	Tourism Destination Competitiveness
TOPSIS	-	Similarity to Ideal Solution
UI	-	University Indonesia
UK	-	United Kingdom
UKM	-	Universiti Kebangsaan Malaysia
UM	-	UM University of Malaya
UMS	-	Universiti Malaysia Sabah
UN	-	United Nation
UNESCO	-	Educational, Scientific and Cultural Organization
UniMAP	-	Universiti Malaysia Perlis
UPM	-	Universiti Putra Malaysia
USAS	-	Universiti Sultan Azlan Shah
USM	-	Universiti Sains Malaysia
UTAR	-	Universiti Tunku Abdul Rahman
UTEM	-	Unversiti Teknikal Malaysia
UTHM	-	Universiti Tun Hussein Onn Malaysia
UTM	-	Universiti Teknologi Malaysia
UUM	-	Universiti Utara Malaysia
VIF	-	Variance Inflation Factor
WCED	-	World Commission on Environment and Development

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Sustainable development, which is prominent in these few decades has been implemented worldwide due to its essential role in society. Besides, Higher Education Institutions are also actively working closer to sustainability implementation by imposing sustainability practices within the establishments themselves (Law, 2015). The motives of imposing sustainable development inside the Higher Education Institutions are, broadly speaking, to tackle the challenges of Higher Education Institutions thus they are in parallel with the Sustainable Development Goals (SDG) #4 on improving the quality of education.

However, speaking about sustainability, it is continuously referred to as the foremost thoughts of sustainable development, which are the three bottom-line ideas: economic, social and environment (Lozano et al., 2013a). Regardless of the fundamental concept of sustainability itself, sustainability in Higher Education Institutions can be mentioned in institutions' goals policy, as correctly as a long-term standpoint like operationally within the institutions. This chapter may further discuss the background of the study, the problem statement, aim and objectives of the study, research scope, research questions, operational definitions significance of study and structure of study.

1.2 Background of Study

According to Alshuwaikhat and Abubakar (2008), Higher Education Institutions are 'small cities' that have severe, direct and oblique effects on the environment due to their massive populace and several complex activities the

institutions. No precise definition on what is certainly sustainability in Higher Education Institutions.

Higher Education Institutions ought to play a vital role in turning society to emerge as sustainable via their strength in producing and educating the heirs' generations. The functionality of a research core must be superior regarding the sustainability agenda. The conceptual and philosophy of sustainability ought to be taught to the scholar to embody their understanding as soon as they enter their professional life. Besides, from an organisational perspective, the sustainability idea has to be embraced inside day-by-day routine organisational management tasks. Furthermore, it was once viewed that as sustainable Higher Education Institutions have to refer to a four-dimension system – education, research, community outreach and campus operation. Therefore, all dimensions of sustainable Higher Education Institutions ought to be utterly adopted, which include the fifth dimension advocated by way of Lozano (2003), where overall sustainability implementation performance has to be assessed and reported.

On the other hand, sustainable development concept of economics, social and environmental ought to be applied and need to be in line with sustainability concepts in Higher Education Institutions. Basically, to renowned the implementation of this concept, the higher management of Higher Education Institutions themselves should stroll the discussion through adopting and embedding these sustainable factors in their management, even though now and again, economic is one of the challenging factors that need to be considered.

1.3 Problem Statement

Sustainable development has been a much-debated subject in recent years, especially in developing countries, including Malaysia, due to rapid urbanisation with increased population and rapid economic growth. Every developing country is now moving forward in implementing this concept (Ibrahim et al., 2015). The Malaysian government has expressed its concern in achieving sustainability through several

strategies formulated in its five-year national development plans (Yakob et al., 2012). Observing from this as a jump start, the Malaysian government has come out with 11th Malaysia Plan (11MP), and upgrading formula from the previous plan, which has been launched since the year 1991 to support in realising the highlighted Vision 2020 to be a fully developed country including economic, politic, social, spiritual, psychological and cultural dimension by the year 2020 (Eleventh Malaysia Plan, 2016).

The main concern in the 11MP regarding education strategy is to improve the quality of education for better student outcomes and institutional excellence and foster sustainable practices. The 11MP not only marks the culmination of a 30-year journey towards Vision 2020, where it also sets the stage for the next horizon of growth. In 2020, the challenge is to raise the bar even higher on its growth prospects along three dimensions: economy, people and environment. These stated three dimensions reflect on the sustainability concept in sustainable development clearly announced during the World Summit on Social Development, where sustainable development requires three main reconciliations, namely environmental, social equity and economic sustainability (Tanguay et al., 2010). Thus, by identifying the elements of education criteria of the sustainability implementation assessment for Private Higher Education Institutions in Malaysia may showing a further commitment to the vision in parallel with sustainable development concept.

Many tools have been developed to assess advancement towards sustainability implementation in the Higher Education Institutions. However, although those tools provided valuable insight into essential attributes of sustainability in assessing sustainability implementation in Higher Education Institutions, the relevance of Higher Education Institutions remains blurry (Lukman et al., 2011; Shriberg, 2002). New tools have been developed more recently, namely Sustainability Tracking and Assessment System, Green Metric, and Green Plan. Nevertheless, even though these tools present interesting proposals in assessing sustainability implementation in Higher Education Institutions, measuring sustainability is still in the challenging process, especially to reflect the assessment with the result obtained and in line with the reality, which serves the sustainability implementation in their Higher Education Institutions (Francisco et al., 2015). Therefore, further examination on the existing sustainability

implementation assessment tools in Higher Education Institutions worldwide may assist to find the existence awareness among academician.

Progress toward sustainability implementation assessment tools in Higher Education Institutions is not only unsatisfactory, but it is also extremely slow and frustrating (Barth et al., 2012; Blake et al., 2011; Lambrechts et al., 2012; et al., 2010). Literature indicates that Malaysian Higher Education Institutions are not exempted from this deficiency (Abd-Razak et al., 2011). Lacking a comprehensive study on the numbers of existing tools in sustainability implementation assessment in Higher Education Institutions and complimenting continuous improvement, a comprehensive study needs to be conducted to discuss the most relevant tools to be used as general references for sustainability implementation assessment in the Higher Education Institutions. This is due to different Higher Education Institutions are having different divergent levels of interest in sustainability implementation assessment in their respective Higher Education Institutions.

Conferring about the reformation in the higher education sector by Ministry of Education (2019), three main issues were highlighted to reinvigorate the Higher Education Institutions' spirit through empowerment, autonomy and integrity in bringing Malaysia's Higher Education system into Global Prominence and developing future-proof graduates that carry with them crucial humanistic values. Empowerment means that the Higher Education Institutions are to be a place of learning, a place where knowledge is explored, uplifted and imparted (Ministry of Education, 2019). Higher Education Institutions are and should be, placed that uplift society through values, ideas or solutions for real-world problems. These can be demonstrated through education in Higher Education Institutions and come across to how this reformation can be sustained. Thus, the evaluation of the constraint factors of sustainability implementation assessment for Private Higher Education Institutions in Malaysia may lead to minimisation of the shortcomings.

In 2013, the Higher Education Ministry of Malaysia has developed the Malaysia Education Blueprint 2015–2025 (Higher Education), where the development process of the blueprint started with a review of the National Higher Education

Strategic Plan. The Ministry of Higher Education has also made significant progress in fulfilling its core aspiration for Higher Education Institutions, more notably in broadening process and expanding overall system and institutional quality through aspiration covering three aspects: quality of graduates, quality of institutions and quality of the overall system in order to appreciate the sustainable development (Ministry of Higher Education, 2015). Accordingly, the Ministry's overriding aspiration is to create a higher education system that is ranked among the world's leading education systems and enables Malaysia to compete in the global economy. It also serves as a tool for guidance in sustainability policies, including monitoring measures and their results as well as communication to the public (Ibrahim et al., 2015). Hence, the investigation to the critical success factors (CSF) of sustainability implementation assessment for Private Higher Education Institutions in Malaysia may escalate the implementation.

For the sustainability implementation assessment of different countries, diverse parameters should be considered because the process of urbanisation and characteristics of urban areas varies from one country to another (Tavakoli et al., 2012). Furthermore, the sustainability topic is a flowing concept that alters with time, location and human values (Maleki et al., 2011). However, Malaysia has yet developed any assessment approach for sustainability implementation assessment in Higher Education Institutions (Omidreza Saadatian et al., 2013; Saadatian et al., 2011). Thus, this study is important to fill the gaps by developing the framework of sustainability implementation assessment, particularly in Malaysia, through some extensive studies from the previous literature and by looking at the approach from other countries.

Sustainability implementation assessment in Higher Education Institutions gives rapid growth in measuring and assessing the progress towards sustainability implementation. In this regard, the need for sustainability implementation assessment in Higher Education Institutions and for a system capable of translating sustainability indicators into a single metric enables comparison across many Higher Education Institutions in terms of their level of sustainability implementation achievement (Amber et al., 2010). In supporting this statement, Amber et al. (2010) claimed that a framework of understanding sustainability implementation in all sectors in Higher

Education Institutions should facilitate and capable of translating sustainable indicators into a single metric that can be achieved by all Higher Education Institutions.

The rationale of indicators listed in the existing sustainability implementation assessment shows the lack of information, which some of the points tested not exist or sufficient. Thus this information is seen as being presented in poor performance and contextual distortion of the Higher Education Institutions (Gomez et al., 2015). According to Gomez et al. (2015), the existing sustainability implementation assessment tools in Higher Education Institutions do not compete with each other, and each delivers a solution to respond different needs or levels of sustainability implementation. Therefore, from this statement, an improvement in sustainability implementation measures needs to be proposed, especially for the Malaysian context, as not all the existing sustainability implementation assessment tools can suit the Malaysian situation, where further enhancement or improvement from the existing tools can truly be appreciated.

1.4 Aim and Objectives of Study

This study aims to develop the framework of sustainability implementation assessment for Private Higher Education Institutions in Malaysia, where the expected findings are able to significantly highlight the specific criteria and elements of sustainability implementation assessment across all Private Higher Education Institutions in Malaysia, which could be used as the guidelines for future studies in developing the comprehensive masterplan of sustainability implementation assessment.

Therefore, in order to justify the stated aim, five main objectives have been listed as follows:

i. To identify the elements of education criteria of the sustainability implementation assessment for Private Higher Education Institutions in Malaysia;

ii. To examine the existing sustainability implementation assessment tools in Higher Education Institutions worldwide;

iii. To assess the constraint factors of sustainability implementation assessment for Private Higher Education Institutions in Malaysia;

iv. To investigate the critical success factors (CSF) of sustainability implementation assessment for Private Higher Education Institutions in Malaysia; and

v. To propose the sustainability implementation assessment framework for Private Higher Education Institutions in Malaysia.

1.5 Research Question

The formulation of relevant questions will assist in focusing the study towards the sustainability implementation assessment in Private Higher Education Institutions in Malaysia. These questions are directed towards achieving the study aim and objectives. Accordingly, this study sets out to answer the following questions:

i. What are the elements of education criteria of the sustainability implementation assessment for Private Higher Education Institutions in Malaysia?

ii. What are the existing sustainability implementation assessment tools in Private Higher Education Institutions worldwide?

iii. What are the constraint factors hindering the Malaysia Private Higher Education Institutions in sustainability implementation assessment?

iv. What are the critical successful factors (CSF) of sustainability implementation assessment in Private Higher Education Institutions in Malaysia?

v. How can the sustainability implementation assessment be improved in Private Higher Education Institutions in Malaysia?

1.6 Research Scope

This study solely focuses on one dimension, which is education criteria because this criteria has been given extra attention throughout all the Higher Education Institutions locally as well as internationally. According to Lozano et al. (2014), the criteria of sustainability implementation assessment, particularly in the education, can be discussed from many perspectives that directly affected the overall course syllabus on sustainable development. This is supported by findings in literature review as shown in Table 2.3 in Chapter 2, where education is the most referred criteria of sustainability implementation assessment by previous researchers.

The scope of this study also focuses on the Private Higher Education Institutions, who are the members with Malaysia Association of Private Colleges and Universities (MAPCU), accredited by the Malaysian Qualification Agency and also recognised by the Ministry of Education Malaysia (MOE). These Private Higher Education Institutions are operationally complying with Institusi Pengajian Tinggi Swasta (IPTS) Guidelines Act 555. There are 29 members of MAPCU amongst Private Higher Education Institutions; Asian Institute of Medicine, Science and Technolog (AIMST) University, Asia Pacific University of Technology & Innovation, Albukhary International University (AIU), Binary University of Management & Entrepreneurship, Curtin University, DRB-HICOM University of Automotive Malaysia, HELP University, Heriot-Watt University Malaysia, Infrastructure University Kuala Lumpur, INTI International University, International Medical University, Limkokwing University of Creative Technology, Manipal International University, Malaysia University of Science & Technology (MUST), Malaysian Allied Health Sciences Academy (MAHSA) University, Monash University Malaysia, Nilai University, Perdana University, Quest International University, SEGI University, Swinburne University of Technology Sarawak Malaysia, Sunway University, Taylor's University, The University of Nottingham Malaysia Campus, University Tun Abdul

Razak, Unitar International University, UCSI University, Universiti Sultan Azlan Shah (USAS), University Malaysia of Computer Science and Engineering, and Wawasan Open University.

The other scope has been set is only Private Higher Education Institutions who are able to maintain their university status are considered in this study. Since the Higher Education Institutions especially the top management officials of the private sector deal with the issues of sustaining themselves in the education market, the target respondents for this study are top management, namely Deputy Vice-Chancellors and Deans.

1.7 Theoretical Background

The pre-conceptual framework is developed solely from the construct obtained via the literature review. Figure 1.1 shows the pre-conceptual framework, which consists of three factors amongst the research objectives, namely research objective 1 (RO1) with 25 constructs, research objective 2 (RO2) with 25 constructs, and research objective 3 (RO3) with five headings and 18 constructs in total.

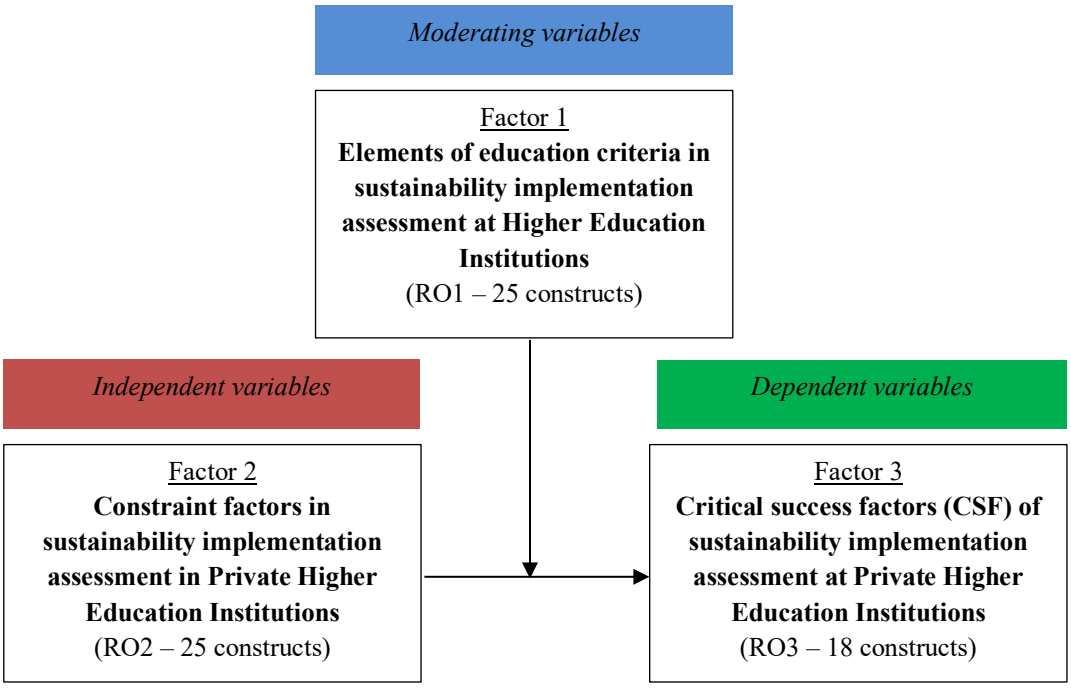

Figure 1.1 Pre-conceptual framework

By referring to the problem statement as explained in Section 1.4 of Chapter 1, the three factors, which are elements of education criteria, constraint factors, and critical success factors (CSF) in the pre-conceptual framework, are tested via questionnaire survey towards the development of the conceptual framework of sustainability implementation assessment for Private Higher Education Institution in Malaysia. In RO1, all the constructs of elements of education criteria in sustainability implementation assessment at Higher Education Institutions have been listed in Table 2.4. RO2 further discusses the constraint factors in sustainability implementation assessment at Higher Education Institutions, as listed in Table 2.8. Lastly, RO 3 on the CSF of sustainability implementation assessment at Higher Education Institutions has been further discussed and listed in Table 2.9.

The development of the conceptual framework derived from Irvine and Hall (2015) is developed through the research model to influence an individual factor on project success (or failure). This study tends to focus on just one factor, or occasionally two, where the element under investigation is considered an independent variable that directly influences the dependent variable of project success, as illustrated in Figure 1.2. Irvine and Hall (2015) suggest that future studies of the impact of other factors

will demonstrate that project success is a function of a far more comprehensive range of factors than previously believed.

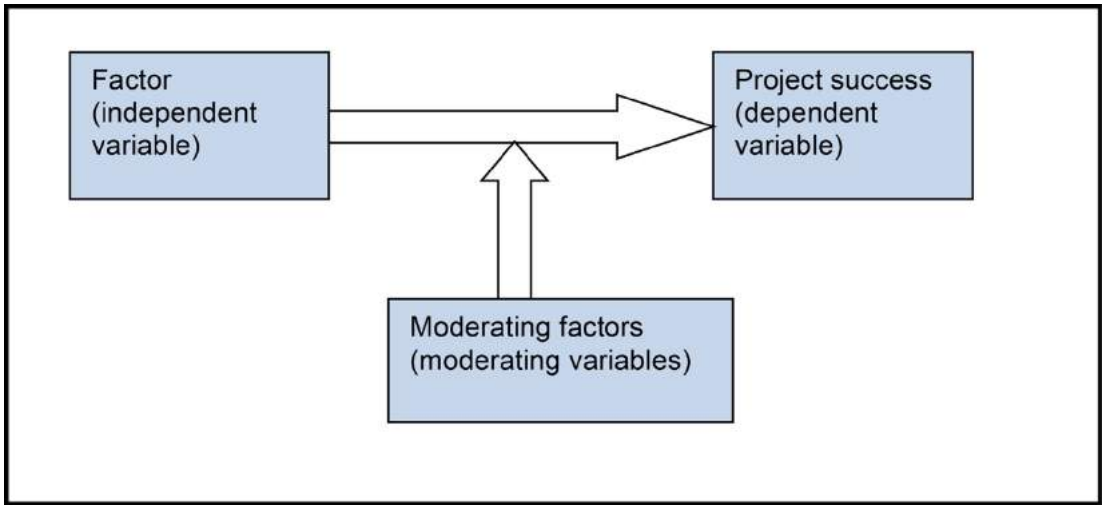

Figure 1.2 Research model for the influence of an individual factor on project success (or failure) (Irvine and Hall, 2015)

1.8 Research Conceptual Framework

Higher Education Institutions bear a profound societal responsibility, which contributes to the transition process towards sustainable development. This responsibility is derived from the 'wicked problems' in society and societal stakeholders' inability to find answers to these problems (Rieckmann 2012; Wiek et al., 2011). Higher Education Institutions are expecting to acquire the competencies that enable them to cope with these problems and find sustainable solutions, yet integrating for sustainable development remains fragmented and implicit (Lambrechts et al., 2013). As a part of their societal responsibility, Higher Education Institutions ought to lead by example, thus integrating principles within their campus operations, research, and outreach. This approach, where sustainability integration is encouraged within all working fields of Higher Education Institutions, is envisioned within numerous charters and declarations for sustainability implementation in Higher Education Institutions (Lozano et al., 2013; Wright 2004). Sustainability implementation assessment has become or should become an inevitable part of these working fields (Lozano et al., 2013). Nonetheless, results from a worldwide survey

show that sustainability implementation assessment is lagging in Higher Education Institutions' practices (Lozano et al., 2013).

Much attention has been given to developing elements, indicators, tools, and instruments. The variety of approaches to apply sustainability implementation assessment indicators in Higher Education Institutions is abundant and covers conceptual frameworks, environmental management systems, reporting guidelines, life cycle assessments, ranking tools, and indexes (Ramos et al., 2013). Explicitly focusing on sustainability assessment, initiatives reported in the literature include applying existing instruments within the context of higher education, such as the ecological footprint to assess campus operations (Lambrechts et al., 2014); adapting existing instruments to be used in Higher Education Institutions, such as Global Reporting Initiative (GRI, 2011); and developing specific instruments to be used within the framework of Higher Education Institutions, such as the Assessment Instrument for Sustainability in Higher Education (AISHE), as described by Roorda (2001).

In describing the different sustainable implementation assessment tools and instruments, their position and contribution to the Higher Education Institutions's sustainability integration process are often highlighted as threefold (Lambrechts et al., 2013). Thus, sustainability implementation assessment contributes to policy development, mainstreaming sustainable development in Higher Education Institutions, as well as transparency and communication.

Therefore, by referring to Figure 1.3, the conceptual framework development of sustainability implementation assessment in Higher Education Institutions should consider the existing relevant sustainability implementation assessment tools of Higher Education Institutions. There are three factors used to construct the conceptual framework of sustainability assessment in Private Higher Education Institutions, namely elements of education criteria for sustainability implementation assessment at Private Higher Education Institutions, constraint factors in sustainability implementation assessment at Private Higher Education Institutions, and critical

success factors (CSF) of sustainability implementation assessment at Private Higher Education Institutions.

There are 25 constructs under elements of education criteria that need to be assessed. Furthermore, there are also 25 constructs in the constraint factors of sustainability implementation assessment that are linked with CSF of sustainability implementation assessment, which have 18 constructs to generate a sustainability assessment conceptual framework in Higher Education Institutions.

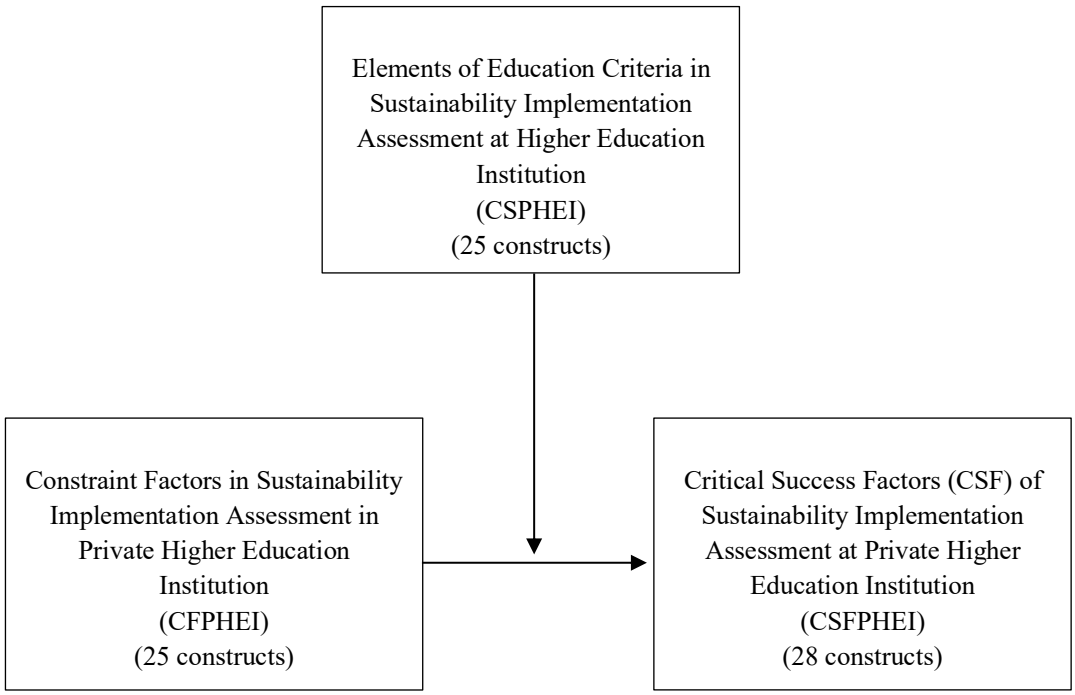

Figure 1.3 Pre-conceptual framework of sustainability implementation assessment in Higher Education Institutions

Sustainability implementation assessment is seen as an essential tool for decision-making in various contexts, as an assessment contributes to understanding the sustainability challenge in a given context, provides information on sustainability implementation impacts, and fosters the defining of objectives (Waas et al., 2014). In the context of Higher Education Institutions, applying tools for sustainability implementation assessment and self-reporting can encourage the planning process for sustainability implementation goals and actions (Lidstone et al., 2015) or compare

different Higher Education Institutions in an attempt to benchmark results (Shriberg 2003). Sustainability implementation assessment is seen as part of sustainability implementation reporting; however, the two terms can be differentiated and defined (Waas et al., 2014).

By referring to the ideas from Figure 2.8, the conceptual framework development encompasses the critical discussion between the main concept of sustainable development three lines ideas: social, environmental and economical. These ideas have been merged with the CSF and constraint factors of sustainability implementation assessment, particularly for Higher Education Institutions, such as institutional framework, campus operation, research, education, outreach, on-campus experiences, as well as reporting and assessment.

The specific contribution of sustainability implementation assessment towards sustainable development integration in Higher Education Institutions is reported in various cases (Mader 2013; Meisch et al., 2015). However, Ramos and Pires (2013) stated that more research is needed to contribute sustainability implementation assessment to structural, organisational change in Higher Education Institutions, to foster the contribution of Higher Education Institutions to the sustainability transition (Miller et al., 2011). Furthermore, as Higher Education Institutions are looking into sustainability implementation as a new way of organising themselves in educational reforms towards efficiency, management and control (Wals, 2014), the contribution of sustainability implementation assessment to these specific conditions and evolutions is important. In this context, the link between sustainability implementation assessment and quality assurance in Higher Education Institutions is seen as a next step in the sustainable development integration process (Vettori et al., 2014).

1.9 Operational Definition

The following are the operational definitions used for this study.

i. MAPCU – Malaysia Association of Private Colleges and Universities

ii. Private Higher Education Institution – Private Higher Education Institution defines as independent and autonomous, while also being subject to a variety of external controls, largely responsible for their own funding, and the consequences of poor financial management are immediate and serious.

iii. Top Official Management – senior staff of an organisation or business, including the heads of various divisions or departments led by the chief executive.

iv. ESPHEI – Education element of sustainability implementation in Private Higher Education Institutions.

v. CFPHEI – Constraint factors of sustainability implementation in Private Higher Education Institutions.

vi. CSFPHEI – Critical success factors of sustainability implementation in Private Higher Education Institutions.

1.10 Significance of Study

Higher Education Institutions play a crucial role in promoting sustainability implementation principles, thus should contribute to a paradigm shift towards a more sustainable society. They are essential drivers of education for sustainable development and constitute fundamental vehicles to explore, test, develop and communicate conditions for transformative changes (Disterheft et al., 2013; Leal Filho, 2012). The Higher Education Institutions as a whole is a complex system that interacts with multiple stakeholders and in different areas, where the education in sustainable development does not apply only to the curricula, thus it is essential to focus on the integration of sustainability implementation across all of its activities, responsibilities and mission (Lee et al., 2013). According to Ligren et al. (2006) and Lozano (2010), sustainability must be integrated into the areas of education as a main criteria to implement sustainability at Higher Education Institutions.

Firstly, with a clear and in-depth understanding of criteria, elements and relevant tools for sustainability implementation assessment in Higher Education Institutions, it can give a clear picture of overcoming the constraint factors that may exist. This may help the relevant agencies to promote sustainability implementation, especially in a Private Higher Education Institution. The reason is that any changes should start from the root, where at this juncture, the sustainability implementation should start from the level of Higher Education Institutions. As comparing with Public Higher Education Institutions, the Private Higher Education Institutions' main focus is providing education. Therefore, this study is focusing on education criteria from seven (7) criteria of sustainability implementation assessment for Higher Education Institutions.

Secondly, this study intends to provide a standard framework as a reference to assess the sustainability implementation in Private Higher Education Institutions in Malaysia. With standard references, all the Private Higher Education Institutions Management can have a clear guideline to transform their institution into sustainable Higher Education Institutions implementing the sustainability concept.

The significant finding of the study will also enable the Malaysian Higher Education Institutions to evaluate their sustainability implementation status in terms of environment and social sustainability. This will provide not only a standard platform and standard scale, which allow different Higher Education Institutions to assess their existing situations, but also enable them to compete with each other and improve their shortcomings. This assessment approach is useful for accreditation of the Malaysian Higher Education Institutions and also to remove their constraint factors of sustainability implementation assessment and empower their strength, which can further improve the image of the institutions through further evaluation and recognition.

Lastly, the proposed framework may help the Private Higher Education Institutions Management to adopt sustainable development concept in their institutions. It also assists the Ministry of Education (MOE) and also the Malaysia Association of Private Colleges and Universities (MAPCU) to monitor the quality of

education provided by the Private Higher Education Institutions in Malaysia. In regards to all existing elements of education criteria, not all elements promoted worldwide from western thought are suitable to be used in the Malaysian Private Higher Education Institutions. Therefore, from the development of the framework of sustainability implementation assessment, which is based on the specific case study of the Malaysian respondents, it is expected that the components of this framework would suit the Malaysian Private Higher Education Institutions. The most important it is going to be one-of-its-kind that has compiled almost the majority of the world's reputable sustainability implementation assessment for Higher Education Institutions particularly to be practised in the Malaysian Higher Education Institutions.

1.11 **Summary**

This chapter has elaborated further on background of the study, aim and objectives of study, research question, research scope, research conceptual framework, theoretical background, research conceptual framework, operational definitions and significance of study.

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