

Measuring Institutional Effectiveness: A Strategic-Planning Approach

Former Harvard president, Derek Bok, noted that American higher education faces exceptional opportunities and exceptional risks. The demand for services of the academe has increased tremendously in the recent past. Post-secondary institutions are needed more than ever to fuel the progress in health care, environmental safety, economic growth and other endeavors that matter to the overall well being of the nation (Bok, 2003). With new technologies outdating the earlier ones at a progressively shorter span of time, the workforce needs to retool themselves with new knowledge two or three times in the span of a career, thus creating a growing demand in courses for mid-career learners. Advancement in communication technology has opened up the access rapidly, breaking down physical boundaries. As the value of scientific discovery and continuing education keep increasing, pressures have increased from several quarters to make the educational services available to all those who need them.

These increased opportunities allow the post-secondary institutions and their faculty to diversify their activities in more ways than ever before. Broad range of activities undertaken by the education institutions makes measuring and communicating organizational effectiveness a challenging task. The stakeholders outside academe often find it difficult to comprehend the overall effectiveness from a range of output measures. At the same time, the ever-increasing resource crunch has reinforced the need for culture of accountability in the academe. It is necessary for the post-secondary institutions to develop a set of consistent, relevant and simple to understand measures that will collectively capture and communicate their effectiveness.

Most of the work done on effectiveness of postsecondary education has focused on four-year institutions (Smart, Kuh, and Tierney, 1997). Though two-year colleges occupy a large part of American post-secondary education, work done on assessing institutional effectiveness for two year colleges is limited. The two year institutions differ from their four-year counterparts in many ways. One of the main differences is the mission diversity of two-year colleges (Smart and Hamm, 1993). While most institutions dedicate their services for broadening access and promoting success of their students, the mission determines the priorities of a particular institution.

Effectiveness measures are often developed because of external pressures on the institutions to improve their performance or accountability (Birnbaum, 2000). It is easier for the external communities to have one set of measures to judge the effectiveness of all institutions; however, the mission diversity stands in the way of developing a uniform set of measures. While every institution need to develop its own indicators of effectiveness based on its mission, translating the significant outcomes of mission into measurable outputs is a difficult task. One approach to address this issue is to identify the objectives of strategic plan, as it is driven by the environment and the mission of the institution and fit those measurable outputs into parameters of organizational effectiveness. This paper provides a framework to develop institutional effectiveness matrix based on the mission and the strategic plan.

Existing theories of institutional effectiveness

Development of criteria for effectiveness measures faces two major obstacles: the selection of set of parameters that will express the effectiveness of an institution as a

whole and the sources who will track those measures. According to Cameron (1978), the problems of selection of parameters revolve around the following four issues:

1. What is the focus of the measurement criteria? Is it goal accomplishment, resource acquisition, or internal processes?
2. Can the measures be applied universally to an institution or it is specific to an area?
3. What are the normative or descriptive characteristics of the criteria?
4. Are the criteria static or dynamic?

(Cameron, 1978).

The sources of measures are critical because viewpoint of the constituents developing the criteria influences the outcome. Who should determine the criteria and who should provide the data forms the basis of this controversy (Yuchman and Seashore, 1967).

Institutional researchers assess several output parameters and outcomes – access, success, graduation rate, serving the underserved, public service, creation of knowledge through research, training workforce – the list is long. However, traditional approach measures the individual areas as stand-alone silos and do not recognize the inter-relationship among them completely. This stand-alone approach multiplies the need of indicators of effectiveness; recognizing the cross-functional relationship can help reduce the number of measures and convey the state of effectiveness more concisely.

Using a multivariate and univariate analysis on the data collected from nearly 200 respondents, Cameron (1978) tested the ability of nine constructs to express institutional effectiveness. The nine dimensions of effectiveness propounded by Cameron are clustered around three areas: student-focused, faculty and staff-focused, and system-

focused. Four constructs of student-focused measures are educational satisfaction, academic development, career development, and personal development. Faculty and administrator employment satisfaction, and professional development & quality of faculty were two measures focused on personnel. System openness, ability to acquire resources, and organizational health expressed the measures of systemic effectiveness (Cameron, 1978). Smart and Hamm (1993) studied a sample of two-year colleges to conclude that the nine dimensions of Cameron represented key management and institutional performances. Their study also showed that organizational effectiveness of two-year colleges was, at least in part, a function of the mission priorities.

Cameron's nine dimensions encompass a range of organizational effectiveness factors. However, none of the measures capture the institutional culture, the nature of decision-making and its ramification on institutional effectiveness (Smart, Kuh, and Tierney, 1997). The issue of institutional culture is of particular importance because it provides an insight into the decision making process and participation by various constituents in decision making. Welsh and Metcalf (2003) researched the difference between of attitude of faculty and administrators towards importance of institutional effectiveness activities. The underlying hypothesis comes from the research that gaining the interest and support of institutional constituents, particularly faculty, is critical in implementing institutional effectiveness measures (Friedlander and McDougall, 1990; Morse and Santiago, 2000). The conclusion of the study was that faculty support for institutional effectiveness activities is a key factor in determining their fate (Welsh and Metcalf, 2003). Leadership style and interaction between faculty and administrators both

strongly influence the overall institutional effectiveness (Smart, Kuh, and Tierney, 1997; Welsh and Metcalf, 2003).

The role of strategic plan

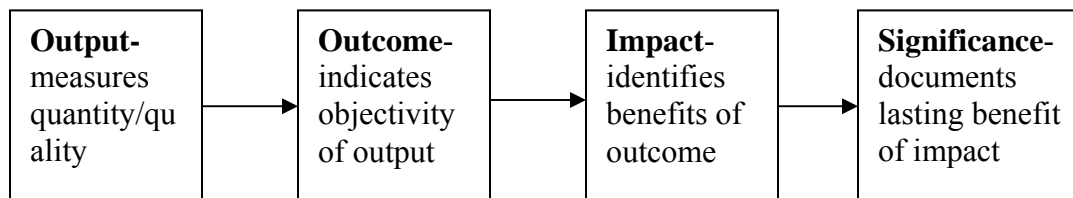
Strategic plan is defined as the process of developing and maintaining a long-term fit between the organization and its changing marketing opportunities (Kotler and Murphy, 1981). It is appropriate to expand the definition to take the fit beyond marketing opportunities alone and include all strategic functions of the organization. A strategic plan analyses the environment, and establishes a route to achieve the organizational missions within the constraints of existing resources. Environmental analysis is conducted to answer three critical questions:

1. What are the major trends?
2. What are the implications of the trends for the organization?
3. What are the most significant opportunities and threats?

By including both internal, and external environment, strategic plan maps out how the organization can best accomplish its mission within the existing resources. Essentially, the strategic plan is driven by the vision of the institution; it recognizes the limitations imposed by historical events & existing commitments and orients the institution to align itself with emergent trends and market dynamics (Kotler and Murphy, 1981). The process synergizes internal resources (human, capital and physical) with broad socio-economic environment and trends. Though it evolved as a corporate phenomenon, it quickly spread to higher education over the past two decades. A strategic plan identifies broad areas of outcome that the institution should strive to achieve to attain its goal.

The strategic plan of an organization is based on its goals and mission, and it identifies as well as articulates the outcomes that are desired by the organization (Kotler and Murphy, 1981). The outcomes help the institute create desired impact on its constituents. Strategic plan realigns the resources with environmental trends and conditions to provide a roadmap to achieve the desired outcomes.

From the measurability standpoint, an institution tracks several outputs, both in quantitative and qualitative areas. The typical outputs measured by an academic institution are enrollment, retention, graduation, placement, fiscal efficiency, professional development, interaction between faculty and staff – the list goes on. For an outsider, it is difficult, if not impossible, to pick the outputs that capture all aspects of organizational effectiveness and track its trend over the years. It is necessary to express the combine the effects of outputs to institutional outcomes, and their significance on the mission accomplishment. The hierarchical relationship between output, outcome, impact, and significance is shown below:



While output typically measures the quantity or quality delivered, the combined effect of the outputs expresses the outcome. The impact created on institutional objective is a result of the outcomes; if all impacts are in the desired direction, significant benefits should be achieved by an institution. The implicit assumption of a strategic plan is the outcomes will impact the stakeholders in a significant way and help achieve institutional

mission. Thus, capability of the outcomes to accomplish institutional mission is assumed in this model. Once the effectiveness matrix is set up, the institution can measure the impact in critical areas by observing whether the outputs are changing significantly over time.

Institutional Effectiveness matrix

The mission complexity of higher education makes identifying outcomes that would indicate institutional effectiveness an onerous task. According to Ruben (2003), a way out of this problem is to categorize output measures in four broad categories. Each of these categories overlaps across academic, administrative, outreach and research initiatives. There are several output measures to indicate effectiveness in any of the categories and the institution is free to select specific measures appropriate to it. The measures for a specific institution should be driven by its strategic plan outcomes. Collectively the measures should be capable of assessing and predicting performance in the following four areas of institutional excellence framework:

- **Program quality:** the quality of programs, services, and activities as judged by peers and professionals
- **Program relevance:** the extent to which programs, services, and activities are perceived to meet the needs and expectations of their beneficiaries
- **Organizational culture:** the quality of the organizational climate, and the satisfaction of faculty and staff from their perspective as employees
- **Process efficiency:** the effectiveness and efficiency of operational and financial dimensions of the organization

These four areas collectively define a way of thinking about departmental or institutional excellence, in terms of which evaluations can be made (Ruben, 2003). It is critical to note that institutional excellence is achieved by addressing each of the above four areas of outcomes. There are several output measures maintained by the institution that can be used to evaluate the outcomes. For example, program quality can be measured by student educational satisfaction, student academic development, and student personal development. A measure of student career development should fall under the area of program relevance. Organizational culture should capture the output measures of management styles, whether it is a clan, adhocracy, market or bureaucracy (Smart, Kuhn and Tierney, 1997). Ability to attract resources, plant operation and maintenance should fall under process efficiency. While the outcome areas are universal for any institution, the output measures are driven by individual institutional mission. This approach allows an institution to integrate its mission accomplishment with achieving organizational excellence.

The constructs of organizational effectiveness matrix is shown below for a small technical college located in semi-urban Appalachia. The college has identified five areas of focus based on its institutional mission and vision. These measures are shown along the rows in the effectiveness matrix below. How does the college ensure that by identifying measures of the five areas identified, it will touch upon all the aspects of institutional effectiveness? The institutional effectiveness matrix provides a way to check whether the output measures identified provides an overall picture of effectiveness for the institution. The indicators of effectiveness for this college are clustered into five areas. Each of the rows in the following matrix indicates one area of effectiveness.

The Institutional Effectiveness Matrix

Areas Outcome	Program Quality	Program Relevance	Organizational Culture	Process Efficiency
Access & Equity		√	√	
Student success	√	√	√	√
Placement		√		√
Workforce & Economic Development	√	√	√	√
College/ Community Partnerships		√	√	√

Each of the output measures of institution-identified initiative is mapped to one of the four broad effectiveness categories described above. The organizational effectiveness matrix attempts at integrating the output measures with the outcomes: the rows of the matrix denote the main objectives derived from strategic planning initiative; these are indicative of the desired outcomes as enumerated by the strategic plan. The four columns are taken directly from the institutional effectiveness framework; these are the areas where both quantitative and qualitative outputs are placed. Rather than being individual silos standing by themselves, the outcomes of strategic plan cuts across several areas of institutional effectiveness. The outputs that measure each of the outcomes are aligned in the appropriate row under the relevant column. Let us illustrate this point with an example. Access and equity is identified as a key area of institutional effectiveness by the College. How does a measure of access and equity tie with program relevance and organizational culture?

An institutional vision of increasing access and equity includes attracting traditional and non-traditional students, enhancing market penetration, and augmenting academic support services. A survey of existing students in the college showed that the

most important reason cited by the students for attending the college is availability of programs. As most of the students come to the college to get a degree that helps them find a job, the programs offered must be relevant to the job market. The demand for programs by the student is determined by the employment potential. Unless relevant programs are offered, the vision to increase access would not be successful, despite appropriate resource allocation. Program availability is critical for access and an output measure of program availability is an indicator of effectiveness also. An integrated approach to factor in program relevance with access captures and communicates the results more comprehensively.

Organizational culture, on the other hand, impacts the ability to develop a fit between the student and the institution and help make all students feel equally welcome and comfortable; this has an indirect bearing on fulfilling the vision of access. Research on the college students show that effective communication between student success center, developmental education and program faculty is expected to contribute to student success. Therefore, the output measures of access and equity should also be indicative of organizational culture.

The institutional effectiveness matrix establishes qualitative and quantitative output measures and maps how they relate to the strategic outcomes and overall institutional effectiveness. It is possible to have multiple measures of effectiveness for an outcome. As explained above, access and equity is dependent upon program relevance, and organizational culture. The check marks for each of the outcomes indicate how they impact various areas of organizational effectiveness. In its completed form, every cell should have an appropriate output measure. The constituents can see for themselves how

the output measures given by the institution tie to its strategic plan and how the overall strategic plan outcomes enhance institutional effectiveness.

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