Designing A Balanced Scorecard for Academic Institutions: The Case of Mindanao State University-Iligan Institute of Technology

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Abstract

The Balanced Scorecard (BSC) is a strategic measurement system that translates an organization's mission and strategy into a coherent set of performance measures across four balanced perspectives, namely: (1) Financial, (2) Customer, (3) Internal Processes, and (4) Learning and Growth. To date, a lot of reputable local and international universities use the Balanced Scorecard to achieve greater heights like identifying performance indicators (PIs) that fit their context, and achieving desired improvements in organizational outcomes. It is anticipated that similar results would arise in MSU-IIT; thus,

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this study seeks to identify performance indicators suited to the Institution. Through MSU-IIT's vision, mission, goals, organizational strategies and outcomes, and existing PIs, including PIs mandated by CHED and DBM, as well as the Balanced Scorecard (BSC) of various local and international academic institutions, and other literatures related to the BSC, and with the participation of key respondents, this study came up with distinct PIs for the four BSC perspectives appropriate in the context of MSU-IIT, using the Delphi Method integrated with Eisenhower's Urgent/Important principle. Results show that an in-depth study of extant literatures provide a good position on how to go about each perspective of the BSC along with its PIs. Moreover, the Delphi Method is proven effective in drawing a consensus of what should and should not be put in the BSC. Further, incorporating Eisenhower's Urgent/Important principle made the selected PIs more substantial, acceptable and appropriate. Future studies may focus upon the improvement of the method of the study and implementation of the Balanced Scorecard of MSU-IIT.

Keywords: Balanced Scorecard (BSC), Delphi Method, Eisenhower Urgent/Important Principle, Performance Indicators (PIs), performance measures

Introduction

Background

The study of the balanced scorecard (BSC) was motivated by the drive to align business organizations' vision and mission with day to day operations. Additionally, the BSC allows for a balanced outlook with all of the business organizations' business functions, which does not only focus on finance (that tells only the story of past events) that are inadequate for guiding and evaluating the journey that companies must make to create future value.

The Balanced Scorecard according to Kaplan and Norton (1996) in their article in the Harvard Business Review entitled *The Balanced Scorecard – Measures That Drive Performance* translates an

organization's mission and strategy into a comprehensive set of performance measures that provides the framework for a strategic measurement and management system. While still retaining the financial perspective, the BSC clearly reveals the value drivers for superior long-term results from past efforts – and the measures that drive future performance. The BSC, as detailed by Kaplan and Norton (1996), as cited in Niven's (2003) book entitled Balanced Scorecard Step-By-Step for Government and Non-profit Agencies credited from Bosio (2005) in his journal article entitled Realistic Balanced Scorecards: Systemic Understanding via the Balanced Scorecard Cascaded Construction Method, measures organizational performance across four balanced perspectives: first, the Financial Perspective where the financial aspect of the organization is considered; second, the Customer Perspective, where the organization's customers and market shares are being focused upon; third, the Internal Processes Perspective, which is the main internal aspect of the BSC; and fourth, the Learning and Growth Perspective, which considers the long-term future development of an organization.

BSC, as developed, was to initially address the private and for-profit sector enterprises. However, as it continues to evolve, it has been able to extend to the non-profit and public sector enterprises (Niven, 2003). Additionally, according to Guillermo M. Luz in his article entitled *Progress Report on our Competitiveness Programs* in the Philippine Daily Inquirer (April 20, 2013), the National Competitiveness Council managed to install the BSC system into national government agencies, Local Government Units (LGUs), and even Government-Owned and Controlled Corporations (GOCCs).

To date, many academic institutions have been implementing the BSC, including those from the West, such as the Chugach School District, the Pearl River School District, as well as in Asia, such as the University of Wisconsin–Stout and the Institute of Technical Education (ITE) Singapore. One notable local institution to include in the list is the University of the Philippines-Manila with which they have identified eight critical factors that are deemed important for their institution's vision. These academic institutions have been able to identify performance indicators that suit their context and these have been able to help them achieve the organization's desired outcomes.

In higher education as in business, there are acceptable conventions of measuring excellence. Rather than emphasizing financial

performance, higher education has emphasized academic measures (Umashankar & Dutta, 2007). These measures encompass the value colleges and universities add through the teaching and learning process, as well as the benefits derived from having attended an academic institution. Additionally, empowering distinguished faculty, high-level research activities, innovative and engaging teaching-learning processes, supporting technology and quality facilities, capable students, competent faculty and staff, and legislative and public support is given a lot of attention considering the BSC (Al-Ali, 2012). Thus, the student, faculty and staff expectations, and satisfaction levels are the primary goal and critical success factors for institutions of higher learning (Ruben, 1999).

The Commission on Higher Education (CHED) per se is elevating the country's higher education system through building human capital and innovation capacity focusing on five major key result areas (KRAs), namely, (1) rationalized Philippine higher education system; (2) improved quality and standards; (3) broadened access to quality higher education; (4) transparent, morally ascendant, efficient and effective management system; and (5) effective organizational development. Furthermore, the Department of Budget Management introduced a results-based performance management system that requires the specification and reporting of objective and measurable performance indicators to show the extent to which organizations are able to achieve their desired outcomes through key quality, quantity, timeliness, and cost indicators.

Currently, the Mindanao State University – Iligan Institute of Technology (MSU-IIT) is overcoming challenges posed by an ever demanding environment encouraged by national government mandates, local stakeholders and the concepts of internalization by anchoring its vision, mission, goals and strategies towards Academic Excellence, Research, Extension Services, Production, and Process Excellence.

Thus, designing the most appropriate Balanced Scorecard on academic institutions for higher education as promoted by the Commission on Higher Education (CHED) in through a memorandum order (CMO No. 39, Series of 2006) becomes urgent and important.

Moreover, a Balanced Scorecard for Mindanao State University-Iligan Institute of Technology (MSU-IIT) in Iligan City, Philippines is also urgent and important. It has to be aligned with its vision and mission, culture, and the organizational outcomes mandated by CHED and DBM among the main government instrumentalities with stake or responsibility for governing higher education institutions.

MSU-IIT is an external unit and one of the eight autonomous campuses of the Mindanao State University System. Established on July 12, 1968 by virtue of Republic Act (RA) 5363, it is a public coeducational institution of higher learning. MSU-IIT aspires to be "a world-class institution of higher learning renowned for its excellence in science and technology and for its commitment to the holistic development of the individual and society" (MSU-IIT Annual Report 2013). As of the present, the success indicators of MSU-IIT are in terms of the number of enrollees and graduates, the performance in PRC-regulated board and licensure examinations, and other elusive indicators such as efficiency, quality, creative industry ecosystem, human resource development, research-based educational system and access (MSU-IIT Annual Report 2013).

Statement of the Problem

Various local and international universities use the Balanced Scorecard to achieve greater heights. Through the BS, universities have been able to identify performance indicators appropriate in their context, and the BS helped them achieve desired improvements in organizational outcomes. Hence, it is anticipated that similar results would arise in MSU-IIT. However, identifying the performance indicators suited to the Institution is still a challenge.

Research Objectives

The main objective of the study is to design the most appropriate Balanced Scorecard for Mindanao State University- Iligan Institute of Technology.

The specific objectives of this study are to:

1. compare different Balanced Scorecards from different academic institutions for higher education internationally and locally, considering the four BSC perspectives, namely, the financial, customer, internal business processes and the learning and growth perspective;
2. find common elements and distinctive performance indicators of the BSC for different academic institutions;
3. identify performance indicators required by CHED and DBM which need to be incorporated in MSU-IIT's BSC;

4. identify which of the performance indicators used by other institutions and those found in the third objective are important, feasible, and desirable to the following MSU-IIT constituents, given its vision, mission, goals and road map:
   a. administration;
   b. faculty;
   c. staff; and,
   d. students.

Significance of the Study

The concept of the balanced scorecard is about having a balanced perspective between the financial, customer, internal processes, and learning and growth aspects of an institution. With its advent in MSU-IIT, students shall be able to receive and experience higher quality of education and better delivery of educational services. With the study, the administration, faculty, staff and students of MSU-IIT will be able to determine their role as value-driving forces of the Institute. Thus, the Institute shall be able to align day-to-day operations with its vision and mission and be able to track results while simultaneously monitoring progress.

Furthermore, this study shall contribute to methods used in determining the different BSC elements. Hence, the results of this study may serve as a framework for future balanced scorecard development processes in higher education institutions.

Conceptual Framework

Figure 1 shows the conceptual framework of the study. The framework is composed of three parts. The first one is a contemplation of MSU-IIT's vision, mission, goals, organizational strategies and outcomes, and existing performance indicators alongside the BSC of different academic institutions (local and international) and other literatures discussing BSC. From these, the study shall identify performance indicators to be placed into the four BSC perspectives (financial, customer, internal business processes, and learning and growth) through iterations made with respondents. The output of the latter will be recommended to comprise MSU-IIT's Balanced Scorecard.

Scope and Limitation of the Study

The study is specific to developing a Balanced Scorecard for MSU-IIT. The participants are limited only to those who belong to the Institute— the administration, faculty, staff and students. However, literatures on the BSC and BSC models of different academic institutions shall include those which are local and international. This is to allow for a wider overview and a more reliable comparison of the different BSC models here and abroad.

The time frame of the Balanced Scorecard is for the years 2016 to 2018, or a three-year period.

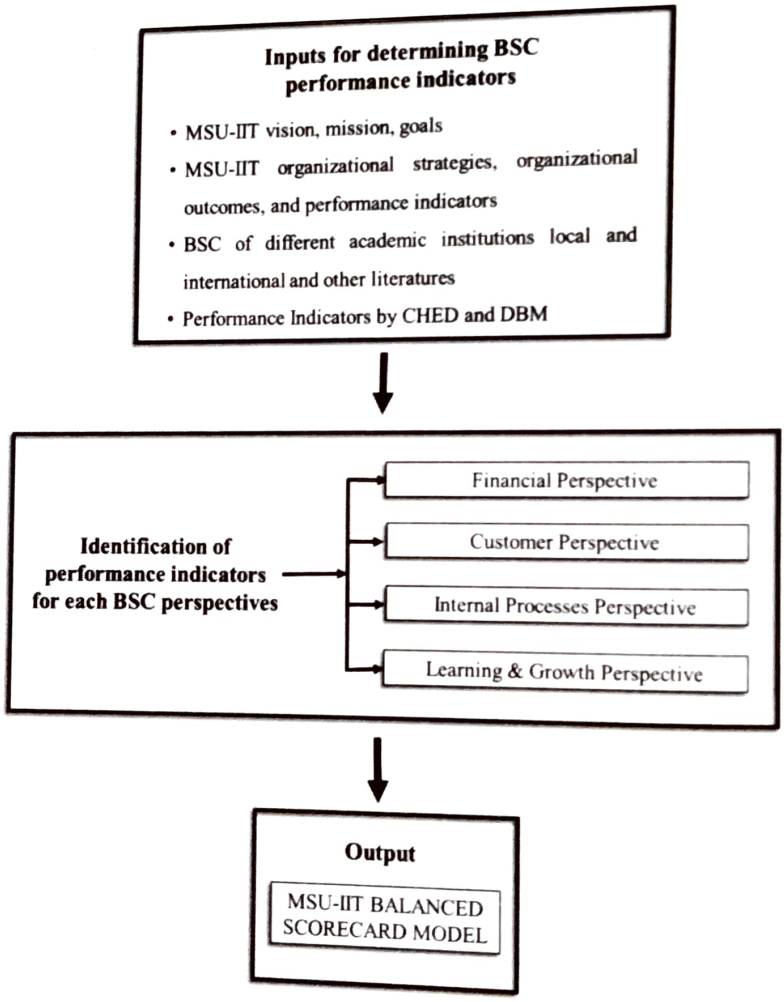

Figure 1. Conceptual Framework of the study

Review of Related Literatures

The Balanced Scorecard according to Kaplan and Norton (1996) translates an organization's mission and strategy into a comprehensive set of performance measures that provides the framework for a strategic measurement and management system. As earlier indicated, it measures organizational performance across four balanced perspectives: the Financial Perspective, the Customer Perspective, the Internal Processes Perspective, and the Learning and Growth Perspective.

In higher education as in business, there are acceptable conventions of measuring excellence. Rather than emphasizing financial performance, higher education has emphasized academic measures (Umashankar & Dutta, 2007). These measures encompass the value colleges and universities add through the teaching and learning process, as well as the benefits derived from having attended an academic institution. Additionally, empowering distinguished faculty, high-level research activities, innovative and engaging teaching-learning processes, supporting technology and quality facilities, capable students, competent faculty and staff, and legislative and public support is given a lot of attention considering the BSC (Al-Ali, 2012).

Fulfilling the academic institution's mission requires a distinguished faculty, high-level research activities, innovative and engaging teaching-learning processes, supporting technology and quality facilities, capable students, competent staff, and legislative and public support (Al-Ali, 2012). Thus, Ruben (1999) indicates that one area deserving greater attention in this process of measurement is the student, faculty and staff expectations and satisfaction levels. He believes that higher education centers give very little attention to systematically measuring the students', faculty's and staff's satisfaction despite sharing the widely accepted viewpoint that attracting and retaining the best people are the primary goal and critical success factor for institutions of higher learning. The stakeholders of institutions for higher education consist of government, alumni, students, parents, students, faculty, staff, users, donors, and community (Sudirman, 2012; Umashankar & Dutta, 2007; Stewart & Hubin, 2001).

As public-oriented institutions, universities have multiple stakeholders, meaning that higher education institution is required to accommodate and satisfy the needs and desires of all the stakeholders (Sudirman, 2012). In doing so, universities have been encouraged to

adopt managerial techniques such as total quality management (TQM) and balanced scorecard (BSC).

Recent reforms in higher education have sought to shift the orientation of academic labour in the direction of exchange value. As a consequence, students have been explicitly constituted as "customers" who search the world for the best product available where students expect a pay-off from their investment (Lawrence & Sharma, 2002). Furthermore, skepticism exists on campuses regarding the notion that a university's performance can be measured quantitatively. Published ranking systems that change methodology and produce new orderings or that can be "gamed" encourage distrust in new institutional evaluation schemes (Stewart & Hubin, 2001). On the other hand, the TQM and BSC systems were implemented with the intention of making the university more effective, self-reliant and to prepare it for corporatization (Lawrence & Sharma, 2002).

Yet the BSC approach to performance measurement as articulated by Kaplan and Norton (1992, 1993, 1996) has gained enormous prominence in mainstream management accounting research. The scorecard is a complement to the previous financial measures of past performance with measures of drivers of future performance. Thus, using the balanced scorecard process can move the discussion of performance management from an externally-driven concern for image and rankings to an internally-driven concern for improved institutional effectiveness (Stewart & Hubin, 2001).

Research Methodology

The study was built on an exploratory and descriptive design using local and international literatures on the BSC of different academic institutions, as well as published memorandum and reports of CHED, DBM, and MSU-IIT. Moreover, the study used both qualitative and quantitative methods in order to achieve the objective of the study which is to design the most appropriate Balanced Scorecard for Mindanao State University-Iligan Institute of Technology. Thus, the BSC appropriate to the context of MSU-IIT was appraised through the Delphi method, with Eisenhower's Urgent/Important Principle making it more substantial, acceptable and appropriate.

The data collection was divided into two phases. The first phase addressed the first three objectives of the study whilst the second phase addressed the last objective of the study.

The first phase of the data collection made use of Performance indicators that were gathered through contemplation of existing indicators of performance of the BSC of different academic institutions, local and international and other literatures on the BSC international alongside MSU-IIT's vision, mission, goals, organizational strategies and outcomes, and existing performance indicators, as well as performance indicators mandated by CHED and DBM.

The second phase of the data collection was composed of a two-round survey scheme. The first round of the survey asked the respondents to evaluate the feasibility and appropriateness of a list of performance indicators formulated during the first phase of the data collection of the study. Moreover, respondents were also asked to list at least three additional performance indicators that they perceived should be included in the BSC but have not been enumerated in the questionnaire. Feasibility and appropriateness were defined in the questionnaires so as to have mutual understanding.

The second round of the survey contained two set of questionnaires. The first set asked the respondents to re-rate the results of the first round of the survey using the same appropriateness/feasibility scale. The second set asked the respondents to confirm the results of the first set using Eisenhower's Urgent/Important Principle.

Results

This section presents performance indicators identified by exploring local and international literatures on the BSC of different academic institutions, as well as published memorandum and reports of CHED, DBM and MSU-IIT as well as the results of the two round survey scheme conducted via Delphi Method incorporated with Eisenhower's Urgent/Important Principle.

Initial Performance Indicators pooled from local and international literatures on the BSC of different academic institutions, as well as published memorandum and reports of CHED, DBM and MSU-IIT.

Many academic institutions have implemented the BSC including Asian and Western institutions such as the Hasanuddin University of Indonesia - Indonesia, Institute Technical Education - Singapore, University of Virginia - USA, University of Edinburgh - Scotland, University of Minnesota – USA, University of Wisconsin - USA, Yzad University - Iran, Institute of International Management and Technology - India, and University of the Philippines - Manila. (Sudirman, 2012; Yek, Penney & Seow, 2017; University of Virginia, 2015; University of Wisconsin - Stout, 2015; University of the Philippines - Manila, 2013; Farid, Nejati, Mirfakhredini, 2008; Nelson, 2006; Umashankar & Dutta, 2007). Each has several performance indicators that contain different statements but with the same context. One notable element in each of the academic institutions was their use of a strategy map to serve as guiding posts in aligning the different BSC perspectives to institutional mission and strategies. Thus, these academic institutions have identified performance indicators that suited their context and which have helped them achieve the desired innovation in organizational outcomes.

The Commission on Higher Education per se has elevated the country's higher education system through building human capital and innovation capacity focusing on five major key result areas (KRAs), namely, (1) rationalized Philippine higher education system; (2) improved quality and standards; (3) broadened access to quality higher education; (4) transparent, morally ascendant, efficient and effective management system; and (5) effective organizational development. Furthermore, the Department of Budget Management introduced a results-based performance management system that requires the specification and reporting of objective and measurable performance indicators to show the extent to which organizations are able to achieve the desired outcomes through key quality, quantity, timeliness, and cost indicators.

Currently, MSU-IIT is overcoming challenges posed by an ever demanding environment encouraged by national government mandates ocal stakeholders and the concepts of internalization by anchoring its ision, mission, goals and strategies towards Academic Excellence esearch, Extension Services, Production, and Process Excellence.

Noticeably, for the customer perspective, common elements found are student and alumni satisfaction, passing rate in board examinations, employment rate, and even the number of scholarly publications in regional, national and international conferences. For the financial perspective, common elements show government funding and private sector funding, student-to-faculty ratio. Moreover, most academic institutions included in the study employ only a minimal number of performance indicators for the financial perspective with which, most are in the customer perspective. This may be for the reason that the customer perspective includes a lot of areas pertaining to student, faculty, staff and even alumni. Additionally, common elements in the internal processes perspective include, course evaluations, program internationalization, number of new courses developed, and faculty and staff appraisals. Lastly, for the learning and growth perspective, it can be noticed that performance indicators that share mutual features include staff development, number of new courses offered, teaching innovation projects, and staff satisfaction.

Thus, contemplating on (1) the Department of Budget Management with its results-based performance management system, (2) the Commission on Higher Education through its improved higher education, (3) local and international academic institutions with existing BSC's, and (4) MSU-IIT's current status, this study was able to identify performance indicators that may be tailored to the context of MSU-IIT. These performance indicators include 57 PIs for the customer perspective, fourteen (14) PIs for the financial perspective, twenty-five (25) PIs for internal processes perspective and twenty-five (25) PIs for the learning and growth perspective.

Performance Indicators fit to the context of Mindanao State University-Iligan Institute of Technology

Given MSU-IIT's vision, mission, goals, organizational strategies and outcomes, and existing performance indicators, as well as performance indicators from CHED and DBM alongside the Balanced Scorecard (BSC) of different academic institutions, local and international and other literatures on the BSC, this study, with the participation of key respondents, came up with distinct performance indicators to place into the four BSC perspectives (financial, customer, internal business processes, learning and growth) fit to the context of

MSU-IIT using the Delphi Method. This method was used to make the selected performance indicators more substantial, acceptable and appropriate by incorporating Eisenhower's Urgent/Important principle.

Customer Perspective

Below is the list of performance indicators for the customer perspective of MSU-IIT.

1. Promotion of ethics in research
2. Passing rate and outstanding performance in professional/licensure exams
3. Percentage of accredited programs among mandated/priority programs and relative to total
4. Number of research outputs presented local/regional/national/international fora/conferences
5. Availability of graduate programs for selected courses
6. Courses or educational programs completed by students
7. Number of scholarly papers accepted/submitted/published in reputable local/national/international publication
8. Research output of MSU-IIT faculty
9. University infrastructure up to global standards
10. Student evaluations of faculty/courses
11. Productive national and international linkages
12. Access to "needed" courses
13. Number of training and extension activities assessed as very good to excellent/relevant or useful
14. Number of faculty, staff and students actively involved in extension
15. Number of collaborative research undertakings
16. Employers' Satisfaction with MSU-IIT Graduates
17. Student's/Alumni satisfaction with MSU-IIT Education
18. Number of SASE qualifiers choosing to enroll in MSU-IIT
19. Percentage of poor/disadvantaged students served by support services for non-academic needs
20. Student evaluation of advising
21. Number of faculty members and/or students as recipients of local/national/international awards

22. Ease of access/use of inter-college facilities for extra-curricular activities (i.e. amphitheatre)
23. Number of LGUs/communities/other clientele assisted
24. Student evaluation of services/advisory service
25. Percentage (%) of faculty members and percentage (%) of students accessing on-line library resources and/or subscriptions to on-line journals
26. Number of students who conducted internally funded researches
27. Number of students/faculty benefiting from training programs conducted by institution

Financial Perspective

Below is the list of performance indicators for the financial perspective of MSU-IIT.

1. Government Subsidy
2. More efficient and effective use of facilities, space, services, systems and resources as measured by various usage studies and statistics
3. Cost/amount of infrastructure projects and other physical facilities funded out of internally generated income
4. Volume and number of research grants received
5. Peso amount of scholarship grants sourced from external donors (# of beneficiaries)
6. Subsidy for student development activities (i.e. national and international competitions/conferences/trainings)
7. Licenses granted to researches
8. Number of extension benefactors/partners who provided cash and/or in kind donations
9. Alumni Donations

Internal Processes Perspective

Below is the list of performance indicators for the internal processes perspective of MSU-IIT.

1. Qualification standards of faculty
2. Faculty credentials
3. Focus on up-to-date teaching practices
4. Degree of advancement in Information Systems (i.e. streamlined and automated Processes)
5. Salary growth of faculty/staff over period of time
6. Policy, System and Procedure
7. Course evaluations
8. Faculty-to-student ratio
9. Program internationalization
10. Percentage of accredited programs among mandated/priority programs and relative to total
11. Number of faculty in specialized area
12. Degree to which curriculum is up-to-date with educational, business, commercial, and international trends
13. Meeting service standards, response time to customer; service facilities to staff (i.e. up-to-date website, front line systems)
14. Student competency evaluation
15. Organizational Structure
16. Faculty appraisals
17. Retention rate of faculty and staff
18. Number of students/personnel provided with non-academic related services (e.g. Media/Dental Services, Guidance Service, ICT Services, Etc.)
19. Utilization rate of multimedia in classroom in selected courses
20. Membership to local/regional/national/international extension accreditation body/organizations (COD/COE/ISO, etc.)
21. Knowledge and skill sharing across work functions, units and locations
22. Number of opportunities for internships available

Learning and Growth Perspective

Below is the list of performance indicators for the learning and growth perspective of MSU-IIT.

1. Faculty holding Master and Doctoral degrees for select courses
2. Infrastructure and Facilities
3. Number of faculty publications/citations in national research journals
4. Number of faculty publications/citations in ISI Journals
5. Number of faculty publications/citations in other International research journals
6. Office space and computer availability
7. Availability of well-defined personnel policies and procedures available to faculty and staff
8. Effectiveness of orientation and inculcation process for new faculty/staff
9. Number of faculty members' presentations and speaks in International conferences
10. Number of faculty who conducted internally funded researches as well as patriotic researches
11. Travel budget for attendance to conferences
12. Staff professionalism
13. Encouragement given faculty to engage in development activities
14. Number of teaching innovation projects
15. Faculty/staff development and welfare support: number of faculty/staff enabled to pursue studies/training and provided other support services
16. Number of teaching workshops attended by faculty, number of teaching innovation projects
17. Administrative personnel/staff enabled to pursue continuing professional training (local/international)
18. Percent of budget spent on staff development; number of cross-trained or multi-skilled staff
19. Staff Satisfaction Index
20. Adequacy of participation in campus-wide activities

Conclusion

Contemplating on (1) the Department of Budget Management with its results-based performance management system; (2) the Commission on Higher Education through its improved higher education; (3) local and international academic institutions with existing BSC's; and (4) MSU-IIT's current status, this study is able to identify performance

indicators tailored to the context of MSU-IIT. Thus, performance indicators to comprise MSU-IIT's Balanced Scorecard include twenty-seven (27) PIs for the customer perspective, nine (9) PIs for the financial perspective, twenty-two (22) PIs for internal processes perspective and twenty (20) PIs for the learning and growth perspective.

Therefore, an in-depth study of extant literatures provide a good stance on how to go about each perspective of the BSC along with its PIs. Moreover, results proved the Delphi Method effective in drawing a consensus of what should be and should not be put in the BSC. Further, incorporating the Eisenhower's Urgent/Important principle made the selected performance indicators more substantial, acceptable, and appropriate.

Recommendations

Taking into consideration the results of this study, recommendations are focused upon the method of the study and implementation of the Balanced Scorecard of MSU-IIT. For the implementation of the Balanced Scorecard, it is recommended that each performance indicator be elaborated. Thus, PIs must be expanded during the implementation stage of the BSC to make them more comprehensive and with which these initiatives will be acted upon. This study is limited only to performance indicators; thus, advancing the performance indicators are entrusted to the implementing Institution.

For the method, further study may be conducted to formulate a different scale for the evaluation of performance indicators during the survey. Scaling of score categorization may be compressed to lesser values. Consequently, another study may be directed particularly on coming up with a method on prioritizing performance indicators. Perhaps, an evaluation of performance indicators may be conducted by integrating analytical hierarchy process and SMART goal setting, as cited from Mahbod and Shahin (2006). On the other hand, it is recommended that another study may be done to include external or outside stakeholders as key respondents such as parents, alumni, and representatives from the industries. Additionally, other researchers may pursue a related research focusing on other academic institutions in Iligan City.

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