UNIVERSITY OF MINNESOTA

U 2000

DISCUSSION OUTLINE:

Institutional-Level Critical Measures and Performance Goals

Third Phase

Office of Planning and Analysis
October 1995

This discussion outline represents the first part of the third phase University 2000 critical measures work, discussion of which is expected to begin in October and be completed in December 1995. Two points to keep in mind as this discussion proceeds:

- The names of the third phase measurement categories are quite broad, and they may or may not be the best words to use in describing the concepts that will ultimately become the focus of these measures. For this reason, comments on the names (as well as on the important areas for measurement) are welcome, and the process may result in a renaming of some of the categories.

- There are many different initiatives underway that relate in some way to the third phase measurement categories, including the four major re-engineering/redesign projects (grants management, information technology, human resources, business services delivery), the conversion to semesters, and the ongoing analysis of graduate program rankings; work on the third phase measures is being coordinated with these other activities.

Following the completion of these initial discussions, a draft proposal will be prepared for discussion during January and February 1996 (part two of the process) before recommendations on the third phase measures are sent to the Board of Regents for action in the spring of 1996.

This and other documents related to the first, second, and third phases of the critical measures work can be found on the World Wide Web URL: http://www.opa.pres.umn.edu/specproj/critmeas/

For those who wish to comment via the Web, it would be most helpful to receive responses to the questions at the end of each section that is of greatest interest to the reader.

Questions or comments may also be directed to the following people:

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CRITICAL MEASURES DEVELOPMENT PROCESS

Context and Overview:
On January 14, 1994, the Board of Regents approved a University 2000 Mission, Vision, Strategic Directions, and Performance statement. The resolution also called for the development of "critical measures" for assessing institutional, campus, and unit performance in realizing the goals of U2000. The six major areas identified for emphasis in University 2000 are: research; graduate and professional education; undergraduate education; access and outreach; user-friendliness; and diversity.

The principles articulated to guide the development and use of critical measures included a statement of the following purposes: publicly confirm the University's success in reaching its stated goals and objectives; guide and facilitate institutional, collegiate, and support unit self improvement; serve as an important link between planning, performance, evaluation, and resource allocation; and provide a means for comparison with other similar institutions, in search of best practices for the accomplishment of institutional goals.

Identification of Measurement Areas:
Previous recommendations, existing management reports, planning documents, and external reporting requirements were reviewed to identify potential measurement areas, and a series of meetings was held inside and outside the University to listen to suggestions and reactions to a proposed list of measures. This process resulted in a list of eighteen critical measurement areas, divided into three groups; a nineteenth category was added later:

First Phase (1994)	Second Phase (1995)	Third Phase (1995-96)
• characteristics of entering students	• student experience	• reputation of undergraduate, graduate, and professional programs
• graduation rate	• post-graduation experience	
• underrepresented groups/diversity	• scholarship, research, artistic accomplishments	• interdisciplinary/applied programs
• sponsored funding		• outreach, public service
• investment per student	• overall satisfaction of Minnesota citizens	• responsiveness to market demand
	• faculty and staff experience	• responsiveness to compelling state needs
	• facilities infrastructure	• customer service/streamlining
	• investment and voluntary support	• technology

Approval of First and Second Phase Measures:
The first five critical measures were reviewed by the Board of Regents at their September and November 1994 meetings and approved on December 8, 1994. The second set of seven critical measures was reviewed at the Regents' June 8 meeting and approved on July 14, 1995.

Consultation Process and Timing for Third Phase:
The third group of seven measures will be developed during the 1995-96 academic year, using a discussion process involving campuses, provostal areas, colleges and administrative units; University Senate and Senate committees; staff committees; student organizations/groups; President Hasselmo's minority advisory committees; and other external groups. As with the second phase measures, the process used to develop the third phase measures has two parts:

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- **Part one** (October, November 1995): identification of the most important aspects of each broad measurement area to include in the measure, using the discussion outline that follows.

- **Part two** (February, March 1996): specification of operational definitions of the measures, and (if possible) baseline information and tentative goals, as reflected in a set of narrative drafts.

Other 1995-96 Critical Measures Work:
Other work related to the critical measures includes the following: development of baseline data and performance goals for the five second phase measures which currently lack such data and goals; preparation of the first annual institutional performance report, including performance data on the first phase critical measures (for review by the Board of Regents in November and December 1995); and continued work on linkage of critical measures to unit planning.

Reputation:
Undergraduate, Graduate, and Professional Programs

Relation to U2000:

U2000's research strategic area notes that research, scholarship, and artistic activity are the basis of every aspect of the University's activities and that the relationship of teaching to research, scholarship, and artistic activity is what distinguishes the University's undergraduate, graduate, professional, continuing education, and outreach programs from those of other higher education systems in the state. U2000 states the following broad goals: to sustain and improve its position as one of the premier research universities in the country and the world; to maintain and enhance the quality of the academic disciplines that are at the core of a land-grant, research university; to ensure that highly ranked core disciplines maintain or improve their national rankings; to improve the University's quality nationally relative to its competitors; and to be excellent in those fields in which it chooses to participate.

The graduate and professional education strategic area further states that the University will ensure, by maintaining or improving their levels of program quality, that all of its graduate and professional programs are top-ranked. The undergraduate education strategic area states that the University will ensure, by maintaining or improving the level of program rankings, that all major programs, whether based in departments or interdisciplinary, are of the highest quality.

Relation to other measures:

The *reputation* critical measure is one of several critical measures that reflect the quality of the University's faculty and programs. The *sponsored funding* critical measure assumes that the amount of outside funding received and the University's national ranking in this regard are a reflection of the quality of the University's faculty and programs. The *scholarship, research, artistic accomplishments* measure is a more direct measurement of the results of faculty scholarly work. Other related critical measures include *interdisciplinary/ applied programs, student experience,* and *faculty/staff experience.*

Possible focus of this measure:

This critical measure focuses on "reputation," which as a concept is both subjective and comparative; reputation is essentially a **judgment of relative quality as perceived** by others. Thus it is another way of looking at the quality of the University's faculty and programs, and important because it reflects the University's perceived standing and relative competitiveness in relation to other higher education institutions. For this reason, the University's reputation is important to consider—regardless of whether one agrees with the criteria (implicit or explicit) that were used to arrive at a reputational opinion, rating, or ranking.

Reputation is also a function of numerous input, process, and outcome factors, including the kinds of students enrolled, the experiences students and faculty have in the institution, the success of faculty, and the success of students and graduates. In that sense, it can be viewed as an overall measure of what the University aspires to be, and one of the broadest of the U2000 outcome measures.

The name of this measure identifies three levels or types of educational program as the focus of the measure: **undergraduate, graduate, and professional programs.** In theory, the measure would reflect the reputa-

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tion of the hundreds of programs at these various levels on all four of the University's campuses. There are several sources of information for this kind of measure; however, none of these sources provides a complete picture. These sources are summarized below:

External Rankings: There are two major external reputational rankings of academic programs and colleges and universities that could be considered for this measure, although neither provides a complete picture, and the "level of analysis" varies according to the educational level (i.e., undergraduate rankings are for the campus as a whole, whereas graduate and professional program rankings are discipline based).

> National Research Council (NRC) Quality Assessment Study, which included the graduate programs of 32 University of Minnesota departments/disciplines in 1982 and 38 in the study that has just been released.

> *U.S. News and World Report* rankings of undergraduate programs (annually since 1983), graduate-level professional programs in business, engineering, law, and medicine (annually? since 1987), and doctoral programs in economics, English, history, political science, psychology, and sociology (annually? since 1992).

There is, in addition, a "best college buy" ranking of undergraduate programs produced annually since 1990 by *Money* magazine; some use of this information could also be considered for this critical measure on reputation.

Graduate Program Reviews: In addition to these external rankings, the University conducts its own review of graduate programs (approximately 10-12 programs per year) that also includes some emphasis on the undergraduate aspects of the program. These reviews include external reviewers and important quality-related information but do not provide information on the program's relative ranking across institutions. It is possible that this process could be utilized to provide more comprehensive and more frequent information for a reputational measure.

Professional Ratings: Certain programs also receive reviews and/or ratings from professional organizations that exist in their disciplines. It is possible that this process could also provide useful supplemental information for a reputational measure.

Possible focus of measure: Taking all of this into account, one approach to this critical measure would be to concentrate the measure on three areas:

1. rely on the national NRC and *U.S. News* rankings as the primary data source for reputational rankings of graduate and professional programs (accepting the fact that this will not cover the majority of programs);

2. use professional organization ratings, where they exist, to fill in gaps in what is covered by the national rankings; and

3. use the overall undergraduate rankings compiled by *U.S. News*, supplemented by *Money* magazine's "best college buy" information, to reflect the reputation of the University's undergraduate programs (accepting the fact that this approach does not distinguish among the many different levels of quality in different undergraduate degree programs).

An additional possibility might be to determine whether any of the other variables in the NRC study corre-late highly enough with the rankings that they could used as a proxy in the long periods between rankings, and possibly also for other fields that are not included in the NSC studies.

An important point to note: because "reputation" is ultimately subjective and perceptual rather than objec-tively measured, there are also "time lags" to consider in understanding reputational ratings and rankings. For example, when a program improves in quality, there is likely to be a time lag before this shows up in a rating increase; and when program declines in quality, it may keep its better reputation for a period of time before the downward change is perceived by others. There can also be a significant time lag from the time that ratings data is collected to the time it is published (e.g., the five year time lag with the recently pub-lished National Research Council rankings). *Another important point to note:* being heavily based on perceptions, reputational rankings can be strongly influenced by a "halo effect," whereby the overall reputa-tion of an institution influences raters' assessment of the particular departments they are asked to rank.

Issues/considerations in measurement:

There are a number of important questions for this critical measure:

1. Should external reputational rankings be used for this measure?

2. If "yes" to #1, should the available external rankings be the sole focus, in spite of their weaknesses (e.g., incomplete coverage, infrequency of NRC ratings, methodological issues), since we have nothing better to use? Or should we try to develop an internal system to supplement the external rankings (possibly based on the program reviews, or on agreed upon and available objective data)?

3. What institutions should we compare ourselves to?

4. What reputational processes could be used for the Duluth, Morris, and Crookston campuses, and how might they be combined into an institutional measure?

5. Should we look for a way to summarize rankings across the three student/program levels, i.e., across undergraduate, graduate, and professional programs? Or is it important to focus on each of the three levels separately?

6. Are there other important aspects of "reputation" that are not mentioned but should be considered for this measure?

7. Ideally, at what levels should the results of this kind of measure be reported (e.g., always on a disciplinary or departmental basis)?

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Interdisciplinary and/or Applied Programs

Relation to U2000:

Recognizing that there is great potential in interdisciplinary programs to make breakthroughs in both basic and applied research; and recognizing that, as a land grant university, there is an obligation to put the University's expertise into practice in applied programs—from research, scholarship, and artistic activity, to educational programs, to outreach and public service, U2000 places emphasis on increasing the amount of interdisciplinary and applied programming. At the same time, it recognizes that this cannot happen without strong programs in the University's core disciplines. Thus, this increased value and emphasis on interdisciplinary and applied work must be seen as occuring in balance with a continuing emphasis on the improvement and support of basic programs.

More specifically, U2000's research strategic area states goals of promoting and strengthening selected interdisciplinary activities that have strong core-discipline departments as a base; where appropriate, of maintaining and creating incentives for groups of scholars to collaborate across disciplines, regionally and internationally; of responding effectively to the demand for applied research; of creating incentives for groups of scholars to initiate applied research and teaching programs; and of encouraging research to investigate as well as solve major problems in our society.

In the graduate and professional education strategic area, a goal is stated to actively improve the educational role of and access to interdisciplinary programs by developing and promoting interdisciplinary degree programs; increasing interdisciplinary opportunities for students (e.g., student affiliations with University, national, and international research centers); and increasing the number and quality of practitioner-oriented/ applied professional programs, especially at the master's level, in response to state and national needs (remaining conscious of mission differentiation within and between the state's higher education systems).

Relation to other measures:

Other related critical measures include particularly *scholarship/research/artistic accomplishments* and the *outreach/market demand/compelling state needs* measures. To the extent that interdisciplinary and applied activity is facilitated through the use of technology, this measure might also be related to the *technology* critical measure.
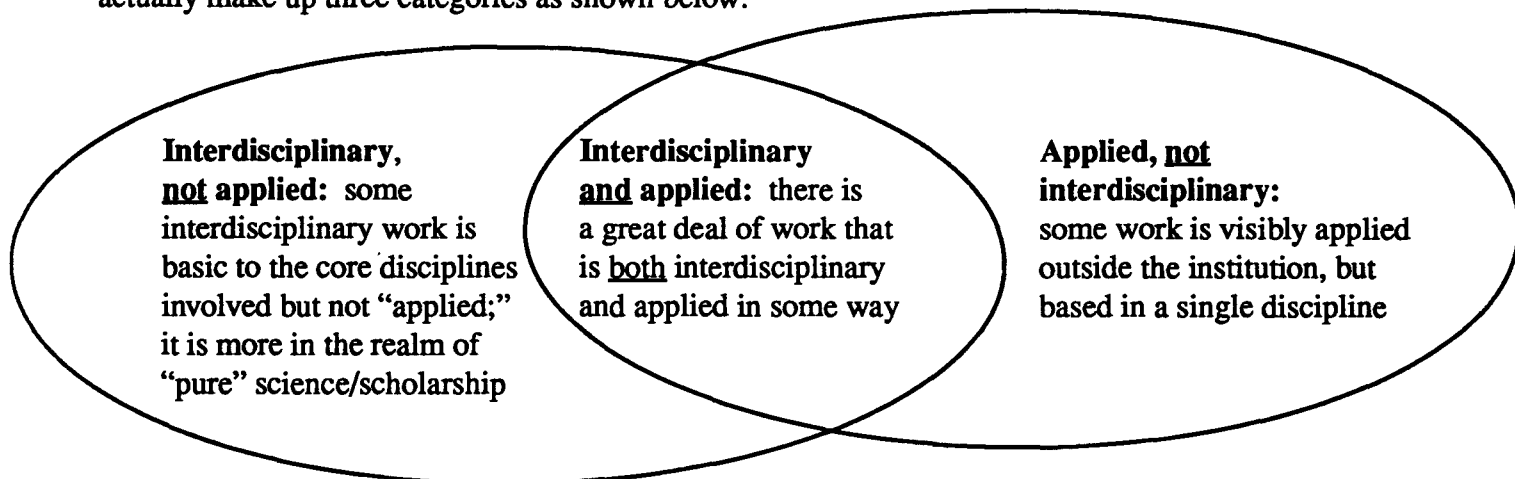
Possible focus of this measure:

Definitions: An important aspect of this measure (including its relationship to the other measures noted above) will be determined by how these two words are defined for purposes of measurement:

Interdisciplinary refers to work that occurs at least across departmental disciplines (i.e., not within departments).

Applied refers to programs, activities, or services where University faculty have played an active role in putting their expertise into practice in a way that has at least the potential for a useful external outcome.

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Another definitional question concerns the relationship of these two words in the title to each other; they actually make up three categories as shown below:

Interdisciplinary, not applied: some interdisciplinary work is basic to the core disciplines involved but not "applied;" it is more in the realm of "pure" science/scholarship

Interdisciplinary and applied: there is a great deal of work that is both interdisciplinary and applied in some way

Applied, not interdisciplinary: some work is visibly applied outside the institution, but based in a single discipline

Scope of the measure: U2000 speaks of the importance of interdisciplinary and applied programs in relation to all three aspects of the University's mission. This language is included in both the research and the graduate/professional education strategic areas; and by definition, much applied work would be within the definition of outreach. This measure should therefore reflect the kinds of interdisciplinary and applied activity occurring in the University's research, scholarship and artistic work; across the University's educational programs; and in outreach and public service.

Input, process, and outcome measures: In attempting to understand whether and how the University is making progress in increasing its effort in interdisciplinary and applied programs, it may be useful for this critical measure to focus on a combination of input, process, and outcome measures. Some examples that cross the University's three missions are described below:

> Input measures might be focused on the human and financial resources devoted to interdisciplinary and/or applied work, or the range and number of programs offered.

> Process measures might be focused on the number and variety of programs, centers, partnerships, etc. in operation, or the number and diversity of faculty, students, and others taking advantage of or involved in these activities.

> Outcome measures might consider the scholarly accomplishments that are interdisciplinary and/or applied in nature (this kind of information could be collected as part of the *scholarship, research, artistic accomplishments critical measure*), the number of graduates of interdisciplinary and/or applied degree programs, or the number and diversity of successful applications of faculty expertise.

Possible focus of measure: This measure might be focused in five areas (assuming that outcome measures related to the outreach mission will be included in another measurement category):

1. Resources, both human and financial, devoted to interdisciplinary and/or applied work in each of the three mission areas of research, education, and outreach (input measure).

2. The number and diversity of faculty, students, staff, and others engaged in interdisciplinary and/or applied work or programs in each of the three mission areas of research, education, and outreach (process measure).

3. Scholarly accomplishments that are interdisciplinary and/or applied in nature (outcome measure for research and discovery mission).

4. The number and diversity of interdisciplinary and/or applied degree program graduates, both majors and minors (outcome measure for teaching and learning mission).

5. Presence of nationally ranked centers.

Issues/considerations in measurement:

There are a number of important questions for this critical measure:

1. Do the definitions seem appropriate, or:

   a. should this measure also consider as interdisciplinary those activities that cross specialties within a single department?

   b. or should the interdisciplinary aspect of the measure only consider activity that occurs between colleges?

   c. should the applied aspect of the measure also consider internal applications?

   d. should applications include anything that finds its way into external use or practice, whether or not the University played an active role in making that happen?

   e. in considering applied educational programs, should only University degree programs be counted, or should certificate programs and cooperative programs with other institutions be included?

2. Given that there is another set of measures devoted to the outreach and public service mission, should this measure focus more on the research and education aspects of the mission than on the outreach mission, as suggested by the "possible focus" section?

3. Should this measure attempt to distinguish work that is organized in centers, vs work that occurs more naturally/informally across departments and colleges without formal support structures?

4. Are there other important aspects of interdisciplinary and/or applied programs that are not mentioned but should be considered for this measure?

5. How much of this measure can be quantified, vs how much will need to be qualitative in order to capture the richness and complexity of this broad area?

6. If only one or two measures could be used, what should they be?

7. At what intervals/how often should data be collected for this kind of measure?

8. At what levels should the results of this kind of measure be collected and reported (e.g., campus and college only?)

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Outreach and Public Service
Responsiveness to Market Demand
Responsiveness to Compelling State Needs

NOTE: These three measurement areas have been grouped together for discussion purposes because the three categories (which came out of an earlier, public discussion of what was important to measure about U2000) are interrelated but it is not clear exactly how. More importantly, it is also not clear whether these labels adequately represent what the University needs to be measuring in terms of how well it is meeting needs of the state and fulfilling its outreach mission. It is hoped that this first part of the third phase critical measures discussion process will clarify these questions.

Relation to U2000:

U2000 places a great deal of emphasis on the University's relationship to people and entities outside of the institution, and this is expressed in many different ways. The University's outreach and public service mission is to extend, apply, and exchange knowledge between the University and society by applying scholarly expertise to community problems; by helping organizations and individuals respond to their changing environments; and by making the knowledge and resources created and preserved at the University accessible to the citizens of the state, the nation, and the world. U2000 envisions the University's research, education, and outreach programs as enhancing the social, cultural, economic, and intellectual health of Minnesota and the Upper Midwest and responding to the shift of society and the economy from a local to a global scale. Further, U2000 envisions partnerships within the University community; with its alumni; with local communities, the state, and the nation; and with business and industry, the education and service sectors, individuals and families, and other systems of higher education, regionally and internationally.

The U2000 research strategic area speaks of responding to the demand for applied research and of encouraging research to investigate as well as solve major problems in our society. The graduate and professional education strategic area states a goal of increasing the number and quality of practitioner-oriented/applied professional programs, especially at the master's level, in response to state and national needs; another goal is to ensure that the University's professional programs are closely tied to their respective professional communities, with educational opportunities for professional work forces in business and industry and in public and private agencies and organizations. The undergraduate education strategic area speaks of increasing opportunities for student internships and learning through service.

Mentioned specifically in the outreach and access strategic area are strengthening and focusing outreach activities that draw on the full breadth of academic expertise to address complex social issues; offering a range of continuing education opportunities for personal and professional development; broadening and facilitating access to traditional degree programs for talented and motivated part-time students; and creating new collaborative experimental programs that connect advanced education to emerging patterns of employment and connect the University's research and graduate programs to the teaching resources of other postsecondary institutions.

Relation to other measures:

Since outreach and external relationships are woven throughout the University's mission and programs, this measurement area is related to most if not all of the other critical measures. It is probably most closely related to the measures of *characteristics of entering students, underrepresented groups/diversity, student experience, post-graduation experience, scholarship/research, artistic accomplishments, overall satisfaction of Minnesota citizens, investment and voluntary support, interdisciplinary/applied programs, customer service/streamlining,* and *technology.*

Possible focus of this measure:

The discussion phase for this set of measures needs to begin with the **broader question of what the University needs to measure concerning the two-way relationship between the institution and its many external constituencies and publics.** Related questions might be: How is life better for Minnesota citizens because of the University of Minnesota? How might the University facilitate the state's healthy and competitive movement into the 21st century?

Scope of measure(s): A useful starting point might be to consider the important areas where application of the University's expertise and leadership could make an impact, for example:

Economic impacts, including the extent to which the University provides educational programs and graduates that are suited to job market (undergraduate, graduate, professional, continuing education and/or retraining); the role of the University and/or its graduates in the starting-up and/or growth of businesses and the related increase in jobs; and the kinds of new or innovative systems, techniques, etc. developed with University expertise that result in the increased competitiveness of state businesses, industries, and other organizations

Health impacts, including break-throughs in medical knowledge, techniques, and devices, and improved health care for people through provision of clinical services

Environmental impacts, including break-throughs in understanding of environmental issues and ways to address or prevent environmental problems, either in policy or in specific applications addressing environmental needs/problems in the state
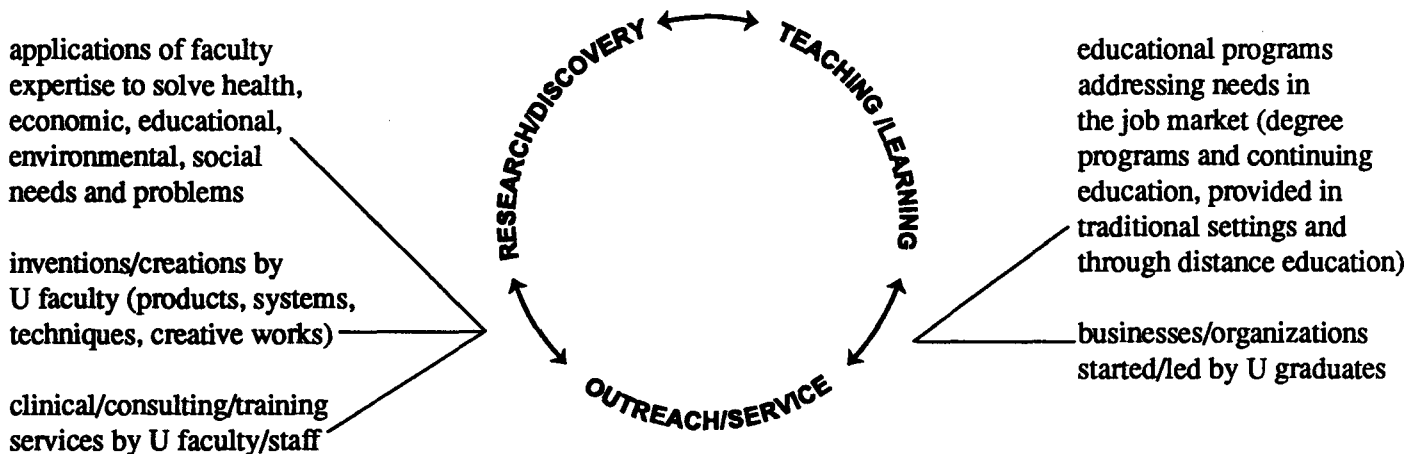
Educational impacts, including increasing effective and successful applications of knowledge and support to K-12 systems in the state

Social impacts, including research and applied programs that contribute to improving the lives of children, youth, and families in communities, to improving the status of underrepresented groups, and to promoting strong communities.

Input, process, and outcome measures: In attempting to understand whether and how the University is making progress in increasing its successful interactions with its external constituencies, it will also be useful to think about input, process, and outcome measures. For example, measuring resources, both human and financial, that are devoted to activities designed to promote the University's outreach mission are inputs that reflect the importance the institution attaches to externally oriented activity. Looking at partnerships with outside groups—their number, their intensity, and their diversity—is a way of measuring a poten-

tially important process variable. Problems solved or ameliorated; scholarly products in application (e.g., inventions in use); positive outcomes of services provided; success of graduates in the job market and in leadership positions are all outcome measures that relate to the University's relationship with external constituencies.

Possible focus of measure: Since these issues touch on all aspects of the University's mission, it might be useful think of the question as shown below, with the circle representing the University's mission and some possible areas of measurement indicated.

applications of faculty
expertise to solve health,
economic, educational,
environmental, social
needs and problems

inventions/creations by
U faculty (products, systems,
techniques, creative works)

clinical/consulting/training
services by U faculty/staff

RESEARCH/DISCOVERY — TEACHING /LEARNING — OUTREACH/SERVICE

educational programs
addressing needs in
the job market (degree
programs and continuing
education, provided in
traditional settings and
through distance education)

businesses/organizations
started/led by U graduates

These five categories could serve as a focus for this broad measurement area, using a combination of process and outcome measures.

The kinds of "industry clusters" (printing and publishing, computers and software, medical devices, and machinery and metalworking) identified in a recent joint study by the Humphrey Institute and the Metropolitan Council could provide a useful framework for looking at the business and industry aspects of these categories, especially if the study is expanded statewide.

Issues/considerations in measurement:

There are a number of important questions for this critical measure:

1. Should "outreach and public service" be used at all as a name for a measurement category when it is a key element of the University's overall mission?

2. How many different measurement areas are needed, and what should they be called?

3. Should this measure (s) be the primary place where applied research is counted, rather than having it included in the *interdisciplinary/applied* critical measure? Or should different aspects of applied research be counted in the two different measurement areas?

4. Are there other important aspects of the way the University connects with its external constituencies and publics that are not mentioned but should be considered for this measure (s)?

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5. How much of this measure (s) can be quantified, vs how much will need to be qualitative in order to capture the richness and complexity of this broad area?

6. At what intervals/how often should data be collected for this kind of measure (s)?

7. At what levels should the results of this kind of measure (s) be collected and reported (i.e., campus, college, departmental)?

Customer Service/Streamlining

Relation to U2000:

U2000's user-friendly strategic area focuses on building an environment that is inclusive, supportive, and participatory; on creating and maintaining a humane and physically appropriate environment in which all members of the academic community can thrive and work to their fullest potential; on a culture change whereby bureaucracy and indifference give way to a user-friendly approach to program and service delivery. More specifically, U2000 states that the University will establish a customer-oriented approach to program and service delivery, with measures of productivity and customer service standards, requiring accountability for the quality, value, and cost of the services its units provide; provide state-of-the-art technology to upgrade registration, admissions, information processing, financial aid processing, academic advising, and review of graduation status; review structures, policies, and procedures that needlessly drive up operating costs, waste time, or disrupt the scholarly environment of faculty, students, and staff; eliminate low-value-added activities and redirect that effort and savings toward education; decrease functional fragmentation and redundancy when appropriate; streamline procedures; and simplify forms.

Relation to other measures:

Other related critical measures include *student experience, faculty and staff experience, outreach and public service, overall satisfaction of Minnesota citizens*, and *responsiveness to compelling state needs*, among others.

Possible focus of this measure:

Definitions: This institutional level critical measure focuses on the efficiency and effectiveness of institutional operations, and how we assist our many customers in achieving their goals. For the purposes of this measure, customer service and streamlining are defined as follows:

> Customers are the University's students, faculty, staff, and the general public of the state.
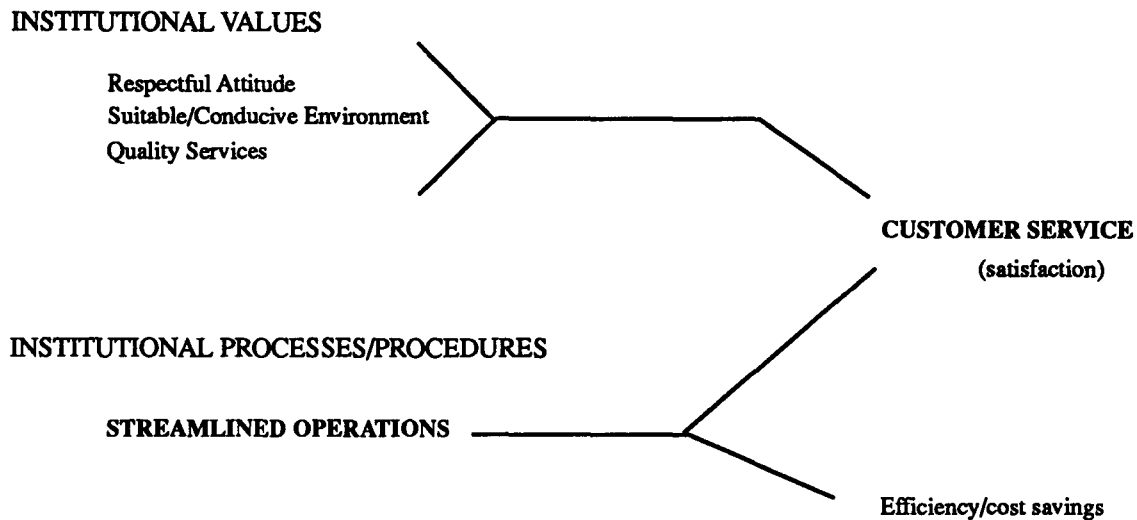
> Customer service is about making the University's resources available to its many constituencies in a way that is responsive to their needs; good customer service, i.e., customer satisfaction, is assumed to result from the use of efficient and effective processes for providing services, and/or from the respectful manner in which services are provided on an interpersonal level (whether or not the process is efficient).

> Streamlining is about simplifying the processes through which information, programs, or resources are made available, and/or through other ways in which the University accomplishes its mission, so as to increase their efficiency, their effectiveness or both; streamlining is assumed to have at least two kinds of outcomes: greater efficiency and potential cost savings, and better service to customers.

Whereas most of the other critical measures are based on either individual data (e.g., student satisfaction, graduation rate, or faculty scholarship) or concrete institutional data (e.g., quality of classrooms), this critical measure focuses on institutional processes and procedures that can either enable or hinder students, faculty, staff, and the general public in gaining access to and using the institution's vast resources. As is true in any complex bureaucracy that has evolved in a decentralized fashion over a long period of time, there

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are clearly institutional procedures that remain as "required" long after the purpose for which they were required has evaporated. In addition, the culture and values of an organization affect the way that services are provided to people; and unless customer service is an institutional value, the quality of service depends entirely upon the values of individuals. Students frequently complain about "red tape" and "student run-a-round," and there are parallel examples that affect faculty and staff.

"Customer service" and "streamlining" are related to institutional values and institutional policies and procedures, as shown below:

INSTITUTIONAL VALUES

    Respectful Attitude
    Suitable/Conducive Environment
    Quality Services

                                         CUSTOMER SERVICE
                                           (satisfaction)

INSTITUTIONAL PROCESSES/PROCEDURES

    STREAMLINED OPERATIONS

                                         Efficiency/cost savings

At a time when several institutional transformation plans are being articulated (e.g., changing to a semester system, revision of grants management practices), it is essential to propose a set of institutional level critical measures that will help in evaluating the impact of those major changes in systems and procedures. Although in recent years considerable efforts in the name of Total Quality Management/Continuous Quality Improvement have been devoted to institutional improvement, these efforts have not concentrated on the identification of core measures or on the mapping of the processes that are in need of re-engineering.

Possible focus of measure: This measure could focus on a number of specific kinds of results of successful customer service and streamlining:

1. Focus could be given to whether or not the institution is successful in providing needed information and/or access to resources, with minimal intermediation:

   a. at all times of day

   b. through a single point of contact

   c. with short response time and minimum paperwork (once contact is made)

2. Focus could be given to the University's success in serving customers in a "paperless" manner.

3. Attention could be directed at customer satisfaction as expressed through some of the measurement instruments developed in the second phase critical measures, e.g., the student experience survey, the faculty/staff survey, and the overall satisfaction of Minnesota citizens survey.

Issues/considerations in measurement:

Questions include:

1. Are the definitions listed above appropriate, or should customer service or streamlining be defined differently?

2. Should this measurement area focus broadly on both customer service and streamlining, or should the emphasis of the measure be on only one of the two areas?

3. Is the streamlining part of this measure purely process (e.g., how many separate steps are necessary for faculty to access institutional resources for classroom instruction), or are there important outcomes that could be identified and measured?

4. How do outcome measures of effectiveness need to "moderate" the interpretation of efficiency in this type of measurement area?

5. Should this critical measure be comprehensive (i.e., touching on all aspects of the University's mission), or should it highlight a relatively small number of high visibility/high utilization institutional processes (e.g., student registration)?

6. What are the appropriate comparision institutions when comparing customer service/streamlining performance of the University: only other higher education institutions? other public sector institutions? private sector as well as public and higher education institutions?

7. Should this measure include a qualitative description of the numerous user-friendly initiatives that have been funded recently (e.g., Interactive Voice System); or a set of quantitative indicators of efficiency of the University's operation?

8. Will annual performance goals be appropriate for this kind of measure, or are goals appropriate only as long-term targets for the year 2000?

9. At what level are appropriate measures feasible, e.g., at the institutional level only, or at the campus, provostal and collegiate levels as well?

October 16, 1995

Technology

Relation to U2000:

U2000 speaks of the use of technology in many different ways. The research strategic area states a goal of upgrading and enhancing the research environment and increasing substantially the University's investment in the research infrastructure, including libraries, laboratories, instrumentation, computers, and information-transfer technologies. The undergraduate education strategic area talks about supporting teaching by providing appropriate technologies. The outreach and access strategic area states the need to explore innovative teaching methods and technology and to extend the University's program offerings throughout the state and beyond state and national borders through distance-learning technologies. The user-friendly strategic area states a goal of providing state-of-the-art technology to upgrade registration, admissions, information processing, financial aid processing, academic advising, and review of graduation status.

Relation to other measures:

Most if not all of the other critical measures are related to this "technology" measure, since technology is not an end in itself, but supports accomplishment of the University's mission. Thus, the technology measure is related to the critical measures of *scholarship/research/artistic accomplishments; student experience, faculty and staff experience, outreach/responsiveness to market demand/responsiveness to compelling state needs, interdisciplinary/applied programs,* and *customer service/streamlining.* To the extent that "information literacy" is important for success after graduation, the technology measure is also related to the *postgraduation experience* measure.

Possible focus of this measure:

Definition of technology: For the purposes of this measure, technology is defined as including at least the following categories:

> Information technology, i.e., the use of hardware and software tools to gather, evaluate, organize, distribute, and store information in such a way as to make a greatly expanded array of information accessible to many different kinds of users in many different settings
>
> Instrumentation, e.g., technical equipment such as electron microscopes, magnetic imaging equipment, etc.
>
> High performance computing, e.g., high speed computing, parallel processing computing, etc.

Scope of the measure: If technology is viewed as a tool for accomplishment of the University's mission in ways that are both more efficient and more effective, this critical measure should consider the use of technology in each aspect of the University's mission, as well as in the administrative processes that support the mission. Discussion of this measurement area should consider:

> Research/discovery: How should technology support the University's research and discovery mission,

considering research, scholarship, and artistic activity?

Teaching/learning: How should technology support the University's teaching and learning mission, considering the role of both the teacher and the learner?

Outreach/public service: How should technology support the University's outreach and public service mission, considering the perspectives of the institution and the University's many and diverse constituencies and publics?

Administrative processes: How can technology be used to provide better support for the University's mission overall, from administrative processes and management systems to communications including libraries and other units that make information available to internal and external audiences?

Input, process, and outcome measures: To understand whether and how the University is making progress in increasing its use of technology to support its mission, it will be useful for this critical measure to consider a combination of input, process, and outcome measures. Some information technology examples are described below:

Input measures might be focused on whether the resources and capabilities—the infrastructure—needed
to provide access to information are in place and working (e.g., desktop computers, computer labs, network connections, support services, knowledge of how to use the resources, etc.). A specific example of an input measure that could be used: how many departments, or what percentage of faculty and students, have easy access to information technology?

Process measures might be focused on the extent to which the available information technology is being used and the nature of its use (e.g., how many people are using it, in what ways, where, etc.). Looking
specifically at teaching, classes utilizing multimedia, electronic mail, commercial courseware, CD-ROM materials, computer simulations, and computer lab/classrooms could be measured. An even more specific example related to both the educational and outreach missions would be the number of student credit hours taught by telecommunications (defined as interactive TV and e-mail).

Outcome measures might be focused on whether faculty are able to do their research, scholarship, and artistic work and/or to teach more efficiently and effectively as a result of information technology used (e.g., use of information technology to access and/or manipulate data at remote locations, research results achieved where technology played a critical role, use of e-mail by faculty to communicate with students, use of information technology to provide experiences to students off-site—e.g., a virtual field trip); whether students are "computer literate" and better prepared for the work force (i.e., have both the knowledge of what can be done and the skills to do it); whether citizens of the state have easy access to the University's resources through information technology; and whether the University's administrative and support systems are functioning in an efficient and "seamless" manner for their users.

Possible focus of measure: Since effective use of technology by faculty and students is critical to all three aspects of the University's mission, and effective administrative processes play an important role in the

success of the institution in general, this measure might focus on four questions:

1. Do faculty have the resources, the incentives, and the support to effectively use—and do they use—technology in doing their research, scholarship and artistic work; in teaching; and in sharing their expertise with the people of the state and beyond?

2. Do students have resources and support to use—and do they use—technology to improve their learning?

3. Is technology being used effectively to communicate and to provide access to the University's resources and expertise for people of the state?

4. How well is the University using technology to create an efficient, effective, and "seamless" support structure to carry out the work of the institution?

Issues/considerations in measurement:

There are a number of important questions for this critical measure:

1. Are there other important categories that should be included in the definition of technology?

2. Are there other important uses of technology that should be considered but are not mentioned?

3. How can this measure be developed so that it is sensitive to technological changes and innovations?

4. How much of this measure (s) should be focused on outcomes, vs on inputs and/or process measures?

5. At what intervals/how often should data be collected for this kind of measure?

6. At what levels should the data be collected and reported (i.e., campus, college, departmental, other)?