Dynamic Performance Measurement System for a Self-financing Tertiary Institution: Integrating Governance for Quality and Sustainability

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Abstract

Performances of self-financing tertiary education institutions are predominately measured by their overall quality as assessed by designated external agencies. For managerial purpose, prior studies have suggested adoption of a performance measurement system, such as balanced scorecard, to monitor and manage performance of tertiary education institutions under an increasingly competitive environment. In the case of Hong Kong, there have been a number of newly established self-financing tertiary institutions that are monitored closely by various stakeholders mainly for quality assurance purpose. Building on a literature review of performance measurement for tertiary education institutions as part of the third sector, a strategy-focused balanced performance measurement framework is explored and constructed. We argue that this framework reconfigured from the conventional balanced scorecard for the self-financing tertiary institutions must be led by governance of complementary visions in seeking causal-effects for continuous improvement and sustainability performance.

Keywords: Non-profit organizations, tertiary education, performance measurement system, balanced scorecard, quality assurance

Introduction

While balanced scorecard (BSC) as a tool for performance measurement system has been adopted widely for profit-oriented organizations, its application is also extended to non-profit organizations in different countries. In particular there are applications in health care organizations as well as educational institutions, in the third sector, which have adapted the framework of BSC and customized for their variations in strategic focuses.[1] These non-profit organizations are driven by the interests of their broad stakeholders in service-oriented operations. The design of such a performance measurement system however needs to address intrinsic weakness of a standard BSC that may not provide customized measures for sustainable growth and development of a tertiary institution.

This paper first of all provides a literature review of performance measurement system for non-profit organizations, specifically the education sector. Looking into the

case of Hong Kong's self-financing education institutions and the methodology of HKCAAVQ accreditation, the authors intend to explore an adapted BSC framework that is not only driven by the key stakeholders but also augmented by the governance and overall strategy of an institution seeking continuous improvement with dynamic capabilities for quality and sustainability.

Performance Measurement for Non-profit Organizations and the Education Sector

There have been increasing applications of BSC in non-profit organizations and the education sector. For instance, Atkinson et al. (2011) reveal the relevance of using BSC in non-profit organizations that are driven by their unique stakeholders' interests and expectations. Specific non-financial performance measures are critical to drive delivery of quality services that are sustainable to these organizations' future growth and development. Given the specific range of stakeholders in third-sector organizations, Moxham (2013) points out that there should be a rationale for determination of their specific performance measures which may not be standardized. It is also noted that such performance measures in third-sector organizations should address three main areas, namely accountability, legitimacy, as well as improvement of efficiency and effectiveness (Moxham, 2013).

With respect to the education sector, Papenhausen and Einstein (2006) examined how BSC could be made suitable under higher education setting by aligning a wide variety of measures with strategy. It is further explored by Zangoueinezhad and Moshabaki (2011) that universities could use a knowledge-based approach in measuring their performance based on a modified balanced scorecard framework.

In the study of Chen et al. (2006) about the Taiwanese higher education sector, it is suggested that certain qualified performance measure indicators (PMI) could be set up in higher education so that all staff members understand the orientation of the BSC in fulfilling their tasks. For instance, tuition income, education promotion rewards and business donation can be PMI for financial perspective. Students' feedbacks and participation in public charity activities can be PMI from the stakeholders' perspective. Student-staff ratio and academic exchange rate can be PMI for internal process perspective, whereas the number of staff training and staff with certain qualifications can be considered as PMI for learning and growth perspective. By achieving a targeted PMI, an education institution can improve satisfaction by its stakeholders. Successful application of BSC in higher education sector must be supported by senior management with cautious choice of PMI to monitor the achievement of targets (Chen et al., 2006).

Stakeholder Perspective

In the BSC strategy map of Kaplan and Norton (2001), stakeholders would consider price, quality, community service, overall organizational development, and partnerships as important. The measurement when applied in the education sector

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[1] The third-sector is considered composed of non-governmental and non-profit organizations in general.

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would typically include quality of teaching, employability, internship programmes, ability to get access to needed courses, ease in getting good jobs, service to community, office space and computer availability, quality and qualifications of faculty, and accreditation status etc. In a prior study focusing on students as a group of key stakeholders, Adidam et al. (2004) suggest that business students continue their relationship with their school with a sense of commitment and loyalty if the school offers superior benefits in areas of education quality, location, costs of tuition, internship opportunities, better placements and networking opportunities. Students also consider teaching quality, student services, articulation opportunities, as well as relationship between school and industry as important (Holdford and White, 1997).

Considering students as a key stakeholder group in education, a measurement tool examining student satisfaction in tertiary education was previously designed by Gruber et al. (2010). A range of pertinent quality dimensions covering most aspects of student life have been explored in past literatures (e.g. Harvey, 1995; Hill, 1995; Elliott and Healy, 2001; Wiers-Jenssen et al., 2002). These pertinent quality dimensions include administrative and student services, atmosphere among students, attractiveness of the surrounding city, computer equipment, courses, library, lecturers, lecture theatres, refectory/cafeteria, relevance of teaching to practice, reputation of the university, school placements, support from lecturers, the presentation of information, and university buildings.

Given the significance of employability, feedbacks from the pertinent industries and potential employers should be sought with respect to the performance of past graduates and expectation future graduates.

Internal Process Perspective

Kaplan and Norton (2001) suggested that the education provider should develop processes to enhance teaching excellence, curriculum excellence, quality of faculty, and efficiency and effectiveness of service. The measurement of internal process would include course evaluations, articulation of students, implementing new initiatives, internationalization of programmes, timeliness of delivery of new programmes/services, learning outcomes, contact with business and industry, as well as placement services and opportunities etc.

In the study by Voss and Gruber (2006), the desired teaching attributes in tertiary education are expertise, approachability, communication skills, teaching skills, friendliness, enthusiasm, humour, and teaching methods. Lecturers should have sufficient knowledge of the subject and the ability to transmit excitement and interest for their subject. They should also have the ability to select appropriate course contents and teaching methods while using appropriate language of instructions. Education providers should develop internal mechanisms and policies to enhance these teaching attributes. More importantly, there should be learning and growth support for faculty development to enhance these internal processes.

Learning and Growth Perspective

The learning and growth perspective identifies the skills and intangible assets within an organization that drive the school to improve its internal process. The learning and growth areas include human capital, information capital, and organizational capital (Kaplan and Norton, 2001). Human capital consists of skills, training and knowledge. Information capital is related to systems, databases, and networks. Organizational capital is about culture, leadership, alignment, and teamwork of the school. The measurement includes research outputs, travel, technological support, evaluation of measuring and reward system, evaluation of strategic planning, adequacy of classroom and equipment facilities etc. These learning and growth areas would feed into the internal processes that subsequently drive innovation, stakeholder satisfaction and financial outcome.

Nesset and Helgesen (2009) suggested the quality of teaching, facility and technology are important for student loyalty. The measurement includes evaluation of professional and pedagogical quality, evaluation of service attitude, study guidance, library, reading rooms, web communication tools and data service etc. Education providers should put efforts in developing scholarly activities that integrate with their strengths in teaching and learning activities (Boyer, 1990). Furthermore, perceived service quality is considered important in building students' satisfaction (Rojas-Mendez et al. (2009). Service quality provided by instructors, programme directors and secretaries, service attitude as well as development of competence are key components that would affect the overall perceived quality of education. Inevitably, education providers are expected to allocate resources to enhance these qualities.

Financial Perspective

The financial perspective contains largely performance outcomes in financial terms, such as fund raising, revenues from operations, cash flow and overall financial management. Kaplan and Norton (2001) considered profitable programme mix, increasing grants, increasing teaching productivity, and sound finance as goals of financial perspective. The measurement includes donor support, grant and endowment received, contribution analytics, student/faculty ratio, balanced budget and market growth etc. Papenhausen and Einstein (2006) furthered that there should be consideration over the variable sources of revenues in maintaining a balanced budget.

Institutions in the self-financing degree sector are generally not funded by the government and assume financial independence. They are responsible for both short-term financial obligations and long-term commitments, particularly staff and infrastructure developments, including maintenance of campus facilities and equipment.

Importance of Mission and Strategy to a Performance Measurement System

As stipulated in prior studies, BSC can be considered as an integrated performance management system that enables organizations to align their strategy from the

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governance level and translate it into action (Kaplan and Norton 1996, 2001). In fact, the overall strategy and mission of an education institution is so critical that it drives its development and day-to-day activities. With reference to the study by Papenhausen and Einstein (2006), a BSC strategy map for an education institution would enable clarifications of its overarching and complementary strategic themes as well as the goals to be achieved. An adapted framework by Papenhausen and Einstein (2006) is provided as Figure 1.

Figure 1: Adapted BSC Framework (Papenhausen and Einstein, 2006)
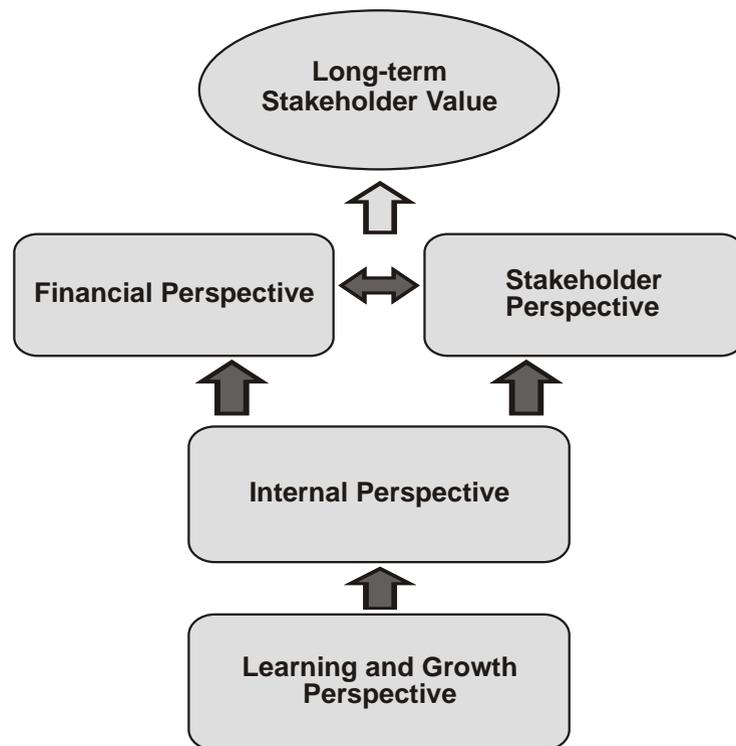
Critics of Traditional BSC

Despite popularity of utilizing a traditional BSC, there are critics that raise concerns about relevance of adopting BSC for various organizations. In particular, Norreklit et al. (2005) pointed out the weakness in causality when attempting to link certain performance indicators with the end results. There is a need to develop a customized performance measurement system composed of performance indicators that are constructed based on a causal relationship (Norreklit et al., 2005). Further, Barmabe and Busco (2005) suggested the important feature of the casual relationships between performance drivers and outcomes could be enhanced with a system dynamic model. The time lag intrinsic with certain performance measures should be considered as well in designing a performance measurement system for third-sector organizations

(Moxham, 2013).

Embedding Sustainability in Tertiary Institutions

As the society as whole has become concerned about sustainability, it is argued that universities should also consider developing a vision of sustainability in its role as a tertiary education institution (Van Weean, 2000; Comm and Mathaisel, 2003). To pursue sustainable development and performance, it is critical to have an adequate mode of governance or leadership that continues to encourage and support such agendas (Van Zeijl-Rozema et al., 2008). The concept of sustainability has gained significant attention in the society today. Hopwood et al. (2010) point out the need to consider economic, social and environmental sustainability of an organization for its long-term viability.

The Case of Self-financing Tertiary Institutions in Hong Kong

Background of Self-financing Tertiary Institutions

The Government of the Hong Kong Special Administrative Region (HKSAR) has made certain efforts to develop self-financing tertiary education institutions in recent years. The HKSAR Government provides interest-free loans and allocates land to self-financing tertiary education institutions. However, students still have to pay significant tuition fees to study in self-financing institutions as the Government does not provide funding to run programmes. With the rapid growth of self-financing tertiary education, there have been emerging tertiary education institutions in Hong Kong resulting in more competitions within the sector. Self-financing tertiary education institutions are actively working to pursue student enrolment on an annual basis (Lee, 2003). Self-financing educational institutions need to earn enough income to cover staffing expenses among other operational costs and infrastructural expenditures, etc.

The number of full-time self-financing tertiary programmes (including bachelor degrees and sub-degrees) offered in Hong Kong has increased from 20 in 2000/01 to 446 in 2011/12. Institutions offering self-financing bachelor degree programmes provide viable alternatives for sub-degree programmes. The number of self-financing sub-degree graduates has risen from 1,068 in 2002 to 15,400 in 2010 (http://www.ipass.gov/hk/). Around 54% of self-financing sub-degree graduates pursued further studies in 2005/06 (Steering Committee, April 2008).

It is critical for these self-financing tertiary education institutions to attract students in order to have enough students enrolled and to obtain sufficient revenues to operate the institutions. It is an attempt to retain existing students as "customers", i.e. have them continue their studies at the same institution (Finney and Finney, 2010). It could ensure continuation of the income source and lower the cost of attracting new students. Earning student loyalty and developing good relationships with students are key concerns of tertiary education institutions.

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HKCAAVQ as Quality and Performance Assessor

While education is the backbone of civilized society, quality is regarded as the cornerstone of education. Having recognized that quality education holds the key to the future, many countries and regions began to set up their own quality assurance agencies in the early 1990s. Among those set up is the Hong Kong Council for Academic Accreditation, the predecessor of the Hong Kong Council for Accreditation of Academic and Vocational Qualifications (HKCAAVQ).

As the education landscape evolved over the years, the scope of the Council's academic accreditation services was broadened to include the sub-degree sector, including both publicly funded institutions and self-financing programme providers. Following the reconstitution under the HKCAAVQ Ordinance (Cap 1150) in 2007 as well as the launch of the Hong Kong Qualifications Framework (QF) and Qualifications Register (QR) in 2008, it was noted that the statutory powers and responsibilities of the Council would focus on the quality assurance of the vocational sector.

Over the past two decades, the role and functions of the Council have evolved to cope with the needs of an increasingly diverse tertiary education sector. Accordingly, the core role of HKCAAVQ is to develop a robust quality assurance system to benchmark and maintain the quality of learning in Hong Kong. The QR contains more than two hundred operators and has become a primary source of reference for Hong Kong learners and the community seeking quality tertiary education.

The HKCAAVQ is composed of a group of distinguished academics, professionals and practitioners from both Hong Kong and overseas. Their perspectives, knowledge and wisdom are assumed to ensure that the HKCAAVQ's processes and practices are consistent with international good practices. The HKCAAVQ has an objective to contribute to the promotion and enhancement of quality assurance of tertiary education and vocational education and training in Hong Kong. Literally, it has two main missions: (a) To safeguard the quality of the academic and vocational qualifications available to learners within the Qualifications Framework in Hong Kong and to strengthen providers' quality assurance capability; and (b) To provide professional advice through assessment and consulting services and to develop, promote and disseminate good practices in quality assurance.

Assessment of Institutional Performance

With reference to HKCAAVQ's function of quality assurance, it would provide an initial evaluation of an institution as a course provider. It is commissioned to review four main areas of an institution as summarized in Appendix 1.

Assessment of Programme Performance

For tertiary education institutions' programmes to gain the accreditation status from the HKCAAVQ, they are expected to meet certain additional criteria in the initial evaluation and programme validation process. These criteria are summarized in Appendix 2.
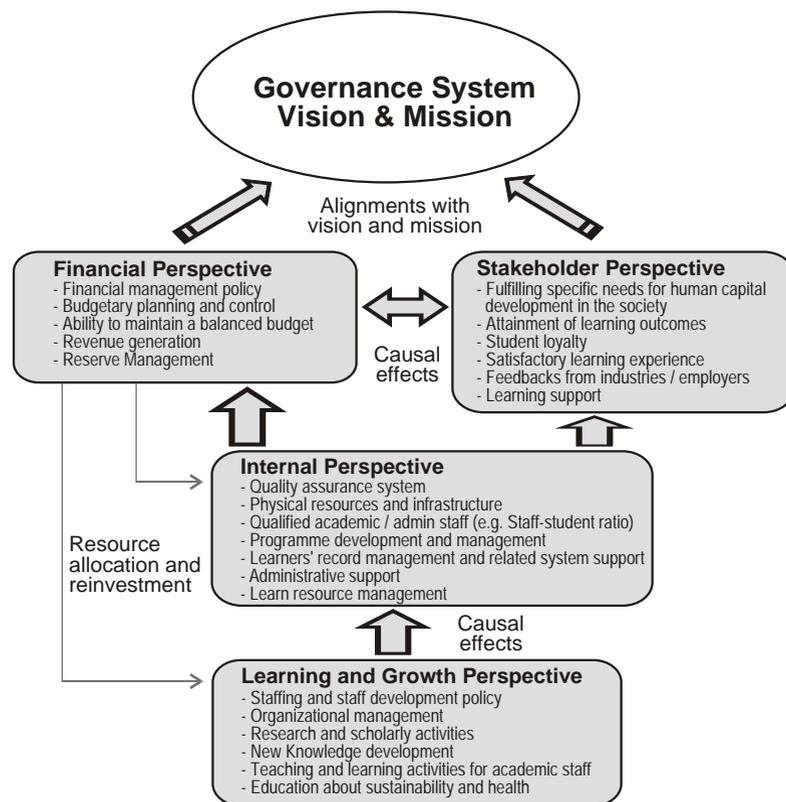
Discussion

The case of Hong Kong's self-financing tertiary institutions suggests that the current quality assurance mechanism adopted by the Government's agency is not designed as a structured system for performance measurement and management purpose as illustrated in Fig. 2. Being driven by a strong governance-adopted strategy, the framework comprising the four main perspectives enables an overview of the integrated components and the dynamic, causal relationship among the components in enhancing continuous improvement. For instance, loyalty of students as a key group of stakeholders and financial performance should be considered as performance outcomes but not as performance drivers. An institution needs to consider the range of performance drivers from the internal as well as learning and growth perspectives that would result in innovative developments.

Second, the existing quality assurance mechanism has not yet emphasized the significance of strategy clarity for an education institution that is constantly supported by a mode of governance. A clear strategy adopted by a visionary board of governance would not only help define the vision and mission but also drive continuous improvement in quality as evaluated by the assessors, which processes are however unlikely to be uniform to institutions of varying emphases.

If there was no clarity of strategy, it would become difficult to make proper decisions in allocating financial resources as part of a balanced budget exercise. Tertiary institutions, being non-profit in nature, should consider carefully how to make use of their financial reserves in attaining the quality goals in relation to their strategies. Financial perspective should include the consideration of resource allocation or reinvestment into the internal processes. These processes would facilitate learners' support, scholarly activities as well as innovative approaches, technologies and systems among other intangible asset development beyond the traditional financial measures of revenue generations and profitability. Such incremental allocation of resources would also enhance students' loyalty from the key stakeholder's perspective as an outcome.

Lastly, this paper points out the need to evaluate the dynamics and the causal relationship among the four perspectives in order to optimize the use of financial resources for sustainability of a tertiary institution. Within the financial perspective, an institution needs to review resource management as well as the overall effectiveness of reinvestments into measures for sustainability in the three domain areas, namely economic, environmental and social sustainability, with a long-term perspective for lean and green developments. A board of governance can make use of such a performance measurement system to monitor an institution's on-going sustainability and other innovation beyond quality assurance.

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Figure 2: Framework for a Dynamic Performance Measurement System

To operationalize a dynamic performance measurement system, a self-financing tertiary institution needs to develop its own set of performance drivers that are considered strategic to its operations. It is unlikely that a set of standard performance drivers would be suitable for different tertiary institutions as they would have their own priorities and strengths to be maintained and developed. More importantly, these performance drivers should be developed with inputs from key stakeholders and adopted by senior management in the overall performance measurement system for regular monitoring and review. Over time, there would be changes in emphasis among these performance drivers as a tertiary institution could reformulate its strategy for further development and growth (North, 1990).

Future Studies

Empirical evidence on performance measurement system among tertiary institutions seems limited in the current body of international literature. Hong Kong with a cluster of self-financing tertiary institutions may perform research through a multiple-case approach to explore how these institutions utilize a performance measurement system strategically over time. Yin (2003) noted that the case study method can be adopted in a number of situations to explore new knowledge about

individual, group, organizational, social and political phenomena. It would enable researchers to embrace the "holistic and meaningful characteristics of real-life events", including organizational and managerial processes under a contemporary setting.

Appendix 1 - Initial Evaluation by the Assessor

Organizational Management

Operators' management including structure and processes and quality assurance arrangements must be sufficient to manage their operations. Operators may demonstrate that:

· their legal status, mission, aims and objectives are appropriate to the delivery of their learning programmes;

· they have educational, quality assurance and resource allocation policies that are related to their mission, aims and objectives and are appropriate for their size and scope;

· they have effective systems in place to monitor the implementation of their policies and the performance of their programmes; and

· they have complied with all statutory requirements of the Government necessary for the conduct of learning programmes at their proposed QF level/s.

Staffing and Staff Development

Operators must have adequate teaching and supporting staff with the qualities, competence, qualifications and experience necessary for the effective delivery of their programmes.

Operators may demonstrate that:

· they engage capable teaching staff with appropriate academic, vocational or professional qualifications and occupational experience for their learning programmes;

· they have adequate and competent staff to support their educational functions; and

· they have a fair and transparent human resources system including policies such as appointment, appraisal, promotion and termination.

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Financial and Physical Resources

Operators must have adequate financial and physical resources for the delivery of their programmes. Operators may demonstrate that:

· they have sound financial policies and practices supported by sufficient financial resources to ensure that students admitted to a learning programme will be fully supported until completion of their studies; and

   · they have suitable teaching facilities, such as seminar rooms, workshops, laboratories and other instructional facilities for the planned modes of delivery.

Quality Assurance (including Programme Development and Management)

Operators must (a) develop learning programmes by addressing the needs of the community, employees and employers and aligning them with the GLD of QF; and (b) monitor and review the performance of all their programmes on an ongoing basis to ensure that the programmes remain current and valid and that the learning outcomes, teaching and learning activities and student assessments are effective. Operators may demonstrate that:

   · they accurately identify the market need for the programme and prospective student groups;

   · they undertake consultation with and seek feedback from relevant professional and industry bodies, community groups, student groups and academics;

   · they set learning outcomes at appropriate QF levels and match them to appropriate standards;

   · they have in place effective arrangements for regularly monitoring and reviewing the performance of all their programmes;

   · they ensure that student assessment is valid, reliable, and effective; and

   · they identify areas for improvement, take actions and make improvements.

Source: http: http://www.hkcaavq.edu.hk

Appendix 2 - Assessment Criteria by HKCAAVQ on Education Programmes

Programme Development, Management and Review

   · The education provider ensures that the programmes address community/industry needs and are aligned with the Generic Level Descriptors of the Qualification Framework.

   · The education provider monitors and evaluates the programme to ensure the programme content, learning outcomes and assessments are current, valid and effective in meeting the training objectives.

Programme Objectives and Learning Outcomes

   · The programme has competency-based learning outcomes which are consistent with the Generic Level Descriptors of the relevant Qualification Framework

qualification level and reflect the stated programme objectives.

Programme Content and Structure

   · The design of the programme enables students to achieve the stated learning outcomes and the required Qualification Framework standards.

   · The programme provides up-to-date contents to meet the programme objectives.

Training and Learning

   · Training methodology is compatible with the programme objectives and appropriate to the students' capabilities and learning needs.

   · Workplace attachment, if applicable, is structured and managed to meet the programme objectives.

Learner Assessment

   · Student assessment is valid and reliable to assess the student's attainment of the intended learning outcomes.

Admission Requirements and Learner Selection

Learner Support Services:

   · Students are effectively guided and supported throughout their course of training to ensure the successful completion of the programme.

Learner Records and Information Management:

   · Student records are safely protected based on written procedures.

Summary of criteria used in institutional review by HKCAAVQ.

Source: http: http://www.hkcaavq.edu.hk

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