Applying Performance Metrics in Libraries: Current Use

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**NISO Webinar: Measure, Assess, Improve, Repeat:
Using Library Performance Metrics
September 8, 2010**

Performance Measurement in Libraries

"Measuring performance is an exercise in measuring the past. It is the use of that data to plan an improved future that is all important." Peter Brophy (2006)

What is easy to measure is not necessarily what is desirable to measure." Martha Kyrillidou (1998)

Performance Metrics Definitions
Metrics and measures are often used interchangeably

- **Inputs** are resources which contribute to development and delivery of programs and services
- **Outputs** are resources & services produced and their use
- **Processes** are activities that turn inputs into outputs
- **Outcomes** are the effect of the library on the individual or the community
- **Performance indicators/measures** are quantified statements used to evaluate the performance of the library in achieving its objectives
- **Benchmarking** is a measureable performance goal which is a standard of progress for success (or best practices)

Performance Measurement Drivers

- Accountability (including academic accreditation)
- Advocacy
- Rapid changes in socio-info-techno environments
- Budgetary pressures
- Improvement
- Comparisons

Performance Metrics and Indicators

- Identify most important measurable indicators of library organizational performance to:
  - Library, user community, stakeholders
- Criteria for performance indicators should be: informative, reliable, valid, appropriate, practical, comparable (ISO 11620)
- Performance metrics and indicators should relate to institutional and library mission, goals and outcomes
- Performance metrics are usually quantifiable
- Performance metrics need context and meaning such as change over time, comparisons with others, other trends

A Few Good Resources to Consult on Performance Measurement and Metrics

- Brophy, Peter, *Measuring Library Performance: Principles and Techniques* (2006)
- Dugan R., Hernon P., & Nitecki D., *Viewing Library Metrics from Different Perspectives* (2009)
- Mathews, Joseph R., *The Evaluation and Measurement of Library Services* (2007)
- Poll, R. and te Boekhorst, P., *Measuring Quality* (2007)
- Standards and Definitions
  - **NISO Z39.7, ISO 11620, COUNTER, ARL, NCES**

NISO Standard Z39.7 (2004)

Information Services and Use: Metrics & statistics for libraries and information providers — Data Dictionary

- Reporting unit and primary target population

- Human resources

- Collections

- Infrastructure

- Finances

- Services

- Appendices includes methods of measurement and measuring use of electronic library services

Measuring Quality: Performance Measurement in Libraries

40 Performance Indicators. Each includes background, definition, aims, methods, interpretation, use and examples.

Use Indicators

- Market penetration
- User satisfaction
- Library visits per capita
- Seat occupancy rate
- Number content units downloaded per capita

- Collection use (turnover)
- % stock not used
- Loans per capita
- % loans to external users
- Attendance at training sessions per capita

Library Metrics: Inputs

Focus on how big/how much

- Budgets (staff, collections, operations)
- Staff numbers
- Collections sizes
- Facilities
- Other related infrastructure (hours, seats, computers)
- Size of user communities and programs
- Ratios (staff per student)

ARL "Investment Index" measures inputs related to expenditures and staff numbers

Library Metrics: Outputs

Focus on usage

- Collections (print, electronic, ILL)
- Reference/information services
- Facilities (gate counts)
- Instruction sessions
- Discovery and retrieval
- Other Web sessions
- Ratios (circulation per faculty)

May indicate if "inputs" are used, but doesn't measure user impacts/outcomes

Library Metrics: Processes

- Time/Efficiency (e.g. time to catalog a book)
- Costs/Economy (cost per article download)
- Quality/Accuracy
- Quantity/Workload
- Infrastructure measures (facilities, computing)

Covers conversion of inputs into outputs and used for accountability and budget

Two Major Trends in Library Assessment and Performance Measurement Since 1995

Customer-centered library

- All services and activities are viewed through the eyes of the customers
- Customers determine quality
- Library services/resources add value to the customer

Performance measurement

- Move from inputs/outputs to processes/outcomes
- More extensive range of data sources; systems generated data
- Standardized definitions
- Greater use of benchmarking
- Ties to strategic planning, accountability, advocacy

Focus on users has led to outcomes-based metrics

Enabled by Better Methods, Tools, Data and Analysis

- Qualitative methods such as focus groups, interviews, user-centered design, and other socio-based approaches
- New standardized library assessment tools such as LibQUAL+®
- Large data sets with standardized data definitions
- Better data analysis and presentation tools emerging
- Stronger institutional commitment to assessment, accountability and performance metrics

Benchmarking

Benchmarking is concerned with use of best practices within and between organizations. Often done with peer libraries using input and output data from:

- Salaries
- Staffing
- Budgets
- Collections
- Services
- Facilities

May express as ratios such as librarians per student, book expenditures per faculty, seats per student etc. Can also set service expectations for users.

Dashboard Approach: Key Metrics/Measures as Indicators of Organizational Performance
London School of Economics Library

Key Metrics

- IT system availability

- New publication availability

- Queuing at help desk

- Document retrieval from main storage area

Latest Month's Performance

- 100% of systems returned to full service after one day

- 100% of daily/weekly receipts available within 2 days

- Average queuing time 3 minutes

- Average retrieval time 15 minutes

Metrics and performance shown on library Web page:
http://www.lse.ac.uk/library/about/SLDs/SLDsHome.htm

Integrating Metrics with Strategy

A strategy without measures is just a wish and measures that are not aligned with strategy are a waste of time
Joseph R. Matthews (2008)

Some examples:

- Outcomes-based metrics

- Strategic planning

- Organizational performance models such as the Balanced Scorecard

Performance Metrics: Outcomes

What have library services/programs enabled individuals and communities to do? Focus points are:

- Satisfaction (surveys)

- Application of new skill/ability

- Change in behavior

- Identifying where value is added (e.g. higher productivity)

Outcome metrics and measures are usually tied to establishing objectives and criteria for success

Example: Learning Outcomes Assessment

Figure 1: Assessment Cycle

Outcomes
What do we want to achieve?
What do we want the student to achieve?
What does an excellent information literacy program do?

Continuous Improvement
What, if any, changes are necessary as a result of the learning? What are our priorities and the plan for action?

Criteria for Success:
How will we know the students /we have met the outcomes? What standards of success will we use to determine program effectiveness?

Library/College
Mission/Values/Goals

Strategic Directions

Library Instruction Program Mission/Goals

Analysis
What can we learn from the evidence/data/information? What does it reveal? Are our current activities getting us toward our outcome?

Assessment:
How will the student demonstrate their learning and ability? What evidence, data, or information do we need to gather about our program? How and when will we gather it?

Adapted by Gilchrist, 2005 from Pierce College Accreditation/Assessment Teams. Lakewood and Puyallup, Washington. 2005

Strategic Planning
Be S.M.A.R.T. in Writing Goals/Objectives

- **S**pecific
  - the desired outcome or result is clearly defined
- **M**easurable
  - accomplishment can be measured and tracked
- **A**ttainable
  - achievable, goal is challenging but realistic
- **R**elevant
  - results-oriented, in line with strategic directions and operations
- **T**imely
  - deadlines are set for accomplishment

University of Connecticut Strategic Plan Goal 3: Research, Scholarship, and Creative Activity

- Actively support faculty, student and staff research, scholarship and creative endeavors through quality instruction, liaison collaboration, collections, and information access.

- Strategies

  - Facilitate a collaborative and productive research process
  - Develop resources to meet the 21st century needs of our researchers
  - Enhance access to and awareness of research & publication at UConn
  - Develop intuitive, user-centered access to library resources and services

- Series of actions/objectives under each strategy

UConn Library Metrics for Strategic Goal of Research, Scholarship and Productivity

Metric: Input, Output, Outcome, Process	Baseline	2014 Goal
Items in Digital Commons@UConn.edu	4800	7200
Project partnerships between library and other campus, government, private entities	10	14
Increase number of e-journals accessible to users by 4%	17,300	18,000
Increase number of objects digitized by 5% per year	65,800	69,100
Increase usage stats for digitized objects by 10% per year	573,167	630,480
Increase student and faculty use of the liaison program	50%	70%
Increase % of budget spent on digital format resources	80%	90%
Annual number of research consultations by liaisons	1,000	2000
Perceived level of service quality in ranking of "print or electronic journal collections needed" (LibQUAL+® IC-8)	7.21	7.5

Organizational Performance Models: The Balanced Scorecard

- A model for measuring organizational performance developed in the 1990's by Kaplan and Norton that:
  - Focuses on key objectives
  - Helps ensure a proper balance between objectives
  - Organizes multiple statistics into an intelligible framework
- Clarifies and communicates the organization's vision
- Provides a structured metrics framework for aligning assessment with strategic priorities and evaluating progress
- ARL Library Scorecard Pilot in 2009/10 with 4 libraries

Balanced Scorecard:
Perspectives, Objectives, Measures and Targets

- Four perspectives: Customer; Stakeholder/Financial; Internal Processes; Learning and Growth

- Strategy Map identifies key objectives for each of the four perspectives

- Metrics developed to measure progress on achieving objectives

- Targets provide context tying metrics to strategy and articulate the level of success in achieving objectives

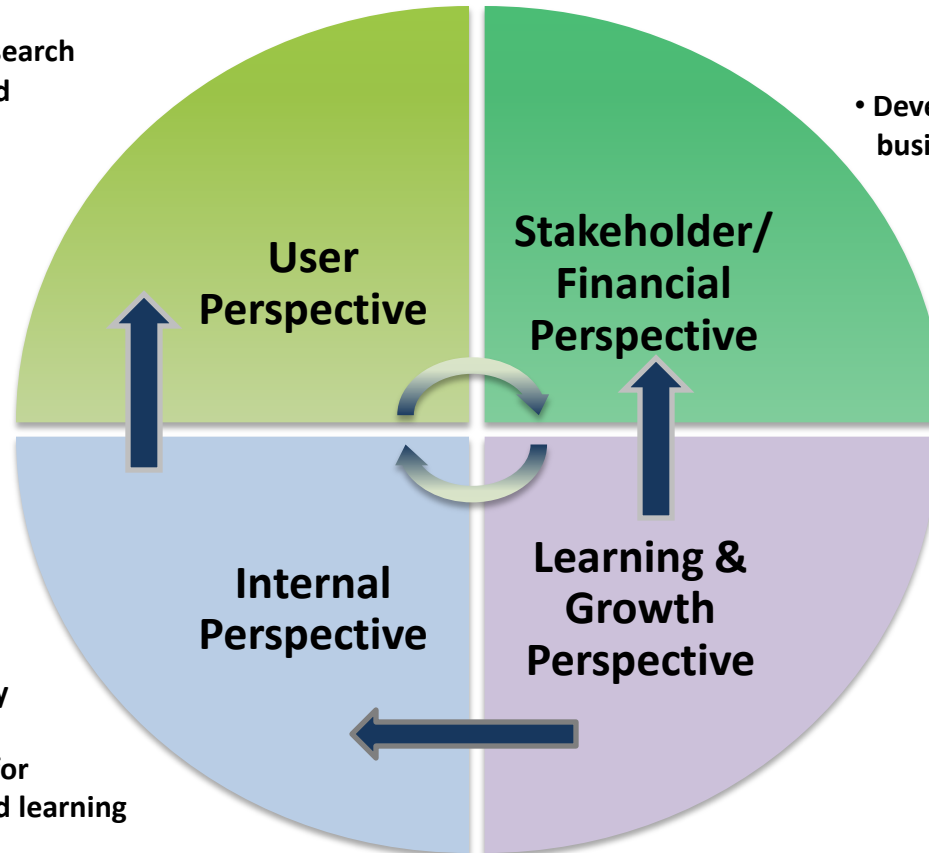- Targets should be realistic but represent a stretch

UW LIBRARIES 2010-13 STRATEGY MAP (Draft)

Mission: Advancing Intellectual Discovery and Enriching the Quality of Life by Connecting People with Knowledge

Strategic Directions: Research & Scholarship, Teaching & Learning, Engagement, Sustainability

- Enhance teaching, learning & research
- Provide productive user-centered workspaces
- Accelerate transition to new service models

- Develop a sustainable academic business plan

User Perspective

Stakeholder/ Financial Perspective

Internal Perspective

Learning & Growth Perspective

- Implement new subject librarian roles
- Realign online and print services support
- Review and revise collection management strategies
- Promote the value and availability of services and resources
- Create a sustainable foundation for delivering/assessing teaching and learning

- Strengthen organizational capacity/structure to achieve strategic objectives
- Align staff expertise/work to strategic priorities/actions
- Provide infrastructures that support users and staff work

Organizational Values: Collaboration • Diversity • Excellence • Innovation • Integrity • Responsiveness

University Of Washington Draft Scorecard Examples

Teaching and Learning

- **OBJECTIVE**

  Strengthen library role in undergraduate learning

- **MEASURE**

  Percentage of academic programs that have formal library involvement

- **TARGET**

  Library instructions sessions given in 70% of academic programs last year

- **RESULTS (2008-09)**

  56%

New subject librarian roles

- **OBJECTIVE**

  Librarian liaisons play an active role visible role in academic programs

- **MEASURE**

  Visibility and effectiveness of librarian liaisons in Libraries Triennial Survey

- **TARGET**

  60% of faculty and graduate students rate satisfaction with librarian liaison; average rating of at least 4.25/5

- **RESULTS (2010)**

  Faculty: 62%; 4.37

  Grad Students: 59%; 4.23

University of Virginia Balanced Scorecard(2007): Customer Perspective Objective/Target

Objective: Easy Access to Superb Info & Resources

- Customer satisfaction with collections
- <u>Circulation of new monographs</u>
- Use of electronic databases
- Use of reference services -- desk visits, virtual reference transactions
- Use of on-campus delivery service

Measure/Target: Circulation of New Monographs

- *Target1*: 60% of newly cataloged monographs should circulate within two years.
- *Target2*: 50% of new monographs should circulate within two years.
- *Result FY07:* Target 1 Met.
  - 62.9% circulated (16,363 out of 26,032)

Performance Metrics in Libraries: Some Tips . . .

- Fewer metrics are better
- Know what you're measuring
- Select different types of metrics (input, output, process and outcome)
- Use a mix of data sources and frequencies
- Tie them to strategy and use them to improve operations
- Present internally and externally
- Provide context (comparisons, trends)

. . .And Some Questions

- Are we measuring what is important?
- How do metrics/indicators relate to outcomes?
- How much effort should go into developing metrics, methods and analysis?
- How do we best incorporate customer/stakeholder perspectives?
- How are performance metrics used for improvement?
- Are data management systems adequate?