

Developing the Balanced Scorecard Framework for Higher Education: Conceptual Study

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Abstract

The complexity of the global events and the rapidly changing technology especially in the higher education institutions makes it critical managing universities and other education institutions today to analyze several areas of performance simultaneously. The balanced scorecard can help universities and other higher education institutions to utilize intangible assets they need for future growth. It should be viewed as a complement rather than a replacement for traditional financial assessment measures. The balanced scorecard technique enables university to link long-term strategic planning to short-term, tactical actions. Its implementation provides a critical linkage between financial and operational measures on customer satisfaction, internal processes and the organization's innovation and improvement activities. Therefore, this work aims to introduce a Balanced Scorecard approach for designing of an integrated performance evaluation system applied to university management. The integrated system uses a strategy map from Balanced Scorecard, defining financial targets, customer needs, internal processes and opportunities for improvement the corporate performance. In this work it will be presented a preliminary framework, which was developed on the university basis.

1. Introduction

Over the last decades, the higher education institutions have significantly enlarged their considerations and investigations on universities performance evaluation and assessments. According to Kaplan and Norton (Kaplan and Norton, 1996, p.75), performance needs to be measured by an integration of four perspectives – financial, customer, internal processes, and learning and growth – to provide a better linkage between operational processes and strategic planning, which are summarized as follows (Figure 1):

- 1) Financial perspective,
- 2) Customer perspective,
- 3) Internal process perspective,
- 4) Learning and growth perspective.

Organizations which use this model customize it with their own processes and environment, therefore there is no necessity in applying the four perspective of BSC or they could affix another perspective to BSC, according to their needs.

Thus, in this work we intend to present a preliminary framework of a performance evaluation system for higher educational institutions, which was designed using processes-based management concepts taking into account the above perspectives. The balanced scorecard can help Universities to utilize intangible assets they need for future growth. It should be reviewed as a complement rather than a replacement for traditional financial assessment measures. The balanced scorecard enables universities public affaire parishioners to link long-term strategic planning to short-term, tactical actions. Its implementation provides a critical linkage between financial and operational measures. And it explains to everyone what the organization is attempting to achieve.

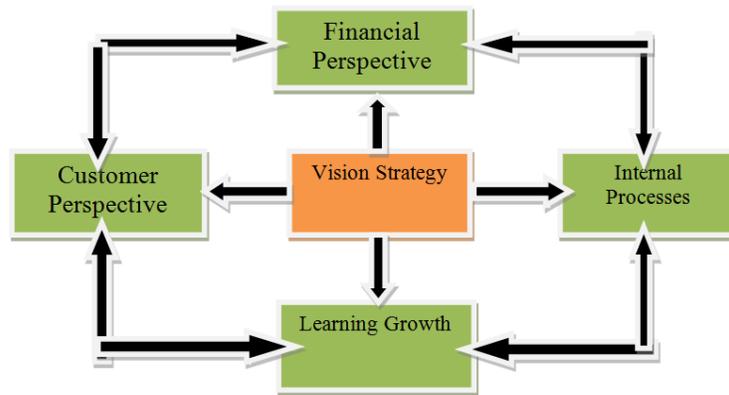


Figure 1: Balanced Scorecard perspectives [Source: Kaplan & Norton (1996)]

The balanced scorecard provides specific answers to four questions of critical concern:

1. How does the public see us? For example. How did the stakeholders react to the Universities?
2. What must we excel at? From an internal perspective- successful media placement? Utilization of high technology? Understanding of international cultural values?
3. Can we continue to improve and create value? Utilize innovative technology and participate in transfer learning?
4. How do we look financially? Are we optimizing expenditures? Should expenditures be reallocated? (Kaplan and Norton, 1992, p.72)

This study extends this concept to the university context, and other higher education institutions.

Table 1: Example of the Balanced Scorecard and associated objectives

	Objective	Indicator
Diversity: How well do we broaden & strengthen our university?	Increase campus diversity, Provide better disability access	Percentage of students, staff, and faculty by gender and ethnicity, Inventory program needs as baseline; improvement over time
Student learning experience: How effectively do we transfer knowledge to our students?	Improve student progress, Increase students satisfaction, Improve graduate program quality	Retention and graduation rates , Higher Education Research, Institute student survey data , Graduate student placement
Academic excellence: What is our contribution to the creation of knowledge?	Increase research productivity, Heighten national reputation	Counts of publications, citations, grants, and awards, Number of departments in top quartile of National Research Council rankings
Outreach and engagement: How effectively do we transfer knowledge to the local, national, and international communities?	Increase technology transfer activity, Increase outreach to community	Number of licenses, patents, and invention disclosures; royalty income, Number of programs and services; number of people served
Resource management: How well do we develop and manage resources?	Increase and diversify revenues, Provide incentives for entrepreneurial initiatives	Percentage of revenue by category over time, Number of science and technology campus partnerships

2. Balanced Scorecard and the Strategy Map

A strategy map is a logical architecture that defines a strategy by specifying the relations between shareholders, customers, business processes, and competencies. Strategy maps provide the foundation to build Balanced

Scorecards linked to an organization's strategy. The balanced scorecard strategy map is a useful tool to clarify strategies, identify the key internal processes that derive strategic success and align investments to improve university performance. A strategy map provides a framework to link intangible assets to value creating processes on financial, customer, internal process and learning and growth perspectives.

Financial perspective describes the tangible outcomes in traditional monetary terms and customer perspective defines the value proposition, which provides the context to create value for stakeholders. Even in public and nonprofit organizations, like the public higher education institutions, it is desirable to measure financial performance, since it is always necessary to provide resources for ongoing reinvestment on educational services. To achieve the desired outcomes, both in financial and customer perspectives, it is necessary to select competitive priorities which have impact on quality of educational and learning processes, entrepreneurship, and control on alignment of graduate areas, always pursuing social integration to the stakeholders. Therefore, learning and growth perspective, which takes into account human resources, information and organizational structure, helps to identify the intangible assets that must be aligned to improve internal processes. Figure (2) shows the steps of strategy map to design a performance management system.

In a financial perspective, it would be possible to measure earnings achieved directly from students' payments, but also monetary resources received through projects developed with governmental institutions and private organizations. In terms of value proposition for users, in a customer perspective, it should be adopted metrics related to students' position in national ranking and students' performance in professional activities during and after graduation completion. It would be also desirable to evaluate students satisfaction related to university climate in terms of safety and environmental aspects, stakeholders involvement and satisfaction and positive perception. Internal processes perspective should be evaluated in terms of quality, entrepreneurship, alignment and integration. Thus means, it should be proposed metrics to measure effectiveness of instructional and administrative aspects, like teacher training and use of technology, quality of university services, accessibility to the buildings and classrooms, and other university facilities' availability, like laboratories, libraries and places of meals.

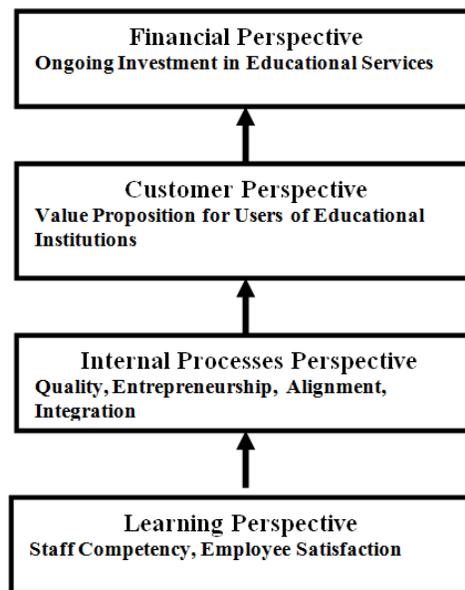


Figure 2: Strategy Map to design a Performance Management System [Alvaro, G.L, (etl.), 2006]

Considering an entrepreneurship point of view, it would be desirable to measure the level of activities which involves research and development of new products and establishment of startup institutions. Also in an internal processes perspective, it should be adopted performance metrics to evaluate alignment and symbiosis of undergraduate courses and graduate programs, and social impact on community integration, through activities related to environmental protection and energy savings. Finally, in a learning and growth perspective, which are

related to staff competency and employee satisfaction, it would be implemented various metrics to evaluate teaching experience, degree of formation, teamwork and morale.

3. The Quality Approach and Expanded Measures of Excellence

The quality approach emphasizing external stakeholder focus, process effectiveness and efficiency, benchmarking, human resource management, and integration and alignment among components of the university system, provided impetus for the use of a more comprehensive array of performance indicators. The usefulness of these indicators extends beyond performance measurement, and contributes also to self-assessment, strategic planning, and the creation of focus and consensus on goals and directions within the university. One approach that addresses this need in a systematic way is the Balanced Scorecard concept developed by a study group composed of representatives from major organizations including American Standards. As described by Kaplan and Norton (1996, p.2), "The Balanced Scorecard translates an organization's mission and strategy into a comprehensive set of performance measures that provides a framework for a strategic measurement and management system."

Specifically, Kaplan and Norton (1995, p. 10) explain: The Balanced Scorecard should translate a business unit's mission and strategy into tangible objectives and measures. The measures represent a balance between external measures for stakeholders and customers, and internal measures of critical business processes, innovation, and learning and growth. The measures are balance between outcome measures – the results of past efforts – and the measure that drive future performance. And the scorecard is balanced between objective, easily quantified outcome measures and subjective, somewhat judgmental, performance.

To adopt this approach to higher education institutions, we should do the followings:

1. Clarify and gain consensus about vision and strategic direction.
2. Communicate and link strategic objectives and measures throughout the higher education institutions.
3. Align departmental and personal goals to the higher education institutions vision and strategy.
4. Plan, set targets, and align strategic initiatives.
5. Conduct periodic and systematic strategic reviews.
6. Obtain feedback to learn about and improve strategy.

In a higher education, as in business, there are time-honored traditions relative to the measurement of excellence. Rather than emphasizing primarily financial measures, higher education has historically emphasized academic measures. Motivated, as with business, by issues of external accountability and comparability, measurement in higher education has generally emphasized those academically-related variables that are most easily quantifiable. Familiar examples are student and faculty demographics, enrollment, grade point average (GPA), scores on standardized tests, class rank, acceptance rates, retention rate, faculty-student ratios, graduation rates, faculty teaching load, counts of faculty publications and grants, and statistics on physical and library resources.

As important as the traditional indicators are, those measures fail to present a comprehensive image of the current status of an institutions. They do not reflect some of the key success factors for a college or university, nor do they capture many of the dimensions of a university's mission, vision, or strategic directions. Traditional measures are subject to other limitations as well. In the area of instruction, many familiar measures such as student grade-point average or standardized test score capture "input" – the capabilities students bring with them to our institutions – but often not the value colleges and universities add through the teaching – and – learning process, or the "outputs," or benefits derived from having attended. Higher education assessment outcomes studies have contributed to our understanding of the teaching-and-learning process, but resulting measurement frameworks have generally not been translated into indicators that are useful for monitoring, intervening in, or comparing institutional excellence (Johnson & Seymour, 1996).

Other variables which are less obviously linked to academics, less tangible, or less readily susceptible to quantitative analysis can make less a focus for measurement. Thus dimensions such as relevance, need, accessibility, fulfillment of expectations, value-added, appreciation of diversity, student satisfaction are not widely used indicators of excellence. Looking more broadly, traditional assessment frameworks typically fail to consider many other indicators of present and potential excellence.

4. A Balanced Scorecard for Higher Education

From the current practices, we found that the colleges and universities are engaging in dialogue about appropriate measures, often as part of discussions of performance – based assessment and accountability, typically motivated by pressures from external stakeholders. The performance funding indicators are adopted or proposed in most institutions obviously respond to external complaints about the quality and quantity of faculty teaching and student learning, the preoccupation with undergraduate studies and research and neglect of graduate education. Thus means that the lack of priorities and productivity, the allowance of mission creep and program sprawl and swelling of administrative positions and support staff. It is interesting to note in this regard, the five most commonly employed indicators in local environment that were leaders in instituting performance – based measures:

- Retention and undergraduate rates;
- Faculty teaching load;
- Licensure test requirements;
- Two – to four – year transfers;
- Use of technology and other accreditation's requirements

Notably missing from this list are many measurement categories and specific measures that are suggested by a balanced scorecard approach. Absent also in typical lists of selected performance indicators – and of great concern – is a linkage to a comprehensive view of higher education excellence. The balanced scorecard approach offers an institution the opportunity to formulate a cascade of measures to translate the mission of knowledge creation, sharing and utilization into comprehensive, coherent, communicable and mobilizing framework – for external stakeholders, and for one another. As pressures for performance measurement and accountability mount, the need to rethink and reframe our excellence measurement frameworks has never been more pressing.

The fundamental mission of higher education institutions and their academic units and programs is the advancement of excellence in the creation, sharing and application of knowledge, typically described in terms of teaching, scholarships/research, and public service/outreach. As important as the traditional indicators are, these measures fail to present a comprehensive image of the current status of an institution. They do not reflect some of the key success factors for a college or university, nor do they capture many of the dimensions of a university's mission, vision, or strategic directions.

Fulfilling this mission requires a 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. Although historically less well appreciated, it also requires excellence in communication and a service-oriented culture, appropriate visibility and prominence within state and beyond; a welcoming physical environment; a friendly, supportive and respectful social environment; expectations of success; responsive, integrated, accessible and effective systems and services; and a sense of community.

More specifically, fulfillment of this mission requires successful engagement with a number of constituency groups, and for each desired and potentially-measurable outcomes can be identified:

- Perspective Students: Applying to a university/ program as a preferred choice, informed about the qualities and benefits they can realize through attending.
- Current Students: Attending their university/program of choice with well-defined expectations and high levels of satisfaction relative to all facets of their experience; feeling they are valued members of the university community with the potential and support to succeed.
- Research Contract Agencies and Other Organizations or Individuals Seeking New Knowledge or the Solution to Problems: Actively seeking out the university and its scholars for assistance.
- Families: Proud to have a family member attending the university/program, supportive of the institution; recommending it to friends and acquaintances.
- Alumni: Actively supporting the university/program and its initiatives.
- Employers: Seeking out university/program graduates as employees; promoting the university/program among their employees for continuing education.
- Colleagues at Other Institutions: Viewing the university/unit as a source of intellectual and professional leadership and a desirable workplace.

- Governing Boards: Supportive of the institution and enthusiastic about the opportunity to contribute personally and professionally to its advancement.
- Local Community: Viewing the institution as an asset to the community; actively supporting its development.
- Friends, Interested Individuals, Donors, Legislators, and the General Public: Valuing the university as essential resources; supporting efforts to further advance excellence.
- Faculty: Pleased to serve on the faculty of a leading, well-supported institution/program, enjoying respect locally, nationally and internationally.
- Staff: Regarding the institution/unit as a preferred workplace where innovation, continuing improvement and teamwork are valued; recommending the institution/unit to others.

Building on the preceding framework, a university's mission, vision and goals may be translated into "dashboard indicators" with five indicator clusters, each composed of a variety of constituent measures – some quite traditional others less so. The five indicator areas are teaching/learning, scholarship/research, service/outreach, workplace satisfaction, and financial, as illustrated in Figure 3.

1- Teaching / Learning:

In the proposed framework developed by Ruben (p.5), instruction is composed of quality assessment in two primary areas: (a) programs and courses and (b) student outcomes. The model points to the value of incorporating multiple dimensions, multiple perspective and multiple measures in evaluating the quality of programs/courses and student outcomes. Appropriate to these assessments are systematic inputs from peers/colleagues (at one's own and perhaps other institutions), students (at various points in their academic careers), alumni (providing retrospective analysis), employers and /or graduate directors (providing data on workplace and graduate/ professional school preparation). Each group can contribute pertinent and useful insights and collectively, these judgments yields a comprehensive and balanced cluster of measures that help to address concerns associated with a reliance on any single perspective of measure (William & Coci, 1997, Trout, 1997).

Colleagues from one's own or another institution, for example, can provide useful assessments of instructor qualifications and the scope, comprehensiveness, rigor, and currency of program/course content, etc. Students and alumni can provide valuable assessments of the clarity of course/program expectations, curricular integration, perceived applicability, and instructor delivery skills, enthusiasm, interest in students, accessibility, and other dimensions.

Examples of assessment dimensions that can be included in these indicators are listed in Table (2). In the case of the program/courses, the cascade of measures might well include clarity of mission of program/courses, disciplinary standing, need, coherence, rigor, and efficiency, qualifications of instructors, currency and comprehensiveness of course materials, adequacy of support services, and teaching/learning climate. These dimensions can be operationalized in any of a variety of ways. Typically, evaluations of disciplinary standing are derived from external review, accreditation or other peer review systems. The need for programs/courses can be assessed by a consideration of such factors as unfulfilled demand for a program or course, offerings at other institutions, and systematic input from employers or alumni. Coherence would consider measures of internal curricular linkage and integration, and rigor assessment would likely include data on assignment standards and grading practices with student and alumni input. Efficiency could include cost-student enrollment ratios, student/faculty instruction ratios, etc. Qualifications of instructors, course content, and delivery assessment can be based on peer, professional review, and other inputs. The adequacy of support services can be evaluated through surveys of student, faculty and staff assessments. According to that, it should be important to indicate that having an established set of measures that operationally define "excellence" for an institution / unit is of great value for assessment and over-time tracking. For the institution as a whole or particular unit within, they provide the basis for a straightforward, accessible, and mobilizing answer to the question: "How are we doing?"

Student outcomes could include measures of program/course preferences, selectively, involvement, learning outcomes (knowledge and competency acquisition), fulfillment of expectations, satisfaction, retention, preparedness, placement, and motivation for life-long learning, and other variables that may be appropriate to the mission, vision, and/or goals of the institution or program. Preference measures, for instance, would document answers to questions such as: "Was this college/program may preferred choice?" Selectively would reflect "input" measures of the

"quality" of students enrolled in course/programs, and learning outcomes assessment would measure cognitive and behavioral competencies. Thus, in addition to content learning, assessment might also include the ability to engage in collaborative problem solving, appreciation of diversity, leadership skills, interpersonal and presentational communication skills, ethical thinking and other capabilities appropriate to the mission, vision and goals of the institution/program.

Surveys and focus groups with student and alumni groups would provide the basis for evaluating and overtime tracking of satisfaction with academic programs, support services, facilities, etc. For instance, alumni could be asked some years after graduation, whether they choose the same university and/or program were they to be enrolling today. Preparedness for careers or further graduate study could be assessed through input from graduates, recruiters/employers, and graduate program directors. Placement measures would be derived through systematic alumni tracking.

2- Scholarship/Research:

Research and scholarship are composed assessments of quality in the areas of:

- Productivity;
- Impact

Typically, productivity indicators include activity level. Depending upon the field, activity level measures would encompass frequency of presentations, performances, article and paper submissions, publications, and finding proposals. Impact measures for research and scholarship typically include publication rate, selectivity and stature of journals or publishers, citation, awards and recognition, editorial board membership, peer assessments of scholarly excellence, funding of research, and others.

3- Public Service/ Outreach:

The public service and outreach indicator cluster would be composed of measures of the extent to which the university, unit or program addresses the needs and expectations of key external stakeholder group. As illustrated in Table (2), this cluster should include measures for each of the group whose assessments of the quality and performance of the institution/program have important implications for the unit in terms of mission fulfillment, reputation, recruitment, economic viability, etc.

The definition of key external stakeholder groups depends on the nature of the institution or unit and its mission. Generally, for academic units, the list of potential candidate groups would include: the university (beyond the unit itself), profession/discipline, alumni, potential students, organizations/individuals seeking new knowledge, family members/parents of students, employers, community, state, region, governing boards, friends of the institutions, donors, legislators, and the public at large. Once the scope of key stakeholders is defined, the measures for each should capture the quality of contributions of the unit based on *criteria of significance to the external group* and reflecting their perspective. Some general measures that are appropriate for a number of this stakeholder group are:

- Activity level;
- Selection for leadership roles;
- Reputation;
- Meeting perceived needs; and
- Satisfaction level.

In some cases, measures would be specific to the stakeholder group. For example, in the case of the university (beyond the particular unit), measures might include promotion and tenure rates, requests to serve on thesis and dissertation committees in other programs and invitations to serve on and play leadership roles in key committees and projects, in addition to other general measures of engagement and perceived contribution to university life. In the case of potential employers, for example, preferences for university graduates as employees, and likelihood of promoting the university among their employees for continuing education would be important measurement considerations. In the case of organizations or individuals seeking new knowledge or the solution to problems, the number of contracts, requests for information, proposals requested and initiatives funded would be among the appropriate measures. For alumni, key financial and moral support of the university and its initiatives would be key measures, and the extent to which the university is perceived to be an essential state resource would be an important indicator of public support. For parents and families, issues of interest would include attitude toward having a family

member attending the university, and likelihood of recommending the institution to friends and acquaintances. While institution data may be available as input in some instances, focus groups, survey programs, and other systematic approaches to capturing the perspectives of these groups are required.

4- Workplace Satisfaction:

In addition to indicators associated with instruction, scholarship, and service/outreach, another important indicator is workplace satisfaction – for faculty and for staff. Inputs to indicators for each group could include measures of attractiveness of the institution as a workplace, turnover, compensation, assessment of workplace climate, and faculty and staff morale and satisfaction. Measures in this category will include a combination of institutional data (analysis of application and retention data) and also perceptual data from faculty and staff groups and information derived from sources such as exist interviews, focus groups, and/or survey.

5- Financial:

The final set of indicators are financial revenues by source, such as state appropriations, tuition, donations, endowments, grants, etc., and expenditures – operating budgets, debt service, credit rations and ratios, deferred maintenance and expenditures for the university / unit. Clearly, the specifics appropriate to this indicator would vary substantially depending on the level and type of unit involved.

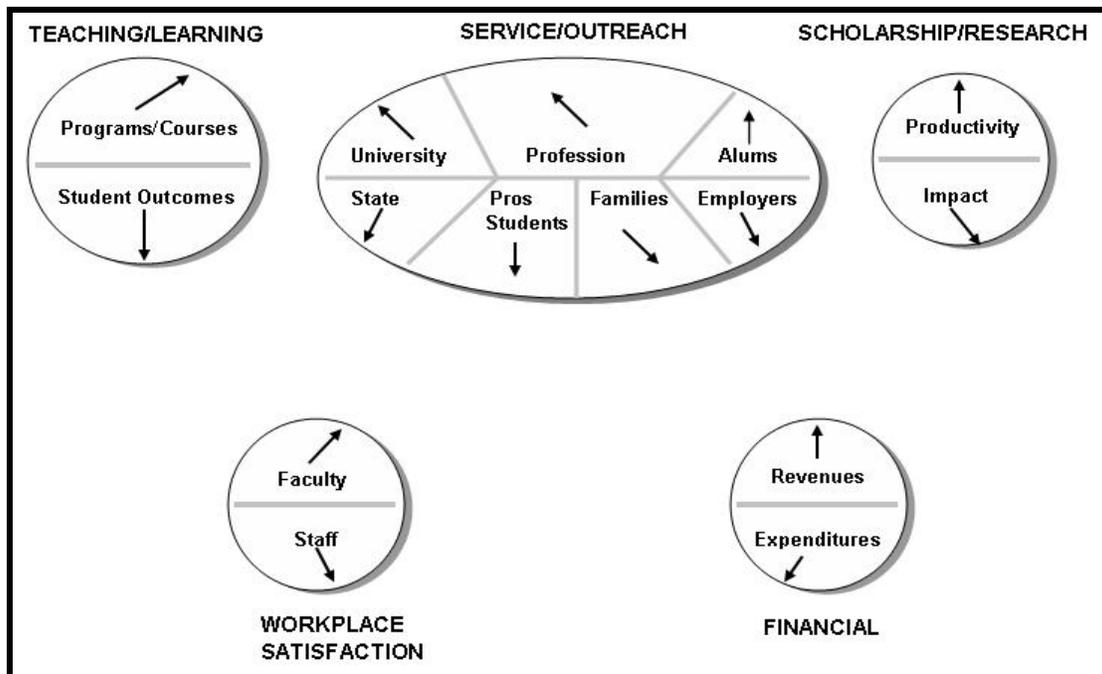


Figure 3: Higher Education Dashboard Indicators [William & Coci, 1997, Trout, 1997]

Table 2: Possible Cluster Measures for Higher Education Dashboard

INSTRUCTION (1)	PUBLIC SERVICE/OUTREACH (2)	SCHOLARSHIP (3)
<p>(a) Programs/Courses:</p> <ul style="list-style-type: none"> • Mission clarity • Disciplinary standing • Need • Coherence • Rigor • Efficiency • Instructor qualifications • Currency/comprehensiveness of course materials • Adequacy of support services • Teaching/learning climate <p>(b) Student Outcomes:</p> <ul style="list-style-type: none"> • Preferences • Selectively • Involvement • Learning outcomes • Satisfaction • Retention • Preparedness • Placement <p>Life-long learning Student Outcomes:</p> <ul style="list-style-type: none"> • Preferences • Selectively • Involvement • Learning outcomes • Satisfaction • Retention • Preparedness • Placement • Life-long learning 	<p>Prospective Students:</p> <ul style="list-style-type: none"> • University • Profession/Discipline • Research agencies • Alumni • Families • State • Employers • Community • Governing Boards • Public at large <ul style="list-style-type: none"> - Activity level/contracts - Selection for leadership roles - Reputation - Meeting perceived needs - Satisfaction levels - Contribution/funding - Preferences 	<p>(a) Productivity:</p> <ul style="list-style-type: none"> • Presentations • Performances • Submissions • Publications • Funding proposals <p>(b) Impact:</p> <ul style="list-style-type: none"> * Publication stature * Citation * Awards/recognition * Editorial roles * Peer assessments * Funding
<p>WORKPLACE SATISFACTION (4)</p>	<p>FINANCIAL (5)</p>	
<p>(a) Faculty</p> <p>(b) Staff</p> <ul style="list-style-type: none"> • Attractiveness • Turnover • Compensation • Climate • Morale <p>Satisfaction</p>	<p>(a) Revenue:</p> <ul style="list-style-type: none"> * Funding level * Endowments <p>(b) Expenditure:</p> <ul style="list-style-type: none"> * Operating expenses * Debt service * Credit ratios * Deferred maintenance 	

5. Conclusion

In this paper BSC strategic framework is used to evaluate the strategic position of higher education institutions and to evaluate the allover performance of them. The high education institutions should assess in the strategic perspectives of BSC framework, and their strategic positions. The proposed balanced scorecard framework can help universities and other higher education institutions to utilize intangible assets they need for future growth. It should be viewed as a complement rather than a replacement for traditional financial assessment measures. The balanced scorecard technique enables university to link long-term strategic planning to short-term, tactical actions. Its implementation provides a critical linkage between financial and operational measures on customer satisfaction,

internal processes and the organization's innovation and improvement activities. Therefore, this work aims to introduce a Balanced Scorecard approach for designing of an integrated performance evaluation system applied to university management. The integrated system uses a strategy map from Balanced Scorecard, defining financial targets, customer needs, internal processes and opportunities for improvement the corporate performance. In this work it will be presented a preliminary framework, which was developed on the university basis.

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