



Choosing Appropriate Indicators in Quality Accreditation



Dr. Luís María R. Calingo
Asian Medical Education Association
Bangkok, Thailand
October 23-26, 2007

Outline of Lecture

- Rationale for Performance Indicators
- Steps in Developing a System of Indicators
- Evaluating the Quality of Indicators
 - Seven Criteria
- Ensuring the Comprehensiveness of Indicators
 - Three Frameworks



The Quest for Accountability

- Driving Factors for Accountability in Higher Education
 - Increased global competition
 - Decreasing government funding for higher education
 - Decline in public confidence in higher education
- America's Response: Focus on Institutional Effectiveness
 - Malcolm Baldrige National Quality Award (Public Law 100-107, 1987)
 - No Child Left Behind Act (P.L. 107-110, 2002)



Uses of Performance Indicators

- Accreditation
- Search for a common language
- University or college dialogue with governments
- Educating our publics and stakeholders
- Accountability
- Public reporting
- Defining standards for quality and excellence
- Strategic planning
- Achieving consensus on quality and performance
- Quality improvement
- Defining the domains of evaluation of faculty and administrators
- Demonstrating multidimensionality of quality and excellence in the improvement space

Gilles G. Nadeau, *The Use of Quality and Excellence Indicators in Post-secondary Education*, Canadian Society for the Study of Higher Education (CSSHE Professional File, No. 10), Fall 1992.

Steps in Developing a System of Performance Indicators

1. Develop a conceptual framework based on research results and interests of policy makers and educators.
2. Obtain commitment and cooperation of leaders.
3. Involve policymakers, educators, researchers, and data managers in selecting priority indicators.
4. Select a limited number of indicators and begin developing or refining them.

Rolf K. Blank, "Developing a System of Education Indicators: Selecting, Implementing, and Reporting Indicators," American Education Research Association, 1993.

Richard J. Shavelson et al., "Steps in Developing an Indicator System," ERIC/TM Digest 338700, 1991.



Two Issues in Selecting Indicators

- Evaluating the Quality of Each Indicator
- Ensuring the Comprehensiveness of the Set of Performance Indicators



Evaluating the Quality of a Performance Indicator

- Direct
- Objective
- Adequate
- Quantitative where possible
- Segmented where appropriate
- Practical
- Reliable



United States Agency for International Development, *Selecting Performance Indicators*, TIPS No. 6 (Washington, DC: USAID Center for Development Information and Evaluation, 1996)

Direct

- Measure as closely as possible the result that the indicator is intended to measure.
- Do not peg at a higher or lower level than the result being measured.
 - Example: Performance of Graduated Students
 - Performance of graduates on medical board examinations is a direct measure.
 - But number of students graduated IS NOT.
- Proxy indicators are appropriate if direct indicators are impossible to measure.
 - Indirect measures that are linked to the result by one or more assumptions
 - Example: Community Service Requirement
 - Graduating medical students are required to perform pro-bono medical services for the urban poor.
 - Percentage of households whose houses have galvanized-iron roofs, radios, or television



Objective

- The Acid Test of an Objectively Verifiable Indicator
 - Both a proponent of the educational program and an informed skeptic would agree that progress has or has not been as planned.
- One-dimensional
 - It measures only one phenomenon at a time.
- Operationally Precise
 - There is no ambiguity over what kind of data would be collected for an indicator.



Adequate

- Taken as a group, the set of performance indicators should adequately measure the result in question.
- How many indicators should be used to measure any given result?
 - The complexity of the result being measured
 - The level of resources available for monitoring performance
 - The amount of information needed to make reasonably confident decisions
- Triangulation
 - Multiple measures
 - Multiple methods of measurement
- Occam's Razor
 - “One should not increase, beyond what is necessary, the number of entities required to explain anything” (14th century).



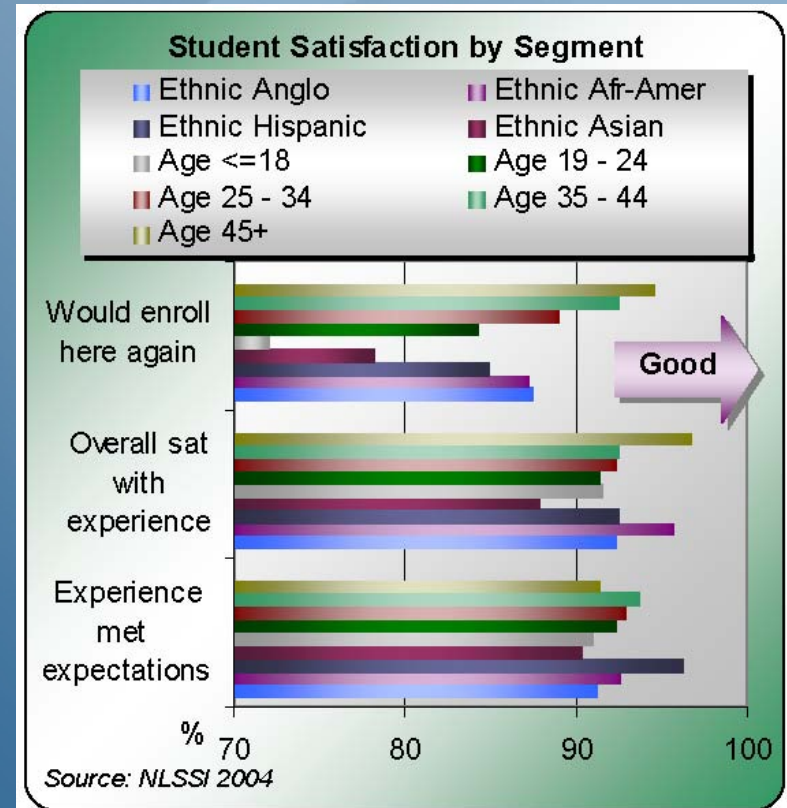
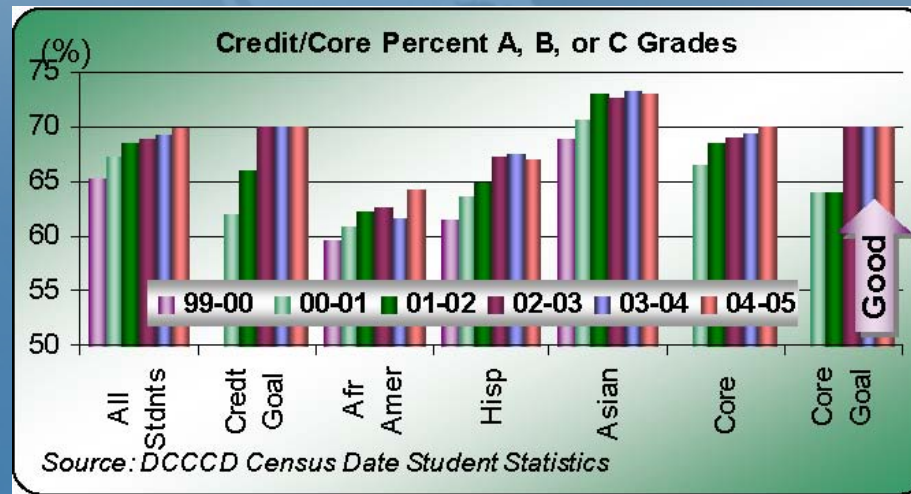
Quantitative, Where Possible

- Quantitative
 - Examples:
 - Test scores
 - Rating scales
 - Indexes
- Qualitative
 - Descriptive observations
 - Examples:
 - Peer opinion
 - Milestones



Segmented, Where Appropriate

Examples from Richland College,
Texas (Baldrige Award recipient, 2006)



Segmentation of student
performance and
satisfaction results

Practical

- An indicator is practical if data can be obtained in a timely way and at a reasonable cost.
- Plan on allocating from 3% to 10% of total program resources for performance measurement and review.



Reliable

- The data must be of sufficiently reliable quality to build confidence in decision-making.
- Data quality
 - Includes accuracy, integrity, reliability, timeliness, security, and confidentiality
- “Fairly quick and fairly clean” approach (*Rapid Rural Appraisal*)
 - Ignore the “hegemony of statisticians.”
 - Focus on “optimal ignorance” and “proportional accuracy.”

Robert Chambers, *Rural Appraisal: Rapid, Relaxed and Participatory* (Brighton, England: Institute of Development Studies, 1992)

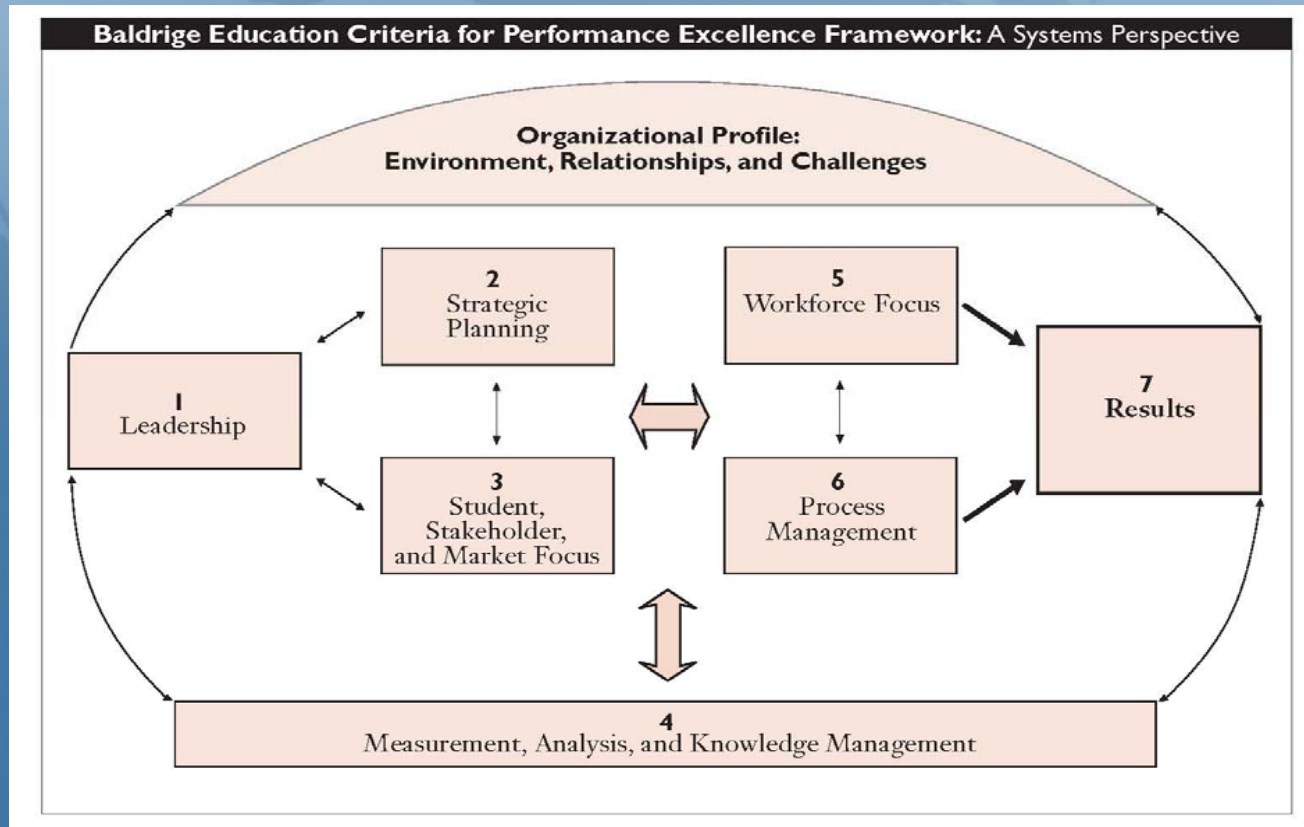


Ensuring Comprehensiveness of Set of Performance Indicators

- Baldrige Award Education Criteria for Performance Excellence
 - Reference Discipline: Total Quality Management
- Balanced Scorecard
 - Reference Discipline: Accounting
- Logic Model
 - Reference Discipline: Institutional Effectiveness



Baldrige Award Framework



United States National Institute of Standards and Technology,
Baldrige Education Criteria for Performance Excellence, 2007.

Sample Key Performance Indicators

Kenneth C. Monfort College of Business, University of Northern Colorado (Baldrige Award recipient, 2004)

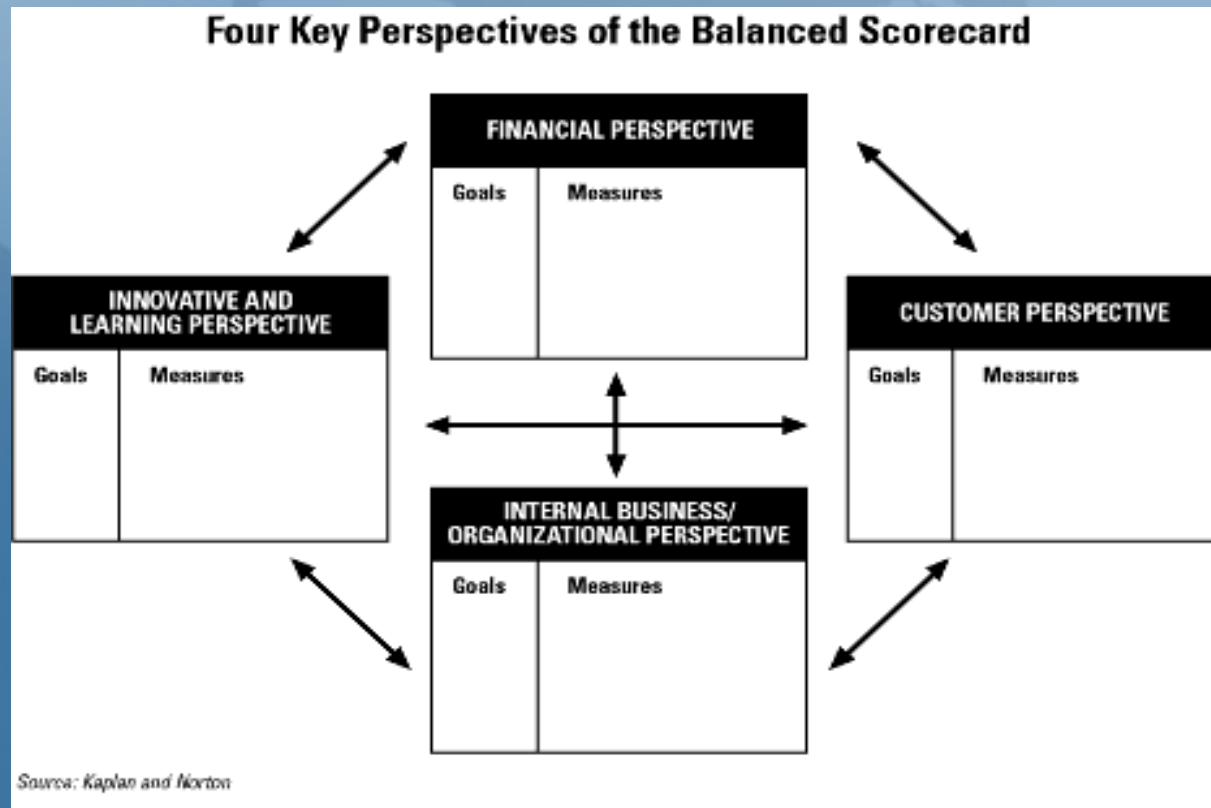
Figure 4.1-2
Primary Key Performance Indicators (KPIs) of Organizational Performance

KPI	Strategic Categories	Source	Results
Quality of incoming freshmen students (avg. ACT)	Recruits	UNC	7.3-6, 7.5-1, 2
Quality of transfer students (avg. GPA)	Recruits	UNC	7.5-3
Student retention rates	Students	UNC	7.2-20
Business major counts	Students	UNC	7.3
MCB current student satisfaction (% recommending)	Students	MCB	7.2-16
Student learning in business (avg. overall ETS)	Curriculum	ETS	7.1-1
High-touch curriculum (avg. class size)	Curriculum	MCB	7.5-11, 13
Quality of faculty (% academic or professional qualification)	Faculty	UNC	7.4-1
Quality of professional faculty (% professional qualification)	Faculty	UNC	7.4-2
Quality of academic faculty (assessment by exiting students)	Faculty	EBI	7.2-4,5
Faculty program satisfaction (avg. overall)	Faculty	EBI	7.4-7
Student satisfaction—facilities/computing resources	Facilities/technology	EBI	7.2-8
Faculty satisfaction—computing resources	Facilities/technology	EBI	7.4-10
Total available state funds (annual)	Financial resources	UNC	7.3-1
Total available private funds (annual)	Financial resources	UNC	7.3-3
Placement of graduates (% employed full-time)	Grads/ahms	UNC	7.5-6
Exiting student satisfaction (avg. overall)	Grads/ahms	EBI	7.2-1
Alumni satisfaction (avg. overall)	Grads/ahms	EBI	7.2-2
Employer satisfaction (avg. overall)	Employers	MCB	7.2-3
MCB press coverage (media coverage generated)	Program reputation	MCB	7.5-9, 10

Quality Awards in Asia



Balanced Scorecard



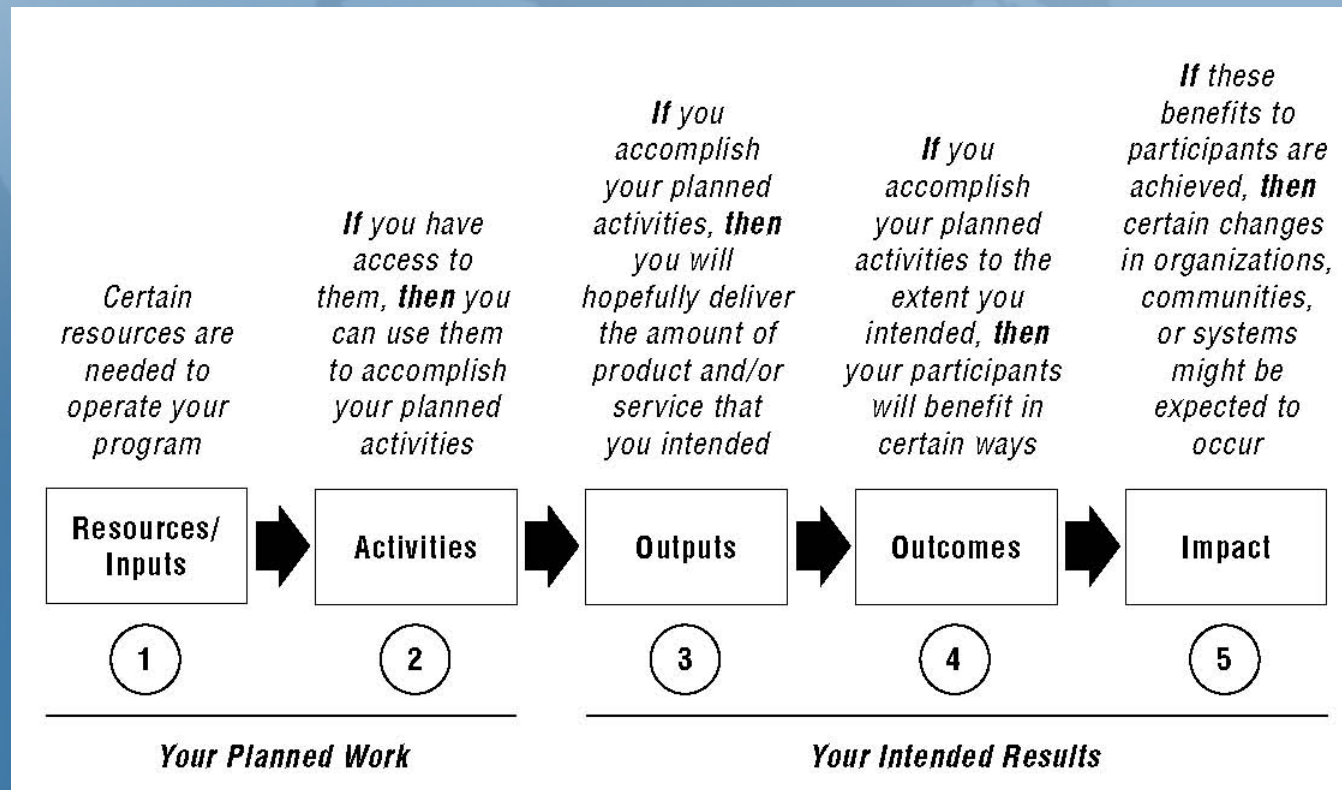
Robert S. Kaplan and David P. Norton, *The Balanced Scorecard: Translating Strategy into Action* (Boston, Mass.: Harvard Business School Press, 1996).

Sample Balanced Scorecard

College of Business Administration, California State University, Long Beach (California Prospector Award, 2001)

Student/Participant/Alumni Perspective		Internal Process Perspective	
S1	Improve student learning	P1	Design and develop educational programs and offerings that meet student/participant and market needs
S2	Increase the value (financial impact) of educational programs on students		
S3	Increase community participation in educational programs and offerings	P2	Increase instructional effectiveness
S4	Increase student/participant satisfaction in educational programs and offerings	P3	Increase effectiveness of student services and support processes
Funder/Financial Perspective		Innovation and Development Perspective	
F1	Maintain level of state funding	D1	Increase faculty and staff retention
		D2	Increase quantity and quality of intellectual contributions
F2	Increase total revenue from external sources	D3	Increase the percentage of educational programs and offerings that are interdisciplinary
F3	Increase efficiency in resource utilization	D4	Increase investment in technology to support instruction and intellectual contributions
		D5	Organize and communicate the Knowledge Base of the College

The Logic Model



W. K. Kellogg Foundation, *Logic Model Development Guide* (Battle Creek, Mich.: W. K. Kellogg Foundation, 2001), 3.

Sample Logic Model

Florida Alcohol and Drug Abuse Association

Sample Logic Model							
Theory of Change							
When a community comes together and implements multiple strategies to address youth use of methamphetamines in comprehensive way, youth will be more likely to use later and use less.							
Problem Statement			Strategies	Activities	Outcomes		
Problem	But why?	But why here?			Short Term	Intermediate	Long-Term ¹
Too many youth are using meth-amphetamine drugs	Meth is easy to make	Over-the-counter products are sold that contain ephedrine and pseudoephedrine used to make meth	Increase barriers and pass policy	Pass ordinance making products with those ingredients available only by prescription	Community mobilization Sample ordinance developed	Ordinance passed	80% of high school seniors never try meth Less than 5% of high school seniors will report 30 day meth use
	Meth is easy to get	Meth is widely sold at school	Increase barriers and pass policy Provide support	Pass zero tolerance policy at school Train teachers and school staff	Teachers can recognize signs of meth use in students	Zero tolerance policy that requires youth who are caught using meth to attend drug counseling	75% of youth 12-18 report that meth use is risky or harmful
	Meth is not perceived to be harmful	Lack of public education about dangers of meth use	Provide information	Social norms campaign on dangers of meth use	Social norm campaign materials are developed and widely posted	Youth report believing the campaign materials	80% of youth 12-18 report disapproval of use by peers and adults
	Meth labs are hard to find	Labs are plentiful, easily hidden, hard to locate	Build skills and provide information Increase barriers to manufacture meth Change physical design	Educate public to spot meth labs Increase law enforcement to bust labs	Public reports possible meth labs to law enforcement	Increased busts of meth labs by law enforcement	

Summary

- Performance indicators are important.
- Performance indicators serve several purposes.
- When selecting indicators, stakeholder involvement is a must.
- Good performance indicators are direct, objective, quantitative where possible, segmented where appropriate, practical, and reliable.
- To ensure the comprehensiveness of indicators chosen, evaluate the set against the Baldrige education criteria, the balanced scorecard, or the program's logic model.

About the Resource Person



- Founding Dean, School of Business and Leadership, Dominican University of California
- Formerly Dean of the Boler School of Business, John Carroll University, and the College of Business Administration, California State University at Long Beach
- Examiner, Malcolm Baldrige National Quality Award, 1997-present
- Member, Editorial Board, *Quality Management Journal*
- Developer and Instructor, ASQ Baldrige Award Self-Assessment Training for Education, 1998-2003
- Asian Productivity Organization Technical Expert
 - National Quality and Business Excellence Awards (since 1996) – Indonesia, Mongolia, Pakistan, Philippines, Sri Lanka, Thailand, and Vietnam
 - Infusion of Quality Management in Higher Education (since 1995) – Philippines and Thailand
- MBA, Ph.D., University of Pittsburgh, 1981, 1984; BSIE, MURP, University of the Philippines, 1971, 1976
- Email: luis.calingo@dominican.edu; lcalingo@gmail.com