Application of Balanced Score Card (BSC), Strategy Map and Key Performance Indicators (KPI) -for an Engineering college in Oman

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ABSTRACT—Key performance Indicators (KPIs) provide parameters for measuring the quality and standards of performance for any organization. For educational institutes, performance measurement becomes more complex as the stakeholders pan from students/parents to staff, management the employers and includes even the proximate society.

The identification and selection of KPIs, therefore, should be preceded by setting of Goals and Strategies by the Management of the college/University. Further, careful consideration in applying the concepts of Balanced Score Card(BSC) and Strategy Map are of critical importance so that the final structure of KPIs become meaningful and meets the expectations of the stakeholders.

In this paper, the concepts BSC and Strategy Map are applied to an Engineering College in the Sultanate of Oman and the selection of KPIs are illustrated with examples.

Keywords— Key Performance Indicators, Balanced Score Card, Strategy Map

1. INTRODUCTION

In these days of globalization and increasing competition, the only way of staying ahead for Higher Educational Institutes is to have a system of appraisal that keeps the management alive and responsive to the continuous changing perspectives of the stakeholders- Mainly the Students / Staff and Management of the College or the University. If the current decade can be termed as information era, it is realized that the institutes of higher education should go beyond management of financial assets and liabilities and exploit its invisible assets.

This was one of the primary objective of Prof. Robert S.Kaplan of Harvard Business School and Mr.David P.Norton, President, Renaissance solutions Inc., the architects of the Balanced Score Card (BSC) concept- a management tool for performance measurement that is adopted by major multinational organizations across the world. The name Balance Score Card draws strength from the fact that it gives equal weightage or provides a balance between external measures for shareholders and customers (students / students 'sponsors -parents) and internal measures of critical business processes, innovation, learning and growth. In other words, the measures are balanced between the outcome measures-the results from past efforts and the measures that drive future performance – according to.Prof. Kaplan(Kaplan, 1996) has proposed four focus areas for effective utilization of Balanced Score Card. The four focus areas are, financial, Customer(Centric), Internal Business Processes and Learning and Growth. Development of KPIs should be on the structure of these four focus areas. The paper illustrates the application of these four BSC designations on to a strategy map for an Engineering College. The process involves taking into account the expectations of the main stakeholders. A table is then drawn that helps to understand the drivers that result in planned outcomes.

1. The Four focus areas of Balanced Score Card

The management and governance of colleges and universities has been transformed in recent years by introduction of Key Performance Indicators (KPIs) reports author Conlon (Conlon, 2004).It is the prime responsibility of the

management of higher education institutes that their competence is calibrated primarily by strategies identified and developed by them-the strategies that would guide actions and take the Institute towards the pre-defined standards and goals.

S. No	BSC Focus Areas	Key Performance Areas
1	Financial	Return on Investment, Net profit, Assets, Liabilities etc.,
2	Customer	Student satisfaction, students' employability
3	Internal business Processes	Research Capability, Consultancy projects, Patents, Learning and Teaching Strategies etc.,
4	Learning and Growth	Conferences, workshops, symposiums' Staff and student exchange programs

Table 1- Focus and related Key Performance Area

These strategic goals provide the basis for the emanation of KPIs. These KPIs are then grouped in to the four fields proposed of BSC. It is to be recognized here that even with the BSC concept as proposed by Prof. Kaplan; the first field of focus is the financial element. The health of financial element depends on the number of students registering with the Institute. This is even more important if the Institute is in the private sector. According to author Verghese (Verghese.N.V., 2004), there is a concerted effort in many countries to reduce the reliance on state funding and move towards market-friendly reforms. According to another author, (Ferris, 1993)if there is Government funding or a grant to educational institutes then it becomes the responsibility of the government to make sure that the public funds are wisely used, and, thus, it is the government's obligation to hold its institutions accountable for their performance. In this case there is an additional pressure on the educational institutes to fix up the norms for the performance of the institute and monitor them to meet the expectations of the Government.

The college where this study was undertaken is in the private sector and totally depends on the students' intake and the receipt of fee from the registered students.

It is in this context, the application of BSC is considered. It is demonstrated throughout the world that the students queuing up for admission depend on the quality of education offered by the Institute. This in turn is reflected as the teaching staffs' skills that translate ultimately into better reputation, image and higher admission numbers of students. As per Balanced Score Card concept, the links for such performance emerge from learning and growth of the institute (primarily through the staff of the college), and the Internal business processes (facilitated by the Management process of the Institute). These two processes lead to customer satisfaction and then the financial performance of the institute takes care of itself.or

In the past, most of the enterprises depend solely on financial indicators. This is further reiterated by (Nefstead E. , 2006). Generally these financial measures report on outcomes also known as lagging indicators. This after-the-fact approach does not communicate the real drivers of future performance. What is needed is to define and manage indicators that show value through investments in students, faculty, staff, technology and innovation. To address these issues the BSC was developed by Kaplan and Norton to help overcome limitations of managing only with financial indicators.

However, it becomes the responsibility of the Management of the institute to provide an environment that hones the skills of the teaching staff as well as create an ambience conducive to the effective teaching and learning practices. It is seen that there is an invisible link that associates the skills of teaching staff to the financial performance of the institute. The skills reflect the quality of teaching. The question then arises whether there is an effective measurement system that would gauge the quality of teaching.

The non-financial assets such as the staff capability, the innovative methods of teaching and the managements' supports have no methods of measurement, unless there is an effort to translate the qualitative parameters in to quantitative KPIs.

2. STRATEGY MAP -LEARNING AND GROWTH AND PROCESS MEASUREMENT:

It is important to communicate the strategic plans and goals and the KPIs for achieving the goals to every stakeholder of the college- especially to the staff members of the college as they are an important link in taking the Institute forward and in achieving the strategic goals. This is accomplished with the help of a Strategy Map according to the authors

(Young. A, 2010). The authors also go on to develop a strategy map for their university (The University of New castle, Australia) that Learning & growth and the internal processes become the drivers for the outcomes of the University.

Taking the cue, the focus in this paper is on the drivers of the performance –namely the Learning & growth and the internal business processes. It is also recognized that the staff and the Management are the core players in driving the performance of the college.

Table 2 illustrates the Strategy map for the college that includes all the focus areas of BSC and the drivers of performance – the Learning & Growth and the Internal Business processes. Examples of KPIs that would help in the performance measurements are also shown in the table.

Financial Results Development of financial Assets like buildings, Labs etc., OUTCOMES Return on Investments, Profitability Customers 'Satisfaction (Students/ Students parents/Employers) Number of affiliations / Conferences Colloborations **Internal Business Processes** Number of staff Exchange Number of staff Development programs programs **DRIVERS** Number of consultancy projects/Patents Number -Research papers Learning & Growth from staff Λ $\mathbf{\Lambda}$ Staff Skills Λ **KPIs** Strategy Map

Table 2- BSC focus areas, Strategy map and examples of KPIs

3. SELECTION OF KPIS

The examples of KPIs indicated in the Table 2 are based on the parameters adopted by different colleges/Universities across the world. The first layer of KPIs, relating to learning and growth takes in to account the research, consultancy/patent capabilities of the staff members. As per the newspaper report in The Hindu, (Dhar, 2013), Academic Ranking of World Universities (ARWU) for 2013, Considers research performance as one of the main indicators for its ranking criteria.

ARWU also considers every university that has any Nobel Laureates, field medallists, highly cited researchers, or papers published in Nature or Science. In addition, universities with significant amount of papers indexed by the Science Citation Index-Expanded (SCIE) and the Social Science Citation Index (SSCI) are also included.

It has also been found that faculty with consulting experience are often more effective in the classroom (Shugan,

2004). The same author also goes on to say that outside consulting activities can produce valuable input for academic research.

The Management of the Institute plays a crucial role in providing the required facilities and in nurturing the growth of the College. This is done by organising the Conferences/ Work Shops/ Symposiums in the College as well as motivating the staff to attend these gatherings. It is reported that (Welch, 1997) the benefits of staff exchange include, inter alia, an important additional source of specialised staff, broadening of perspectives on teaching and learning, specific cultural and scientific skills not generally available in host context etc., As per author ((Borko, 2004),the professional development for teaching staff has positive impact on the teaching skills and facilitates the learning process of the students.

Thus each layer and its elements are chosen by the contextualization and supported by a rationale that suits the college environment concerned.

4. CONCLUSSION

A systematic method of identification and evaluation of KPI is preceded by an understanding of Balanced Score Card concept and application of strategy map. It is only in the careful mix of all these elements, a college or an University could arrive at a set of KPIs as a performance measurement tool. The emerging picture is not complete until a dash board that shows the progress against target values are developed and monitored by the College Management.

It is noted that such a valuable tool is yet to be recognized for its use by many higher educational institutes especially in the developing world.

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