

# Employing the Balanced Scorecard (BSC) to Measure Performance in Higher Education – Malaysia

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## ABSTRACT

Institutions for Higher Education comprising universities and colleges in Malaysia have not been employing the Balanced Scorecard approach as a crucial tool for performance measurement. Some may have implemented the BSC beyond specific division in university or college, which is not covered entire institution. Therefore, the purpose of this paper is to highlight the importance of employing Balanced Scorecard (BSC) to measure performance in Higher Education in Malaysia and propose a framework on how to incorporate difference perspectives of BCS. We will propose a framework on stages how to employ a BSC in Higher Education Malaysia as well.

**Keywords** – *Balanced Scorecard, Performance Measurement, Higher Education*

## I. INTRODUCTION

Higher Education in Malaysia has been an important trend since the establishment of the Ministry of Higher Education (MOHE) in 2004. There have been various efforts to nurture higher education in Malaysia from different sectors. Issues in higher education are also increasingly gaining the attention of various sectors, be it the media, people and the government. In this regard, the ministry has introduced various policies to strengthen the national higher education to ensure the existence of a conducive ecosystem, which leads to knowledge excellence. This is in tandem with the government's effort to make Malaysia the regional hub for higher education, as well as the main choice for international students and intellects by 2020 [18]. To achieve such an accomplishment is a tough task considering the processes that needs to be involved. In order for higher education institutions to align their goals with the policies by the government, they have to set their goals accordingly, set measures and monitor performance.

In this paper we will go through some literature review to have a better understanding on what are the performance measurement techniques as well as to better understand the impact of Balanced Scorecard in measuring performance. Furthermore, we will be proposing a framework solution for Higher Education in Malaysia. We will also propose a framework of stages for employing Balanced Scorecard in Higher Education.

### A. Definition of Terms

According to the case study of Rollins (2011), which had given the meaning between Balanced Scorecard and Higher Education terms to understand more in related context of this paper.

1. "Balanced Scorecard refers to the performance management tool developed by Robert S. Kaplan and David P. Norton in 1992." [19].
2. "Higher Education organizations refer to public and private nonprofit 2-year colleges and public and private nonprofit 4-yr universities." [19]

## II. LITERATURE REVIEW

### A. What is Balanced Scorecard?

The Balanced Scorecard (BSC) is used as a measurement tool in order to measure an organization's performance in both public and private sectors to achieve the key business strategies and objectives. The BSC was first developed in early 1990s by Robert Kaplan and David Norton at the Harvard Business School. As the key problem that they identified is many organizations had tendency to manage their businesses based on financial measures while they actually may have worked well in earlier. Moreover, the tempo of business nowadays significantly needs greater and more comprehensiveness of measurement to eventually become successful in further pace of business firms [1].

Basically, the scorecard consists of four major perspective elements as following:

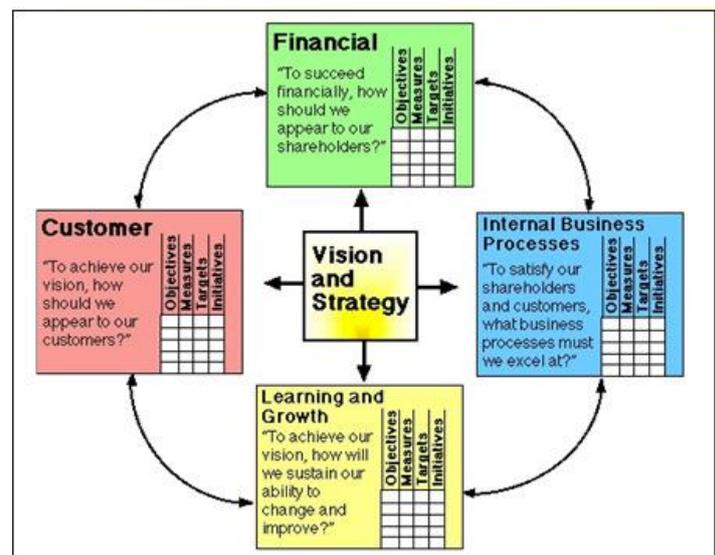


Figure 1. Four perspectives of Balanced Scorecard [14]



- 1) *Customer perspective*: this element is a measurement of the customers' satisfaction as well as their accomplishment requirements.
- 2) *Internal business process perspective*: this perspective is used to measure the critical-to-customer process requirements and measures.
- 3) *Financial perspective*: this element is used to track the financial requirement and accomplishment in organization.
- 4) *Learning and growth perspective*: this perspective will be concentrating on how organizations train and educate their employee, gain and capture their knowledge, and how organization utilized it to maintain a competitive edge within their markets.

Additionally, those particular elements of the scorecard depend upon the organization's aims (e.g. vision, mission, and objectives). For instance, customers in academic institution are professors, lecturers, faculty staffs, and students. Meanwhile customers in healthcare industry are doctors, nurses, and patients. However, even in educational sector, this still can be found characteristic of indicators in between public institution and private institution. Since private institution has a big financial situation, which solely gains from students' tuitions fees, while most of public institutions has rather small financial situation as they are partially supported by the government funds [2].

## B. Application of the Balanced Scorecard among Universities

The concept of Balanced Scorecard principles has been widely adopted among researchers. Many of research studies, which is related to the concept including the implementation of the Balanced Scorecard for university management [10], academic department [7], university research [8], university teaching [9], and internal service provider in a university [8]. These are proven that not only Balanced Scorecard concept has been used among academic researchers, but Balanced Scorecard will be more and more applied in various universities as well.

According to a survey study [12], which had interviewed the universities whereby they are currently implementing Balanced Scorecard in their universities. The researcher found that there are 22 universities of 29 universities, which have been now using the Balanced Scorecard. In fact, most particular universities are located in the United States, two are in the United Kingdom, another two are in Australia, and only one in Canada. Yet, not all the universities apply the Balanced Scorecard for the whole university as some of them implement beyond specific division while, only a few implement for entire university. In addition, from literature, the researcher also provides a list of those universities that currently apply the Balanced Scorecard regarding the table below.

**Table I: A list of universities that currently apply the Balanced Scorecard [12]**

University	Country	Unit that implements the Balanced Scorecard
1. University of California at San Diego	US	Business Affairs
2. University of California at Davis	US	Division of Administration
3. University of California at Berkeley	US	Business and Administration Services Division
4. University of California at Los Angeles	US	Administrative Information System, Business Administration Service
5. University of California at Irvine	US	Division of Business and Administration Service
6. University of California Santa Cruz	US	Business and Administration Service
7. University of California at San Francisco	US	Campus Auxiliary Services
8. California State University at Northridge	US	Administration and Finance
9. California State University at San Marcos	US	Finance and Administrative Service
10. California State University at San Bernardino	US	Administration and Finance
11. Florida International University	US	Entire university
12. University of Louisville	US	Entire university
13. University of Vermont	US	Entire university
14. University of Akron	US	Entire university
15. University of Virginia	US	Library
16. Fort Hays State University	US	Entire university
17. University of Florida	US	Library
18. University of Edinburgh	UK	Entire university
19. Glasgow Caledonian University	UK	Entire university
20. Deakin University	Australia	Library
21. Bond University	Australia	Entire university
22. Carleton University	Canada	Finance and Administration

## C. How Does Higher Education Measure Performance?

According to the research study, which has been collected from two literatures, one was found from CUC report, Australian Government report in higher education and performance measurement in University of Edinburgh and performance measurement in University of Twente [15].

As the measurement of university performance, which was found in the CUC report. This mainly concerns on ten high-level key performance indicators that significantly involved to the capability in the institutional education, which are institutional sustainability, academic profile and market position, student experiences, teaching and learning, research, Knowledge transfer and relationships, financial health, estates and infrastructure, staff and human resource development, governance, leadership and management and Institutional projects [15]. Those particular key performance indicators have important indicators, which will be a further development. Also, government can successfully obtain an inclusive view of the performance in institution.

The second literature was found in the report of Australian government, which was more concerned on the powerful outcome of performance indicators in higher education. The indicators are progress rate, attrition/retention rates, graduate full-time employment, graduate full-time study, graduate salary, overall satisfaction, good teaching and general skills [15].



In a way, the Wang (2010) also came up with the three significant performance indicators that focused on the measurement of educational performance, research performance and management performance, which will be addressed accordingly [15].

### 1) Educational Performance Indicators

Educational performance is a part of academic components as a traditional and standard dimension in performance measurement among universities in order to determine university's reputation. Nevertheless, education performance indicators are introduced to shield the entire institutional process starting from input, process, and outcome. There are three indicators as described below.

- a) Input indicators: These indicators measure intake of graduates and undergraduates, the number of Bachelor and Master degree programs, Staff FTE, and Student and academic staff ratio.
- b) Process indicators: These indicators measure by using student satisfaction, study efficiency, retention rate, drop-out rate, and average contact hours.
- c) Outcome indicators: These indicators are used to measure number of graduation, graduation satisfaction, and number of employment.

### 2) Research Performance Indicators

Research is also a part of academic components to represent university's reputation. The study was determined three indicators that can measure the performance of university based upon university's research capability. The research performance indicators are determined as following:

- a) Research input indicators: These indicators are used to measure researcher FTE, the number of researchers from sponsors, successful research granted applications, and the number of strategic partnerships.
- b) Research output indicators: These indicators measured by using the number of publications, the number of doctorate conferred, exploitation of intellectual property, and the number of successful entrepreneurs.
- c) Research outcome indicators: These indicators are measurement of research citation, membership of research council and editorships of ISI journals, awards, and research ranking.

### 3) Management performance indicator

The term of management can bring university to shift toward in order to achieve university's goals. Most university managers may face with lack of information input to forecast future directions of their institution. Also, they have to be aware of every shift in development of planning and execution of institution policies and tasks. Therefore, performance indicators

can assist university managers was reminder to avoid any incorrect directions. The management performance indicators are categorized in two terms as following:

#### a) Financial performance

The amount of financial resources can significantly supply the capital investment in university to increase university's academic performance. The two critical indicators are:

- Financial resource indicators: These indicators measure beyond amount of research income, research indirect cost recovery, share in third-party funding and share in governmental funding, and income from tuition fees and others services.
- Financial position indicators: These indicators measure based upon operation of cost recovery, surplus/deficit as % of income, current ratio, debt ratio as short-term financial position. Long-term financial positions are manager's satisfaction toward financial strategies and annual amount of investment in infrastructures.

#### b) Human resource

This focuses on employee in institution such as staffs or lecturers to drive the university performance. There are two significant terms in measuring human resource performance.

- Human capital indicators: These indicators measure by using percentage of success in recruitment, staff skill and staff diversity, and employee's age distribution.
- HR policies and practices indicators: These indicators measure based upon expenditures on training and development, and employee motivation.

### D. Importance of Performance Measurement in Higher Education Using BSC

"As important as the traditional indicators are, these measures fail to present a comprehensive image of the current status of an institution. They do not reflect some of the key success factors for a college or university, nor do they capture many of the dimensions of a university's mission, vision, or strategic directions" [3].

Since the Balanced Scorecard has been implemented in universities especially in the Western countries such as University of Minnesota and University of California, San Diego where the perspectives of Balanced Scorecard has been modified in order to serve those institution's needs.

## 1) Balanced Scorecard at the University of Minnesota:

The mission of this university is to prepare students to become managers and leaders who will add value to their organizations and communities through following these [16]:

- a) Offering high quality graduate and undergraduate programs.
- b) Conducting valuable basic, applied and pedagogical research.
- c) Supporting regional economic health and development.

In regard with the university's mission, the university identified three strategic themes to be integrated with the BSC strategy map, which are [16]:

- a) Teaching themes – this is focused on teaching excellence in selection and retention of university's faculty in order to obtain an expanded market share of the educational market.
- b) Research themes – this is identified as dedicated research partnership in university's faculty to be excellence in their selected field.
- c) Outreach themes – this refers to university's faculty, which is used to sustain regional institution and other intellectual support.

Moreover, the university also describes how to align the strategic map with the university's strategy throughout the following perspective of the BSC [16]:

- a) Financial perspective: this perspective includes the tangible outcome in conventional financial terms.
- b) Stakeholder perspective: this is built to reach the demand of each stakeholder with value propositions, which hold the significant value to each stakeholder and represent outcomes of the university's internal process.
- c) Internal process: this perspective identifies the significant internal processes, which can drive the satisfaction of stakeholder and the university's financial outcomes in order to drive the financial effectiveness and provide the value proposition.
- d) Learning and growth perspective: this perspective determines the skills and processes, which can drive the university to develop its significant internal processes. This perspective areas also can feed into internal processes consequently motivate stakeholder satisfaction and eventually financial outcomes.

## 2) University of California, San Diego:

The university had implemented a Balanced Scorecard in 1993 to monitor institutional performance with 30 academic functions based on three main data sources are UCSC's internal financial reports, National Association of College and University Business Officers benchmarks, and faculty, staff and student customer-satisfaction surveys. These were regulated according to the framework of the university's vision, mission, and values. Moreover, the advantages and outcomes that the university has gained are reorganization of the workload in the vice

chancellor's area, revising job descriptions with the standard of performance, introduction of continual training for department staffs, progressing customer evaluation and enlarged responsiveness to communication demands by utilizing technology.

In addition, the balanced scorecard format that was adopted by the university's faculty, which can be described by following four perspectives [16]:

- a) Academic management perspective: this perspective focuses on how the university looks beyond university leadership?
- b) The internal business perspective: this perspective points to what the university excels at?
- c) The innovation and learning perspective: this perspective focuses that can the university continue to develop and build value?
- d) The stakeholder perspective: this perspective emphasizes on how do students and employers see the university?

According to O'Neil and Bensimon (1999) pointed that the following outcome in the implementation of Balanced Scorecard for academic firms can be resulted as follows [17]:

- a) The university performs with simple method to achieve its strategic goals
- b) The management office is supported with a systematic and consistent way to assess performance reports, which are different institutions and departments.
- c) Those institutional units that have shared characteristics can be common measured with the establishment of the scorecard.
- d) The implementation of scorecard is effortless to make the university easier for academic units to represent how budget allocation is related to the excellence metrics.

## III. PROPOSED FRAMEWORK

In this section we are proposing a framework as a base for all Higher Education Institutions in Malaysia to follow and implement BSC. By applying this framework as our guide to implement BSC it will give us an overview of all the components and perspectives that we should consider. There has not been much widely adoption of BSC in education sector. Demetrius and Patricia (2005) stated that although the concept of BSC has been widely adopted and used in the business sector, the education sector apparently has not embraced the BSC concept widely. Since there is not much focus on the education sector, based on the four (4) Balanced scorecard perspectives we will propose a framework which will serve as a guide to implement BSC in Higher Education Malaysia [20].

As each of perspectives were discussed in the literature review, for each of them there will be a set of goals and for each goal there will be a measure. The measures will determine how performance will be evaluated.

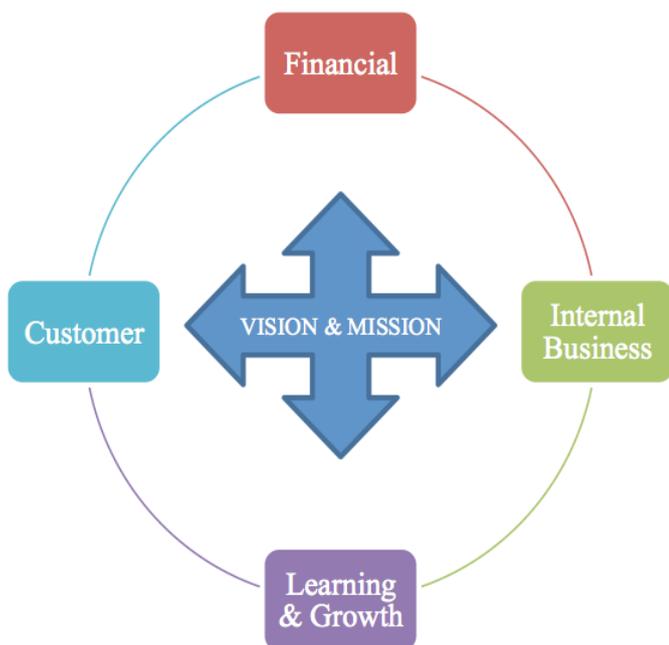


Figure 2. The Balanced Framework

To further understand the details of this framework see Table 2.

Table II. BSC Framework explained in Tabular Form

Financial Perspective		Customer Perspective	
<b>Goals:</b> <ul style="list-style-type: none"> <li>Budget compliance</li> <li>Improve Research Income</li> <li>Improve Overseas Income</li> </ul>	<b>Measures:</b> <ul style="list-style-type: none"> <li>Remain within budget at year end</li> <li>Income</li> <li>Income</li> </ul>	<b>Goals:</b> <ul style="list-style-type: none"> <li>Maintain undergraduate numbers</li> <li>Improve international profile</li> <li>Develop partnership with overseas colleges and universities</li> <li>Maintain the product quality</li> </ul>	<b>Measures:</b> <ul style="list-style-type: none"> <li>Achieve enrollment target</li> <li>Recruitment of foreign students</li> <li>Recruitment of final year and masters students</li> <li>Number of good degrees</li> </ul>
Internal Business Perspective		Learning & Growth Perspective	
<b>Goals:</b> <ul style="list-style-type: none"> <li>Integrated program of degrees</li> <li>Revision of administrative support</li> <li>Revision of committee structures</li> <li>Maintain up-to-date curriculum</li> </ul>	<b>Measures:</b> <ul style="list-style-type: none"> <li>Elimination of non-core courses</li> <li>Simpler reporting methods</li> <li>Simpler reporting methods</li> <li>Successful periodic reviews of curriculum</li> </ul>	<b>Goals:</b> <ul style="list-style-type: none"> <li>Promote academic research</li> <li>Improve international profile through research and publications</li> <li>Encourage research students to work in research centers</li> <li>Enhance teaching</li> </ul>	<b>Measures:</b> <ul style="list-style-type: none"> <li>Publications</li> <li>International Journal articles</li> <li>PhD students registered</li> <li>Peer review of teaching</li> </ul>

#### IV. RECOMMENDATION

In order to implement a Balanced Scorecard (BSC) project for Higher Education in Malaysia, we are proposing a framework of stages that Higher Education can follow in order to smoothly and successfully employ a BSC project.

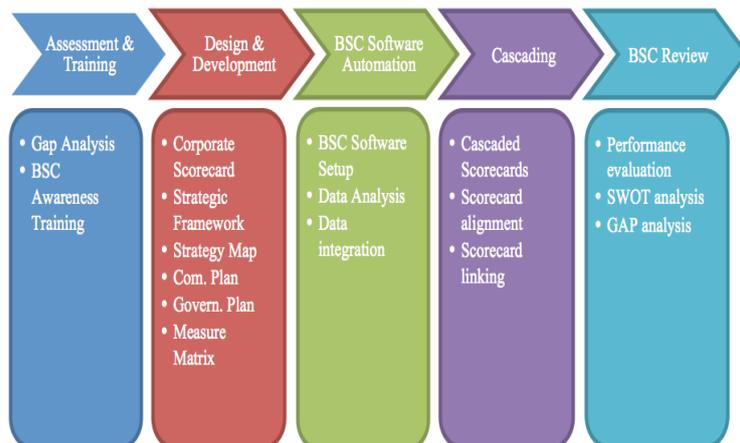


Figure 3. Framework for employing stages of BSC in Higher Education Malaysia

#### 1) BSC Readiness Assessment:

Before jumping to deploy a BSC project just like for any other project it is a must to conduct a readiness assessment. This assessment is done usually by Consulting Services and sometimes internally by the organization. They will be assessing the readiness of an organization for BSC project and will be providing recommendation and assistance in prioritizing BSC implementation, including education, strategic alignment and internal marketing.

#### 2) BSC Training:

In order to create awareness before any BSC project is initiated, there should be a proper awareness among members in the organization. There should be customized and personalized BSC classroom training as each institutions goal and strategies vary from one another. The training should include Introduction to BSC, Intermediate courses in Designing & Developing BSC and advanced courses in Cascading Scorecards. Trainings will give ideas on the importance of BSC as well and how to make the best out of BSC.

#### BSC Design & Development:

During the stage of BSC design and development, the ‘top level’ strategy maps will be set. Together with strategy maps the measures and targets will be determined as well. Another important process that will take place during Design and Development stage is that there will be initiatives as well. According to the agreed implementation and communication guidelines. This stage usually will range from eight (8) to twelve (12) weeks.

#### 3) BSC Automation:

BSC Automation is the final implementation stage. In this stage, there are technicalities that will take place like, installing BSC software the server as well as client side. Another process of this stage is the integration of Balanced Scorecards using BSC



Software. This stage usually will take from one (1) to four (4) weeks.

#### 4) BSC Cascading:

BSC cascading means that there will be multiple scorecards developed and those scorecards are aligned and cascaded across multiple divisions across the whole enterprise.

#### 5) BSC Review:

BSC Review is the last stage in employing a BSC project. During this stage consulting services will be reviewing the effectiveness of the BSC and they will provide recommendation for any enhancement. They will perform a gap analysis on original requirements versus what is implemented to see whether the requirements are met or not. Lastly, in this stage, there will be services included to fine-tune and further optimize the BSC.

## V. CONCLUSION

In the nutshell, Balanced Scorecard approach has become commonly used as one of the most sufficient business tools obtainable in the era of business firms. Many academic institutions over the world have been successful in adopting the Balanced Scorecard throughout the four perspectives aligned with university's missions, policies and goals. Nevertheless, Higher Education in Malaysia as a case study shown that the majority of institutions has not yet implemented the Balanced Scorecard to measure their performance in entire university. Therefore, a proper framework is effectively guided for those academic institutions in Malaysia in order to overcome the BSC implementation and achieve the performance measurement.

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