

Toward Determining Societal Value-Added Criteria for Research and Comprehensive Universities

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Ask most non-academics why they should send their children to, or support, a college or university they usually refer to the benefits to be received by the learners and society for what is learned and will be applied in making a better life. Ask most academics what makes up a good college or university they usually point to "excellence" in teaching, research, and service. Thus, academics speak to activities, means, and resources of colleges and universities and not about the same things non-academics are concerned with. Academics talk about means, resources, and activities, and non-academics talk about ends and payoffs in terms of implied results and consequences.

Why don't we speak to what is important for both partners in order to better assure functional and successful institutions of higher learning? One approach has been to provide "objective" ratings for institutions. This is popular with non-academics and viewed with suspicion by most academics because of the criterion problem with any ranking scheme.

Ratings, Rankings, and Ordering Schemes

As Lombardi et. al (2000) point out, everyone wants to know the winner, the best, number one. Ranking and scaling schemes for universities get careful attention from both scholars and citizens alike. Recent work by Lombardi et al. (2000) attempts to identify and validate criteria for "the top American Research Universities." It captured interest and comment and seemed to show that valid criteria could be identified and used. One advantage of that study was that data required were available for each of the criteria.

One dimension that all existing models seem to assume is the value added of what the university contributes to society. Questions left unanswered or assumed include:

- What is the return on investment for what a research university spends (in terms of all resources) to society?
- What is the return on investment for the learners who study and complete programs at research universities.

Positive societal return, termed Mega by Kaufman (1998, 2000), is suggested here as a framework for identifying measurable criteria for calibrating societal value added of what any organization, public or private may and does contribute.

Another set of issues, not addressed by Lombardi et. al. but a major focus of other university rates schemes, also includes Mega . . . return on investment for society for not only Research Universities but for Comprehensive institutions as well. Thus, there also exists the same questions for Comprehensive Universities:

- What is the return on investment for what a Comprehensive university spends (in terms of all resources) to society?

- What is the return on investment for the learners who study and complete programs at a Comprehensive university?

Including Societal Value-Added

Can you really define societal value-added and identify valid criteria for it? The concern with social indicators and societal return is not new (cf. Windham, 1975; Sobel & Kaufman, 1989; The Economist, 1994:Oct. 1; Miringoff et al, 1996/Jul-Aug.; Meyers & Garfinkel, 1999:Sept.) There are even attempts at "corporate social reporting" (Dierkes, & Antal, 1986:Spring). Some even indicate that there is a precarious relationship between spending and societal value added (Cote; 1996:Apr.).

The definition, determination, and collection of useful societal value added data has been frustrating for those who attempt it. Often the data available are unreliable and there are problems with researchers mixing levels of results as well as confusing means and ends (Kaufman, 1998, 2000). Is there, however, an alternative to not linking what any organization uses, does, produces, and delivers to external value added? Certainly data are not easy to come by, but how long can any culture insist that the absence of data is an excuse for not collecting it when it is vital for decision making and making societally-wise choices?

A proactive framework for improvement.

A potential block for some people to consider (and perhaps overcome) lies in remaining in a "What Is" mind-set and seeing tomorrow as a linear projection of yesterday and today. In this context history and evolution of thought, actions, and consequences are seen as primarily evolutionary where the future is seen only in terms of the historical past. In contrast to this "What Is" focus is an additional framework of "What Should/Could Be." What Should/Could Be calls for a leap of both conventional logic as well as a leap of faith that partners in a civil society (perhaps defined by Mega) are capable of defining a new reality and using the past only as prologue to identify what should be kept as well as what should be changed.

By being willing to move beyond the current situation and contemporary realities—"what is"—a new set of realities can be considered—"what should and could be." For example, let's consider a continuing crisis that many feel is inevitable, such as what is going on in the Middle East. Bearing in mind that with education and thoughtful consideration, the *means* being accepted in terms of destructive behavior on the part of some participants could give way to the selection of new *means* based on creating a shared future in terms of the kind of world – in results and consequences terms – that is desired for tomorrow's child. So instead of bombing, shooting, and terrorism parties could agree that what the shared focus should be is safety, health, and well being of all parties. By settling for the "way things have always been" instead of attempting to define an ideal future and moving ever-closer to that is a resignation to frustration and sentencing one's self tinkering around the edges of useful, or "deep," change. Some might argue "well, my well-being is having all of the enemy dead" is an inevitable driver, it is suggested here that such a position is taken by people who confuse a means – killing all of the enemy" with the ends of mutual survival, self-sufficiency, and quality of life. Such a change in focus would require a shift from a focus on means to a focus on ends as well as a new focus on mutual survival.

This think piece is designed to start the dialog about finding useful criteria for determining the societal value added of our universities. If one were to come to some agreement on societal – Mega level – criteria, then justification for collecting and using appropriate and valid data would become reasonable. In the following section are some considerations, which might move us toward determining societal value added criteria for research and comprehensive universities.

Goals and Purposes for Research and Comprehensive Universities using Societal --- Mega-- Criteria

Criteria are measurable statements that clearly indicate whether pre-specified conditions have been met. They are best measurable on an interval or ratio scale. [\(2\)](#)

Setting criteria for the review of research and comprehensive universities may provide a way for determining the strengths, weakness, and comparative status among institutions of higher learning. Criteria, however, frequently bring strong responses for a number of reasons including validity, reliability, utility, and the actual definition of "criteria."

Any useful criteria derived and applied to the calibration of research and comprehensive universities must be acceptable to (1) accrediting agencies, (2) faculty, (3) boards, (4) funding and policy agencies, (5) learners, (6) publics, and (7) administrators. The following is a preliminary list of such criteria:

1. Be recommended by the university president⁽³⁾ and, if integrated, Presidents boards, and trustees of all related higher education institutions;
2. Results in full and continued funding;
3. Add valuable new knowledge and verify existing knowledge;
4. Provide useful learning opportunities that result in learner achievement;
5. Provide the unique contributions, capabilities, and resources to learners and faculty;
6. Identify appropriate learning, research, and service opportunities for the continuous improvement of research and learning and learner performance;
7. Results in positive return-on-investment for citizens;
8. Identify and appropriately involve all suitable partners who might be served and might serve the clients of the system;
9. Identify community, educational, and business service opportunities
10. Involve appropriate faculty and staff and reward their intellectual and professional contributions based on the resulting learner achievement;
11. Identify business, industry, and military partners and obtain their intellectual and financial support and assistance in the design and continuous improvement of these criteria for adding societal value;
12. Provide initiatives, methods, resources, and learning opportunities that are related and relatable to the Ideal Vision (defined below) and the mission objective of the system and the mission of the institution;
13. Provide the requirements for a strategic, operational, and related tactical plan which will include activities for (a) strategic planning, (b) needs assessment, (c) future plans and programs (including integration with other partners and agencies), (d) demonstration programs and projects for initial years, (e) budget, and (f) evaluation and continuous improvement.

As we proceeded to consider organizationally and societally useful criteria, we should invest special concern with the following questions and their associated issues:

1. What is legal and ethical to do and deliver, as well as what not do;
2. What are the ethical and professional rights and responsibilities of faculty, including intellectual property;
3. What might be the changing roles of current faculty;
4. What research is being done, could be done, and should be done, and what return on investment is there for professionals, the institution, and society;
5. What is in the best interest of knowledge creation, learners, and learning;
6. How do we take full advantage of the unique expertise, capabilities, and experiences available at from faculty and staff as well as from other public and private sector partners;

7. How do we constantly relate all that we used, accomplish, and deliver to our continuous improvement toward organizational missions and toward the Ideal Vision.
8. How do we build in quality management and continuous improvement to any and all initiatives?

The following discussion is presented using a five elements framework called the Organizational Elements Model (OEM). A framework outline is provided in [Appendix A](#).

If a Research or a Comprehensive University is the Solution, What's the Problem?

As noted in the introduction to this paper, external community members view institutions of higher learning as adding value to learners and society while academics tend to focus on the means and resources of institutions. If any criteria are to be developed, accepted, and used, we must note the value added to all partners for institutions of higher learning. This section deals with possible criteria for any university to use for its own continuous improvement as well as for external parties to use to compare the merits and value added by different institutions. The topic here, then, is how to define and then calibrate value added so we can answer the question "if a university is the solution, what's the problem?"

What are the defining requirements to create and continue a value-added Research or Comprehensive university? What is our vision? What is the objective for the University? For research? For programs? For curriculum? What is required for each to conduct useful continuous improvement – to be a "learning university."

A "learning university" (based, in part, on Senge, 1990 and on Lick & Kaufman, 2000) is one where everyone in it understands and acts on the basis that (1) the world is ever-changing, (2) individual skills, knowledges, attitudes, and abilities will also have to change, sometimes dramatically during the course of experiences and the personal and occupational life of each person, (3) change must be based on adding value to all internal and external partners, (4) information and learning opportunities are equally available to everyone who can qualify for entry regardless of color, race, creed, sex, age, religion, national origin, or location, (5) research provides the basic knowledge for the continuous improvement of our society and citizens and is a primary source of economic and social renewal. A learning organization, including a university (cf. Senge, 1990), is vital to societal, international, national and local interest. Without ever-improving our abilities and responsiveness, it cannot hope to stay nationally and internationally competitive and remain major players and contributors in terms of social and commercial concerns and opportunities.

Several major challenges face higher education as it attempts to serve well and well serve its clients both within the university context and beyond. Among the challenges will be identifying research and teaching/learning elements:

Research Elements:

- What research should be accomplished and why?
- What are the basic elements of a useful program of research and development?
- Who are the primary and secondary clients for research?
- What will be the societal spin-offs for research?
- What will be the University benefits of the conducted research?
- What will be the return-on-investment for funding agencies and their clients?
- What data are collected and used for continuous improvement?

Possible specific criteria areas:[\(4\)](#)

- Research
- Private Support
- Faculty
- Advanced Training
- Undergraduate
- Endowments
- Number of Nobel Prize laureates
- Royalties for copyrights, patents, etc.

Teaching/Learning Elements:

1. What to teach.
2. How to best teach/deliver.
3. How to integrate content and learning opportunities.
4. Identifying to whom to deliver.
5. Identifying when to deliver.
6. Identifying how to institute and assure continuous improvement.
7. Identifying how to know when to add, subtract, modify, discontinue content and methods of design and deliver as well as how and when to integrate among learning content.
8. Identifying how we are progressing toward (a) our Ideal Vision, (b) our university mission, and (c) our research mission, and modifying as required.
9. What are the human, financial, and structural resources required for learning opportunities to add value to all stakeholders.
10. Learning satisfaction
11. Faculty and staff satisfaction
12. Graduate/completer satisfaction
13. What data are collected and used for continuous improvement.

Possible specific criteria areas might include:

1. President or past president, or officer of a national/international professional society
2. Fellow status in their academic/professional society
3. Member of the National Academy of Sciences or equivalent as defined for each discipline
4. Nobel Prize
5. Editor of a professional journal
6. Reviewer for a professional journal
7. Published one or more textbooks considered as in the top five quoted texts in their field
8. Publications in reviewed or juried journals
9. Exhibited in a national juried show
10. A national or international award for a performance, poem, book, or art product.
11. Endowments for chairs.

The criteria suggested here are also linked with the earlier-presented criteria and supporting rationale.

It should be noted that as institutions of higher education are reengineered (Hammer & Champy, 1993; Kaufman, 1992) so will we have to re-engineer our society (Drucker, Sept.-Oct., 1992; Drucker, 1993; Kaufman, 1998, 2000; Senge, 1990; Nasbitt & Aburdene, 1990; Toffler, 1990) in a continuing cycle. If we simply focus on individual institutions and do not also appropriately modify the societal context in which they operate we will likely be "getting better and better at doing that which should not be done at all" (Drucker, 1973) and spend much time and attention on improving the elements of education without measurably improving that which each institutions contributes to learners,

faculty, staff, and society . . . we will fail to link individual elements with organizational and external realities and requirements.(5)

Identifying the Mission for a Research or Comprehensive University

A "mission objective" is a measurable statement(6) of where the organization is headed and includes criteria in order to tell if and when it has arrived. As any other useful objective, a mission objective should NOT include any statement of methods, means, resources, or activities . . . just measurable results to be achieved. Following is an illustrative draft suggestion for a generic mission objective or a research or comprehensive university. It links to an Ideal Vision—the measurable statement of the kind of world we commit to create for tomorrow's child -- for not the university alone but to adding value, measurable, to society.

The mission objective for each research or comprehensive institution (e.g. what each institution is to deliver to its clients) is best based upon rolling-down from an Ideal Vision (provided in [Appendix A](#)). Based on the Ideal Vision, the universities and learning partner organizations will select, in coordination with others, those results that it commits to deliver. Of course, no institution alone can be responsible for the achievement of the entire Ideal Vision. From the mission objective of each institution, the objective for programs, departments, and activities identifies those results, that if delivered effectively and efficiently, the institution will contribute. Thus, there is a linking relationship that flows from the Ideal Vision to the mission objective of one's organization, and then flows to the objective for research, teaching, service, and learning.

A POSSIBLE UNIVERSITY MISSION OBJECTIVE (7) (8)

By the year 2020, all of those who graduate from our system will enroll in accredited graduate higher educational programs and/or get jobs in their first, second, or third professional or career choice. In addition, they will choose to continue their formal and/or informal education and training.

All graduates will be responsive and responsible citizens who volunteer in civic activities. They will have come through a university that has served them so that they compare favorably on valid and reliable criterion and/or norm referenced assessments for their general and specific knowledge and abilities.

Their education will take place in a drug-free, crime-free, and supportive environment. All who seek it will have universal access to appropriate information and knowledge with validated learning opportunities geared to each learner's diverse characteristics, abilities, and potential. Learners will leave realizing that their higher educational experiences prepared them for life, work, and the future.

The foundation for the knowledge, skills, abilities, and attitudes they acquire will be based on research conducted, completed, and published in refereed journals (or jury acceptance for the performing and literary arts), and the university will be rated in the top twenty five higher education institutions in the US.

The top research ranking will be substantiated by it being among the top twenty universities in the US in terms of external contract and grant funding in the areas within which they offer graduate and undergraduate programs as indicated by the latest reports of Top Research Universities published by the University of Florida TheCenter©. In addition, at least 40% of faculty in each academic department will be honored by earning at least one of the following indicators of distinction:

- *Presidency or officer of a national/international professional society*
- *Awarded Fellow status in their academic/professional society*
- *Member of the National Academy of Sciences or equivalent as defined for each discipline*
- *Nobel Prize*
- *Editor of a professional journal*
- *Reviewer for a professional journal - Published one or more textbooks considered as in the top five quoted texts in their field*
- *Publication of non-vanity textbooks*
- *Publications in reviewed or juried journals*
- *Exhibited in a national juried show*
- *National or international award for a performance, poem, book, or art product.*
- *Learners will show no differences in graduation rates, job placements, economic success, employer satisfaction, or dropouts on the basis of irrelevant variables including: location, color, race, creed, sex, sexual orientation, religion, or national origin.*

In addition, the quality of an institution might be indicated by such criteria as:

- *Financial contributions of graduates and completers*
- *Contributions by "others"*
- *Chairs endowed*
- *Named buildings or facilities*
- *Endowments*
- *etc.*

Importance of Criteria for Identifying the "Top" Research and Comprehensive Universities?

Research is a means to societal ends. Research creates new and valid knowledge. And this knowledge is useful for creating a better world through its application and what results from that application. Teaching and service --done correctly-- also add value to society, if it delivers useful results. Useful results are defined as those adding value at the learner, college, University, and Societal levels.

Identifying, the Future We Want to Help Create for Tomorrow: An Ideal Vision.

As noted earlier, institutions are only means to societal ends. If we do not add value for society and all of its stakeholders we are not likely to be able to demonstrate why our institutions should continue to be supported. The following is a definition of a shared societal value added frame of reference termed an Ideal Vision. It identifies societal requirements and may be used by any individual or organization to identify areas and elements to which it commits to deliver and move ever-closer toward.

An Ideal Vision [\(9\)](#) identifies the kind of world we want to, working with others to achieve. As the name implies, it is frankly ideal. It identifies what we would create, not what we think we can deliver. It is actually "practical dreaming"[\(10\)](#) because unless we define where we ideally want to be, we cannot begin to continuously move toward it. It is practical and not theoretical, although we might not get there in our lifetime or the lifetime of our children. It provides a tangible, measurable "North Star" toward which we may steer and uniquely contribute. If we do not want to ultimately get to the ideal, what levels of triage are we willing to endorse?

Defining where we want to be--an Ideal Vision--in measurable performance terms and free of solutions, methods, resources, and how-to-do-its--in our ideal future allows us to steer, consistently, in that direction. It releases us from jumping immediately into comfortable but inappropriate frameworks, methods, means, activities, and approaches. An Ideal Vision is used to initially guide us (and, of course, is open to modification and change) and provides "compass bearings" for keeping the institution on a useful path and being able to demonstrate "hard" data for proving value for money.

So what does an Ideal Vision have to do with a Research or Comprehensive university? Plenty. If a research or comprehensive university is the solution, the problem is to help all segments of our society move toward developing the kind of world we want for tomorrow's child. Research must provide the knowledge base for the health, well-being, survival, and self-sufficiency for all. If either research or a research or comprehensive university does not add value to society it is probably not worth doing or having. So, an Ideal Vision is a common and shared "guiding star" toward which all partners, including researchers, faculty, students, administrators, funders, and boards may move and uniquely contribute. And how does this help understand the importance of valid and useful criteria for identifying the "top" universities?

Toward Societal Value Added Criteria for Universities

So, why all of this fuss and excursion into Mega/societal criteria? Is it not easier and more conventional to use the "hand we have been dealt?" This paper suggests not and further argues that no linking all criteria to Mega is by far the riskier position.

It is suggested that current criteria for identifying the "top" universities are incomplete. They all ignore, assume, or shy away from what could be the most vital set of criteria of all: societal value added. This think piece suggests some criteria and some rationale for including societal –Mega – criteria in future considerations of identifying top institutions. It also provides some examples of what the application of Mega criteria for a mission objective would might look like. Finally, some detailed explanations of some of the basic tools and concepts presented here are included. This, however, is only a halting first step in identifying and using valid, reliable, and useful criteria.

What about missing or unavailable data? As criteria for societal value added are defined and agreed upon it is almost certain that data are not available. I suggest this is not enough reason not to define and justify the data required for a move toward "perfection" in a continuous process. Satisfaction with the status quo in terms of the quality of any university is not ethical, responsible, or useful. If we re missing valid and useful data we should be able to make the pragmatic case for collecting and using it. Otherwise, we will be satisfying ourselves with "what is" and not moving continuously toward "what should and could be." In fact, it is suggested that the riskiest thing any organization can do is to simply improve on current efficiency without a continuing results-referenced focus on "what should and could be."

Let the dialog begin.

Appendix A: An Ideal Vision⁽¹¹⁾

The world will be at peace, and there will be no murders, rapes, starvation, or crimes, nor substance abuse. Floridians will feel secure and move around the state safely without regard to time or place. It will be free of infectious disease, and every child brought into the world will be a wanted child. Poverty will not exist, and every woman and man will earn as much as it costs him or her to live unless they are going to school and moving toward preparing themselves to be self-sufficient and self-reliant--no one will be under the care, custody or control of another person, agency, or substance.

All citizens will be assisted to help themselves so that they are self-sufficient and self-reliant. People will take charge of their lives and be responsible for what they use, do, and contribute. Personal, intimate, and loving partnerships will form and sustain themselves.

No species will go extinct due to human intervention, pollution, or action. Beaches, cities, towns, and countrysides will be free of litter, graffiti, and defacement. Accidents will reach zero, and thus there will not be any accidental death, disability, and daily living.

Government's contribution will be assisting people to be happy and self-sustaining, and will reinforce independence and mutual contribution and will be organized and funded to the extent to which it meets its objectives. Individual States and U.S. business will earn a profit without bringing harm to its clients and our mutual world.

Appendix B: The Three Level Organizational Elements Model (OEM) Framework

There are five equally important elements that must be addressed by all organizations and their related projects or programs. Three of these elements represent levels of needs and results, while the other two consist of processes and resources. Any useful needs assessment process must align everything that is used, done, produced and delivered with external value added.

The following table, shows the three levels of organizational and individual performance improvement planning and impact: what I call Mega, Macro, and Micro.⁽¹²⁾ For each of these there are related results and primary clients and beneficiaries. In addition, there are two types of related and equally important elements: process and inputs/resources. Together these are called The Organizational Elements Model (OEM)⁽¹³⁾ that defines everything any organization uses, does, produces, delivers, and the consequences for external clients and society::

Level of Planning	Level of Result	Primary Client and Beneficiary	Processes	Inputs
Mega	Outcome	Society and External Clients	(Activities, program, interventions)	(Human, physical, and financial resources)
Macro	Outputs	The Organization Itself		
Micro	Products	Individuals or Small Groups With the Organization		

It is absolutely vital to link all of the levels of planning and results so that everything an organization uses, does, and delivers will add value, measurably, to external clients and our shared society. Further, no Process or Input should be selected and used without assuring that they will add value at the three levels of results.

Some definitions of the Organizational Elements are:

- *Mega* level results relate to societal payoffs and consequences, such as survival and quality of life, such as a project learner who achieves or maintains self-sufficiency (and does not have to be re-admitted for remedial learning), or an automobile that doesn't pollute and is safe.⁽¹⁴⁾
- *Outcomes* are results at the Mega level.
- *Macro* level results relate to what the organization delivers outside of itself, such as a delivered computer system, a finished automobile, a patient discharged from a hospital,
- *Outputs* are results at the Macro level.
- *Micro* level results relate to internal --inside the educational organization --results for individuals or small groups, such as job competence, a successful gall bladder operation, a quality-accepted distance learning package, an inspected tire;
- *Products* are the results at the Micro level.
- *Processes* are the activities programs, projects interventions (such as training, incentive schemes, promotion and tenure programs) that are intended to meet needs at all the three results levels.
- *Inputs* are the ingredients that an organization can or could use to meet needs and deliver useful results at the three levels of needs (such as money, time, buildings, associates).

The Organizational Elements (OEM) framework identifies and links everything any organization uses (Inputs), does (Processes), produces (Products), delivers outside of itself (Outputs) and the value added (or subtracted)⁽¹⁵⁾ to external clients and society (Kaufman, 1992, 1998, 2000).

Many writers and researchers (c.f. Stevens, 1951; Hammer & Champy, 1993; Mager, 1997; Kaufman, 1998 and 2000) note that measurable criteria serve to identify (1) where we are headed and (2) how to tell when we have arrived. Without rigorous and valid criteria we cannot plan, design, develop, implement, evaluate or continuously improve with an assurance that our efforts will add value to internal and external stakeholders. Following are some preliminary criteria for an Ideal Vision.

Measurable criteria.

An Ideal Vision should include measurable criteria, ideally on an interval or ratio scale, so that anything derived from it can be calibrated and the partners can measure their own and their organization's success. It is recognized from the research literature on "social indicators" that there can be validity questions concerning criteria and the indicators. With this caveat and understanding that not all criteria will be easy to obtain⁽¹⁶⁾, here are some preliminary criteria for the above Ideal Vision. ⁽¹⁷⁾ ⁽¹⁸⁾

The world will be at peace with no losses of life nor wounded and disabilities from declared or undeclared wars (as certified by the United Nations), and there will be no murders, rapes, crimes, starvation or substance abuse (as certified by a State's Attorney General, and/or HRS/US Department of Health & Human Services--DH&HS). Residents will feel secure and move around the state safely without regard to time or place (as indicated by a zero rate of personal assaults as certified by the Attorney General). There will be no admissions (nor requirement to imprison) to prisons (as certified by the State Secretary, Department of Corrections).

Etc.

So? What does this have to do with a Research or Comprehensive university? The role of any institution, including those in higher education, is to provide research findings and competent and concerned educated people who will measurably contribute to the achievement of an Ideal Vision. Some researchers have begun using the term for this as a "civil society." Thus, any institution can plan its resources and activities to add value at the Mega, or societal level and evaluate on the basis of the costs and consequences of their contributions.

Difficult? Little or no data now? Of course. But planning on the basis of adding value at the Mega level can identify what data points are missing and the costs-consequences of not having and using that data.⁽¹⁹⁾

Appendix C: How Could We Measure Progress and Success of a System as well as Individual Institutions?

It is necessary to derive costs/results/consequences criteria for sorting the top institutions as well as providing a firm basis for each one's evaluation and possible continuous improvement. Thus, and assessment should not only identify Inputs and Processes--such as numbers of learners served, government research funding and the like--but also results for learners, institutions and for citizens.

In addition, all progress and success within individual institutions should be based upon the meeting of needs (gaps between current results and consequences and required and desired results and consequences). Such a needs-based approach will allow an organization to simultaneously identify gaps in results as well as providing the criteria for evaluation and continuous improvement. The criteria will be identical with the "what should be" dimension of the identified needs. (Note, this only happens when "need" is defined as a gap between current and desired results.)

included in measures of progress--the reduction or elimination of needs--will be the following criteria (others will surely be developed in the future). It should be emphasized that these data points are important both independently and in interaction among them. To demonstrate the applicability of the Organizational Elements Model (OEM), these sample criteria are sorted into the five Organizational Elements (defined further in Appendix A).

Outcomes:

- Earnings of graduates, completers, certificate-earners
- Legislative satisfaction (e.g., continued funding and additional resources)
- Previous learner satisfaction (e.g. alumni membership, alumni contributions, endowments from former learners)
- Costs/results consequences (e.g., return on investment, number of previously under-served/un-served who become self-sufficient and self reliant, and reduction and/or elimination of needs, using such indicators as earnings over time, credit levels, and not being on government transfer payments)
- Cost-Utility (ratio of costs to societal benefits, such as level and continuous employment, earnings over time, and social contributions, etc.)

Outputs:

- Research projects completed
- Research-generated products delivered
- Graduates
- Completers
- Certifications
- Cost-benefit (ratio of costs to what the organization delivers outside of itself, such as number of degrees granted and training programs completed, needs met, and time to complete degrees, etc.)

Products:

- Research reports and findings
- Patents applied for
- Patents granted
- Licensing of products granted
- Licenses sold
- Learner achievement (e.g., criterion-reference indicators, grades, pass-rates, standardized test scores, and credits earned, awards, placements in jobs, placement in further education)
- Learner satisfaction (both in terms of expectations from the learning experience as well as about attainment of purposes)
- Faculty satisfaction
- Staff satisfaction
- Parent satisfaction
- Client satisfaction
- Administrator satisfaction
- Cost-effectiveness (ratio of costs to learning/mastery accomplished, such as costs for courses completed and training competency skills developed), and meeting of needs

Processes:

- font face="Verdana, Arial" size="2">Research time in use
- Design time in use
- Development time
- Validation time
- Delivery time
- Delivery systems used: Media/methods/means used (e.g., classroom delivery, distance learning, simulation, twisted wire, fiber, interactive TV, correspondence, computers, satellite)
- Sites – on and off campus - reached
- Cost-efficiency gains (ratio of costs to availability of learning opportunities as well as comparisons with traditional vs. non-traditional delivery costs to comparable learner populations)
- Providing of helpful, valuable, valid and reliable information to citizens

System Measures:

- Return-on-Investment in terms of costs to design and deliver, as compared to standard delivery modes
- Return-on-Investment in terms of continuing funding by public and private sources.
- Numbers of citizens successfully served as indicated by:
 - - o Satisfaction:
 - o
 - Learners
 - Employers
 - Parents
 - Legislators
 - Faculty
 - Staff

- o Continued usage - enrollments
- o Contributions to universities
- o Social indicators (e.g., transfer payment levels, reduction and/or elimination of needs, and not allowing new needs to occur)

It should be noted that the unit of analysis for the determination of the return-on-investment/costs-consequences should not be one or two years, but in increments of five and ten years.

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NOTES

1. My thanks to Ingrid Guerra of the Florida State University (FSU) Office for Needs Assessment & Planning and to Dale Lick of the Learning System Institute at FSU for review and helpful suggestions reflected in this work. The problems with it remain my exclusive property.
2. Stevens, 1951, and Kaufman, 1998, 2000 indicate there are four scales of measurement in ascending order of reliability: nominal, ordinal, interval, and ratio. Goals are measurable on a nominal or ordinal scale while objectives are measured in interval or ratio scale terms.
3. "President" will be used to represent any name for any university head.
4. These first five criteria should be the same as those used in *TheCenter's* "The Top American Research Universities," Gainesville, FL. July, 2000.
5. This is a logical extension of the findings of Triner, Greenberry, & Watkins, 1996.
6. In interval or ratio scale terms (Kaufman, 1998, 2000) and based on Stevens, 1951.
7. Either research or comprehensive.
8. Notice that there is nothing in this mission objective that identifies research as the only means for being a recognized institution. The mission will provide the guiding criteria upon which continuous improvement may be designed, delivered, and evaluated.
9. Senge, 1990; Kaufman, 1992a,b, 1998, 2000.
10. Kaufman, 1992a; Roberts, 1993
11. It is interesting to note that regardless of who—person or agency—develops or uses the Ideal Vision, if they are consistent about eliminating how things get done, the Ideal Vision is consistent across organizations (Kaufman, 1992b, 1998, 2000).
12. Kaufman, 1992, 1998, 2000.
13. Kaufman, 1992, 1998, 2000.
14. This Mega level of results is the answer to the proposition "if your organization is the solution, what is the problem?" Societal value added is the only rational reason, solution, and purpose of a performance improvement intervention or process.
15. Professor Dale Brethower suggests this dimension.
16. It is suggested that difficulty of obtaining absolutely valid and reliable criteria should not stop us from attempting to find and refine such.
17. Please note that the indicators (e.g., as verified by...) are simply placeholders for later valid and reliable sources and are only used here as examples.
18. A more complete version is available in Kaufman, 1998 and 2000.
19. This approach also allows us the opportunity to operate in a proactive mode, thereby avoiding the conventional practice of reacting to problems that were not planned for in advance.