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Balanced scorecard in higher education institutions

Congruence and roles to quality assurance practices

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Abstract

Purpose – The purpose of this paper is twofold: first, to highlight the congruence and roles of the balanced scorecard in the quality assurance practices in higher education institutions, and second, to propose a balanced scorecard model for higher education institutions.

Design/methodology/approach – A descriptive literature review was used to understand the balanced scorecard, quality assurance practice (System model) and characteristics of the higher education institutions.

Findings – Used appropriately, the philosophical tenets of the perspectives of the balanced scorecard seem to be congruent with the input, process and output dimensions of quality assurance practices. Thus, if the core functions of higher education are explicitly represented in each perspective, the balanced scorecard seems important for materializing the input, process and output dimensions of quality assurance in higher education institutions. It may help to track and measure the status of higher education institutions in each quality assurance dimension and ultimately help to align each dimension with the university's vision.

Research limitations/implications – The paper relied on the description of previous literature. Therefore, as it did not depend on the empirical evidences, the conclusions derived in the paper are more argumentative.

Practical implications – The paper will add an input to the ongoing discussions on the applications of the balanced scorecard to higher education institutions. Moreover, the proposed model of the balanced scorecard may help higher education managers to assess the performances of higher education institutions and their academic disciplines according to their areas of excellence.

Originality/value – This paper attempts to undertake a literature review on the balanced scorecard and its roles to the quality assurance practices in higher education. In addition, the congruence between the balanced scorecard and the contemporary characteristics of the higher education institutions is also explored.

Keywords Quality assurance, Higher education, Balanced scorecard

Paper type General review

1. Introduction

Equating higher education institutions with corporate entities is becoming a common trend in all higher education systems. This is evidenced, among other things, by the transfer of management tools from corporate organizations to higher education institutions. The introduction of total quality management towards the 1980s (Srikanthan and Dalrymple, 2002) and, lately, the balanced scorecard (Ruben, 1999) for higher education institutions could exemplify these application transfers. Nonetheless, their compatibility with the processes in higher education institutions has been debated.

These days, the use of the balanced scorecard, rather than total quality management, has become popular in higher education institutions. It was introduced, among other things, to improve the management and quality assurance practices of the core functions of higher education institutions: teaching and learning, research and community service. Thus,



balanced scorecard models have been developed for performance measurement and strategic implementations in higher education institutions (Tohidia *et al.*, 2010; Madah *et al.*, 2013; Ruben, 1999; Pietrzak *et al.*, 2015; Philbin, 2011). However, the models seem to have limitations in integrating the core functions of higher education institutions and their quality assurance practices. Our examinations of the balanced scorecard models applied to higher education institutions revealed that the core functions of higher education institutions and their quality assurance practices are only tenuously represented in the balanced scorecard models.

Therefore, the purpose of this article is twofold. First, it highlighted the congruence and roles of the balanced scorecard to the quality assurance practices in higher education institutions. In so doing, it has examined the four perspectives of the balanced scorecard in relation to the system model quality assurance practices and, thus, attempted to relate the input, process and output dimensions of quality assurance practices with the four perspectives of the balanced scorecard: learning and growth, internal business processes, finance and the customer. Second, beyond highlighting the congruence and roles, it proposed a balanced scorecard model that integrates the core functions of higher education institutions (teaching and learning, research and community service) and their quality assurance dimensions (input, process and output).

2. Balanced scorecard: an overview

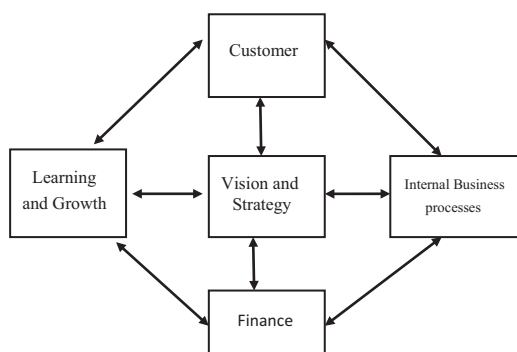
The use of the balanced scorecard was initiated towards the second half of the twentieth century. It originated as a performance measurement tool and later, through consecutive improvements, realized for planning, communicating and implementing strategic plans (Kaplan, 2010). It has four mutually inclusive perspectives: learning and growth, internal business processes, finance and the customer. As summarized by Kaplan and Norton (2005), each perspective addresses unique, but inherently connected issues:

- The customer perspective addresses issues about how organizations respond and satisfy their customer's needs.
- The internal business processes address the processes which the organization must excel at.
- The learning and growth perspective addresses the issue about how organizations improve and create value continuously.
- The finance perspective addresses the issue of how organizations look to their shareholders.

Besides, these four perspectives balance the intangible and tangible assets, the financial and non-financial measures and the short and long-term organizational objectives (Kaplan, 2010; Ruben, 1999), and all perspectives, combined together, help organization managers and executives to attain a balanced view of their organizational performances. Moreover, it also helps to align processes with the organization's vision (Figure 1).

In short, the balanced scorecard integrates the core processes of an organization in a balanced and measurable ways (Nayeri *et al.*, 2008). As noted by Kaplan and Norton (2005, p. 114):

The balanced scorecard includes financial measures that tell the results of actions already taken. And it complements the financial measures with operational measures on customer satisfaction, internal processes, and the organization's innovation and improvement activities – operational measures that are the drivers of future financial performance.



Source: Kaplan and Norton (2001)

Figure 1.
Perspectives of the balanced scorecard

The balanced scorecard couples the financial and non-financial measures. Financial measures revealed past performance and, thus, it gave little account to non-financial measures that contribute to organizational performance. They focus on past performance related to profit, return on investment, sales growth and cash flow. Conversely, the non-financial measures focus on intangible assets that contribute to the achievement of long-term organizational objectives. Accordingly, financial and non-financial measures are represented as “lagging” and “leading” factors, respectively (Kaplan, 2010; Schneiderman, 1999). Therefore, as the existence of organizations depends on both factors, the balanced scorecard combines both measures in a balanced way.

With these philosophical tenets, the balanced scorecard has been widely used across government and non-government organizations, profit and non-profit organizations. Higher education institutions are no exceptions. Attributed to external and internal changes, higher education institutions have also introduced the balanced scorecard to improve the management of their core functions. However, anecdotal evidence revealed that the application of balanced scorecard to higher education institutions has been accompanied by resistance (Nigusse, 2012). Therefore, the following section tried to investigate the philosophical tenets of the balanced scorecard *vis-à-vis* quality assurance dimensions in higher education.

3. The framework: linking balanced scorecard perspectives with quality assurance dimensions

Higher education institutions are concerned about the quality of their teaching and learning, research and community service simultaneously. “Quality in higher education, how to enhance it and how to evaluate it, has been placed squarely on the contemporary agenda in higher education” (Srikanthan and Dalrymple, 2002, p. 215). Despite this fact, however, there is no common definition of quality education and quality assurance practices. Quality has different meanings for different people, and the approaches to quality assurance practices have considerable variations across different contexts. “Quality is a construct and its meaning is contextual” (Adamu and Addamu, 2012, p. 838; Mulu, 2012, p. 31).

Harvey and Green (1993) proposed five quality assurance approaches: quality as exceptional (*Exceeding high standards*); quality as perfection (*Achieving goal with a zero defect*); quality as fitness for purpose (*Meeting the stated purpose*); quality as value for money (*Maintaining efficiency and effectiveness*) and quality as transformation (*Maintaining*

qualitative changes). However, irrespective of these approaches, various tools have been introduced to improve education quality in higher education institutions. These tools range from the establishment of the old-fashioned national and institutional quality assurance agencies (Materu, 2007; Shabani *et al.*, 2014; Mulu, 2012) to the introduction of new tools that emanated from corporate companies, for example, the balanced scorecard (Nayeri *et al.*, 2008).

However, the compatibility of the balanced scorecard to quality assurance practices in higher education has been debated. Parts of the debate tend to claim that the balanced scorecard does not fit with the nature and characteristics of higher education institutions, because, higher education institutions, unlike the corporate companies where the balanced scorecard originated, deal with development of people through training and re-training (teaching and learning), scholarships (research) and outreach services (community services). However, as with corporate companies, the balanced scorecard can balance the short- and long-term plans, intangible and tangible assets and financial and non-financial measures of higher education institutions. Along the way, it may contribute to quality assurance practices in higher education institutions too. The challenge, however, exists in identifying balanced scorecard models that fit to the core functions of higher education institutions and their quality assurance models.

There are different quality assurance models in higher education. Nonetheless, much of the literature (Ayalew *et al.*, 2009; Biggs, 1993; Shabani *et al.*, 2014) seems to support the systems model with its input, processes and output dimensions. According to this model, higher education institutions interact with the environment, receive input from that environment, undertake some transformations on the inputs and ultimately deliver outputs to the environment:

The input segment of the framework [model] includes at least the students, teachers, non-teaching staff, managers, curriculum, facilities, finance, and instructional materials. Elements of the process segment cover teaching and learning processes, research, use of time and space, student services, community participation, and management. If these inputs and processes interact effectively, the output should include skilled and employable graduates who will also be responsible citizens, able to contribute to the economic and social development and the production of new knowledge (Shabani *et al.*, 2014, p. 144).

As in the balanced scorecard perspectives, each quality assurance dimension contains a considerable number of elements. These elements, combined together, help to enhance education quality. However, the three quality assurance dimensions, left alone, hardly bring the desired quality unless each dimension is converted into systematic measures and indicators. Therefore, as accountability and the use of auditing are increasingly growing in higher education institutions (Holmes and Brown, 2007), it is arguable that tools such as the balanced scorecard are important to track and record the quality assurance practices. Thus, to demonstrate the roles of the balanced scorecard in the quality assurance practices of higher education institutions, it is important to depict the congruence between the balanced scorecard perspectives and quality assurance dimensions in higher education institutions (Figure 2).

The finance perspective is concerned with performance measurements and targets related to resource utilizations, improvement of shareholder value and return on capital (Chavan, 2009; Kaplan, 2010). It implies the enhanced use of assets, reduction of financial risks and improved profits. In the same vein, the learning and growth perspective of the balanced scorecard is concerned with human, information and organizational capital of institutions (Kaplan, 2010). These two perspectives have therefore linkages to the input

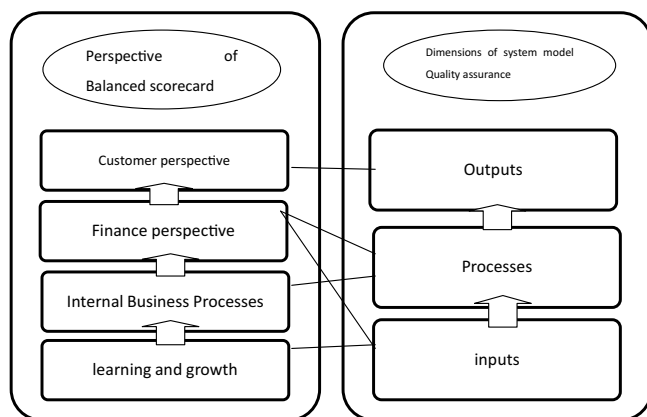


Figure 2.
Perspectives of the balanced scorecard and quality assurance dimensions

dimensions of quality assurance which emphasize the human and physical inputs to quality assurance (Ayalew *et al.*, 2009).

In addition, the customer perspective could be linked with the output dimension of quality assurance. The customer perspective outlines strategic objectives and performance targets related to customers and their satisfactions. It draws organizations to focus on customer satisfaction in terms of time, quality, performance, service and cost (Kaplan and Norton, 2005). Similarly as with the customer perspective, the output dimension of quality assurance tends to include quality of organizational products, such as graduates, knowledge, etc., that meet the demands and expectations of the society as-customers (Ivancevich and Matteson, 2002).

The internal business processes perspective focuses on “[. . .] competencies, processes, decisions, and actions that have the greatest impact on customer satisfaction” (Kaplan and Norton, 2005, p. 112). It addresses how internal processes of organizations should be executed to improve quality, timelines, economics and functionality within organizations. Teaching and learning, research and community service are the core function of higher education institutions and thus have considerable processes related to these functions. Therefore, as with the other perspectives, the internal business processes perspective of the balanced scorecard and the process dimension of quality assurance have convergences.

Therefore, it is possible to argue that the input, process and output dimensions of the quality assurance practices could be related to the perspectives of the balanced scorecard. Accordingly, one can hypothesize that the balanced scorecard binds the input, process and output dimensions of quality assurance dimensions into measurable performance indicators and, at the same time, aligns each dimension with the strategic objectives of higher education institutions. The question, however, relied on the balanced scorecard model used to integrate the input, process and output dimensions of the university’s core functions.

4. Towards the balanced scorecard model

Various models of balanced scorecard have been developed and applied to higher education institutions. Some of these models are similar to the balanced scorecard models that are applied to corporate entities (Libing *et al.*, 2014; Atafar *et al.*, 2013; Chen *et al.*, 2012), while others have considerable modifications (Beard and Humphrey, 2014; Pietrzak *et al.*, 2015; Philbin, 2011). The former group proposed to apply the business model balanced scorecard to higher education institutions without changing the perspectives. On the other hand, the

latter group attempted to replace some of the perspectives of the balanced scorecard as it fits to the contexts of higher education institutions. For example, among the modified versions, Philbin (2011) developed a balanced scorecard model that comprised “research output”, “institute capability”, “people development” and “finance” perspectives. In this model, the perspectives of the balanced scorecard are adapted to the higher education context. Similarly, Pietrzak *et al.* (2015) proposed a balanced scorecard model labeled as the “if” model. The model includes “finance” [. . .] if we have adequate resources); “potential” [. . .] we will develop staff, system and facilities); “processes” [. . .] it will allow to improve the process of teaching) and “customers” [. . .] the organization meets the requirements of customers). According to the model proposed by Pietrzak *et al.*, finance plays a paramount role in the presumed successes of the remaining perspectives.

Subsequently, both models (modified and un-modified) seem to have two major limitations. First, despite the need for quality and quality assurance practices in higher education institutions, the models devoted little emphasis to linking the balanced scorecard with quality assurance practices in higher education institutions. Second, the core functions of higher education institutions (teaching and learning, research and community service) are not explicitly represented in the models. This may lead to confusions in the application of the balanced scorecard to the case of higher education institutions.

Accordingly, considering the linkages sketched among the input, processes and output dimensions of quality assurance, and the perspectives of the balanced scorecard, it is possible to propose a balanced scorecard model that integrates the core functions of higher education institutions and appropriate quality assurance dimensions (Table I).

Teaching and learning, research and community service are the core functions of higher education institutions. Accordingly, they should be represented in the balanced scorecard model explicitly. Customer satisfaction with teaching and learning may not guarantee customer satisfaction in research or community service, or vice versa. Higher education institutions with optimum customer satisfaction in teaching may experience low customer satisfaction in research, community service or vice versa. This is true for not only to

Perspective	Areas of emphasis	Objectives	Measures	Targets	Initiatives
Customer	Customer satisfaction in teaching and learning Customer satisfaction in research Customer satisfaction in community services				
Finance	Resource used in teaching and learning Resource used in research Resources used in community services Revenue generated for teaching and learning, research and community services				
Internal business processes	Processes in teaching and learning Processes in research Processes in community services				
Learning and growth	Input and developments in teaching and learning Input and developments in research Input and developments in community services Input and development in finance				

Table I.
Balanced scorecard model with emphasis to the core functions of higher education institutions

institutions but also to the varied academic disciplines within higher education institutions. Some academic disciplines are teaching-focused (e.g. philosophy), while others are research-focused (e.g. physics) (Becher, 1994). Therefore, customer satisfaction in these different academic disciplines cannot assure equal satisfaction in the core functions. Hence, presenting the core functions explicitly may lead higher education institutions and their academic disciplines to concentrate on their areas of excellence with appropriate emphasis.

The explicit representation of the core functions should not only be limited to the customer perspective. As with the customer perspective, the core functions of higher education institutions should be represented in the other perspectives too. For example, under the learning and growth perspective, the inputs and developments for teaching, research, community service and finance should be stipulated clearly to claim developments in the internal business processes, finance and customer perspectives. However, as the type and contexts of higher education institutions are different, teaching and learning, research and community services may not be definitive functions for all higher education institutions. Some higher education institutions may focus on teaching and learning (e.g., teaching universities), while others focus on research and outreach services (e.g. research universities). Accordingly, depending on the type and contexts, it may be possible to add or reduce parts of the functions stipulated in the proposed model of balanced scorecard.

5. Discussions

Quality assurance is the common concern of all higher education institutions. Every higher education institution aspires to ensure the quality of its core processes. Conversely, despite these aspirations, performance measures related to quality assurance practices are among the long-standing problems in higher education institutions. There are considerable explanations for the challenges in the performance measures related to quality assurance. These explanations range from the shortages of finance and lack of understanding about performance measures to the loose and departmentalized nature of higher education institutions.

By virtue of tradition, higher education institutions are loosely organized institutions. They are described as bottom-heavy institutions (Clark, 1983) and a home to different academic disciplines (Clark, 1997). However, amidst these disciplinary differences, higher education leaders aspired to ensure education quality across all disciplines uniformly and through common strategic initiatives. In addition, strategies are prepared by top-level managers and passed down to the academic disciplines. This, in turn, challenges quality assurance practices in higher education institutions. Because, under this approach, the different academic disciplines are uniformly subjected to similar strategic initiatives, where some of them are difficult to harmonize with the knowledge domain of the academic discipline. This perhaps obscured the endeavors to maintain quality assurance in the higher education institutions. Quality is a result of collaborative processes where the provider (for example, the top-level manager) and the user (for example, academic disciplines or other external customers) are aware of their responsibilities (Mishra, 2007; Wilger, 1997). Therefore, equally important to other bottlenecks, the diffused decision making and bottom-heavy nature of higher education institutions are potential challenges to the quality assurance practices in higher education institutions. Despite there being a wealth of literature on the quality assurance mechanisms, the role of the balanced scorecard to mitigate parts of the challenge emanated from the nature of higher education institutions is overlooked. Thus, the main assertion of the present article is that the balanced scorecard, if designed in harmony with the core functions of the higher education institutions, could play a considerable role in mitigating parts of the challenge in quality assurance practices that have resulted from the nature of higher education institutions.

These roles could be the following. First, *the balanced scorecard could enhance communication and strategic execution in higher education institutions*: almost every higher education institution aspires to ensure quality education. However, these aspirations remained with top managers, or are only written to satisfy the requirements of university websites and Facebook and Twitter accounts. In parallel, the faculty in the varied disciplines have limited possibilities to know the strategic objectives of their higher education institutions. As noted in the literature (Becher, 1994; Henkel, 2005), the academe places greater focus to their disciplinary areas than to the university. This, thus, necessitates tools that strengthen the communication between the top-level managers and the practitioners in higher education institutions. Therefore, as it engages with cascading, the balanced scorecard may improve communication among top-, middle- and low-level managers and practitioners. In the balanced scorecard, top-level managers communicate the organization's strategic goals and visions to the lower-level managers and practitioners through cascading strategic plans and monitoring and evaluations. Accordingly, when the faculty is given a chance to plan in accordance of the higher-order strategic plans, harmonized practices could be ensured and, as a result of which, quality and quality assurance could be enhanced. Appropriately implemented, the balanced scorecard helps everyone to come onto the same page, know how and what to do to support the corporate level strategies (Rompho, 2011).

Second, *the balanced scorecard could integrate and articulate the input, process and output dimensions of the quality assurance dimensions into measurable targets and performance measures*: even if it is not a necessary truth, the input, processes and output dimensions of quality assurance practices have linear connections. The strength and weakness in the input dimension are likely to explain the weakness and strengths in the process dimension. Moreover, the same is true for the weakness and strengths in the output dimension. That is, the strengths and weakness in the input and processes dimensions, combined together, explain results in the output dimension. However, unless it is represented through systematic tools, the linear causation among the input, process and output dimensions remains rhetoric. Therefore, as it integrates the causation among its perspectives, the balanced scorecard could integrate the causation between and among the dimensions of quality assurance. The balanced scorecard can integrate the quality assurance dimensions into actionable activities and articulate the strategic objectives into performance measures and targets.

Third, *the balanced scorecard could bring the core functions and strategic objectives of the university in to the "cockpit" of top-level managers*: higher education institutions are complex institutions in terms of their purposes and functions (Kerr, 1995). Consequently, top-level managers may fail to have a complete picture at the major functions of the university. This, in turn, may lead higher education managers to fail to trace quality problems, to give timely feedback and undertake periodic follow-up on issues that compromise education quality. These problems, therefore, demand tools such as the balanced scorecard to see the university's core functions concisely. The balanced scorecard with its strategic map helps managers to have an oversight of the organizations' strategy in a relatively coherent way (Kaplan and Norton, 2005).

Fourth, *the balanced scorecard could foster balanced endeavors in higher education institutions*: higher education institutions are full of intangibles (Philbin, 2011). These include knowledge, teaching and research that are complex to understand and measure. "Knowledge is the material research and teachings are the main technologies [. . .][and] this invisible material [knowledge] is impossible to define closely (Clark, 1983, p. 12)". This implies that knowledge, research, teaching and community service are not only intangible assets. They are also traits that are difficult to define and measure. Conversely, higher education institutions are striving to ensure the quality of these traits. According to Tohidia *et al.* (2010), higher education

institutions traditionally focus on the easily quantifiable traits and accordingly undermine the activities that add value to change inputs in to desirable outputs. The balanced scorecard as a technique, therefore, may help higher education institutions to plan, measure and evaluate the processes of the intangible assets in their quality assurance endeavors.

However, it is worth noting that the balanced scorecard, if not used appropriately, might fail to help quality assurance practices. Kaplan and Norton (2001) classified the failures of the balanced scorecard into “design failure” and “processes failure”. The design failure refers to the inappropriate arrangement of the perspectives and alignment of the organization’s core tasks in each perspective. In addition, the process failures refer to the failures to set appropriate performance measures and targets. Similarly, Schneiderman (1999) identified the following under which the balanced scorecard could fail. These are when:

- The independent (the non-financial measures) variables on the scorecard is incorrectly identified as primary drivers of future stakeholders’ satisfaction.
- The metrics are poorly defined.
- The goals are negotiated rather than based on stakeholder requirement, fundamental process limits and improvement process capabilities.
- There is no deployment system that breaks high-level goals down to sub-process level where actual improvement activities reside.
- State-of-the-art improvement systems are not used.

The conditions under which the balanced scorecard failed, as suggested by Schneiderman and Kaplan and Norton, give unequivocal messages to the transfer processes of the balanced scorecard into the higher education institutions. The design and process of the balanced scorecard in higher education need to consider the core functions of the university and their quality assurance schemes, i.e. the core functions of the higher education institutions (teaching and learning, research and community service) should be explicitly presented and articulated in the four perspectives of the balanced scorecard. They should be presented in each perspective, as each function requires a relatively different inputs, processes and customers’ satisfactions. Explicit treatment of the core functions across the perspectives of the balanced scorecard could encourage higher education institutions and their academic disciplines to concentrate on their areas of excellence and, consequently, reduce the “one-size-fits-all” models of the balanced scorecard transferred into higher education institutions and their academic disciplines.

6. Conclusions

The balanced scorecard, despite its origins, is now transferred into higher education institutions. It was introduced mainly to improve the management of a university’s core functions and their quality assurance practices. Therefore, at least theoretically, it is arguable to conclude that designed appropriately, the balanced scorecard could mitigate parts of the quality assurance challenges that emanated from the nature of the higher education institutions. As with the corporate entities, the balanced scorecard could foster communication among several units of higher education institutions, improve strategic development and execution of strategic plans. It may help to translate the strategic objectives in teaching and learning, research and community service in to measurable, actionable and vision oriented targets and thus support the quality assurance practices.

Therefore, the proposed congruence between perspectives of balanced scorecard and quality assurance dimensions may help to reduce parts of the resistance to the balanced scorecard in higher education institutions. Further, the proposed model of the balanced scorecard may help higher education managers (both at macro, meso and micro levels) to consider the core functions

of the higher education institutions in strategic planning, execution and evaluation processes. It will particularly give an alert to higher education managers to integrate the core functions of higher education institutions into the perspectives of the balanced scorecard.

Finally, even if the paper falls short of supporting its claims with empirical evidence, it signposts the congruence between the balanced scorecard and quality assurance practices in higher education institutions, including the limitations of the previously developed balanced scorecard model when applied to higher education institutions. Therefore, the congruence between the balanced scorecard and quality assurance dimensions and the proposed model of the balanced scorecard could be taken as input for future research and practice into application of the balanced scorecard in higher education institutions.

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