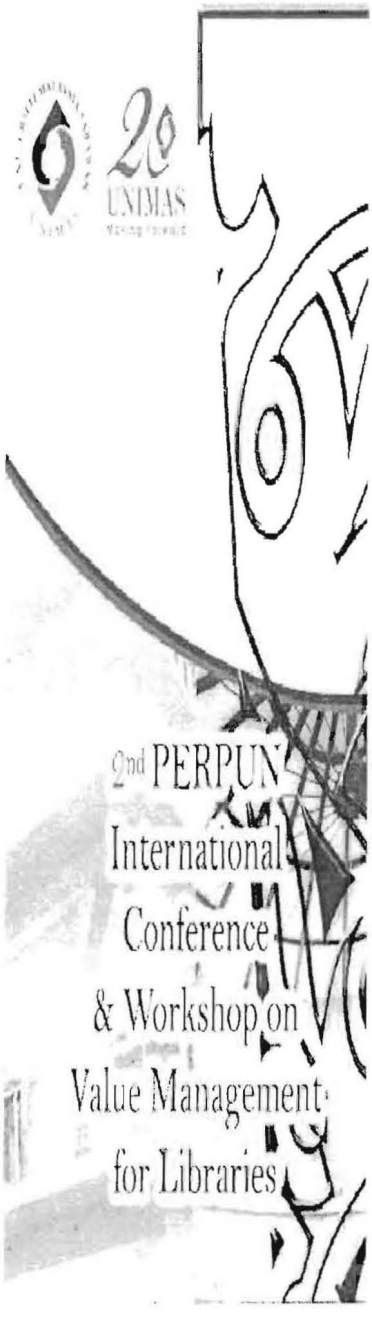
A WORKBOOK FOR A ONE-DAY WORKSHOP
MORNING SESSION
TOWARDS EXCELLENCE
THROUGH ROI



A Workbook for

A One-Day Workshop

Morning Session

Towards Excellence

Through ROI

September 28, 2012

Organized by

Centre for Academic Information Services

Universiti Malaysia Sarawak

94300 Kota Samarahan Sarawak, Malaysia

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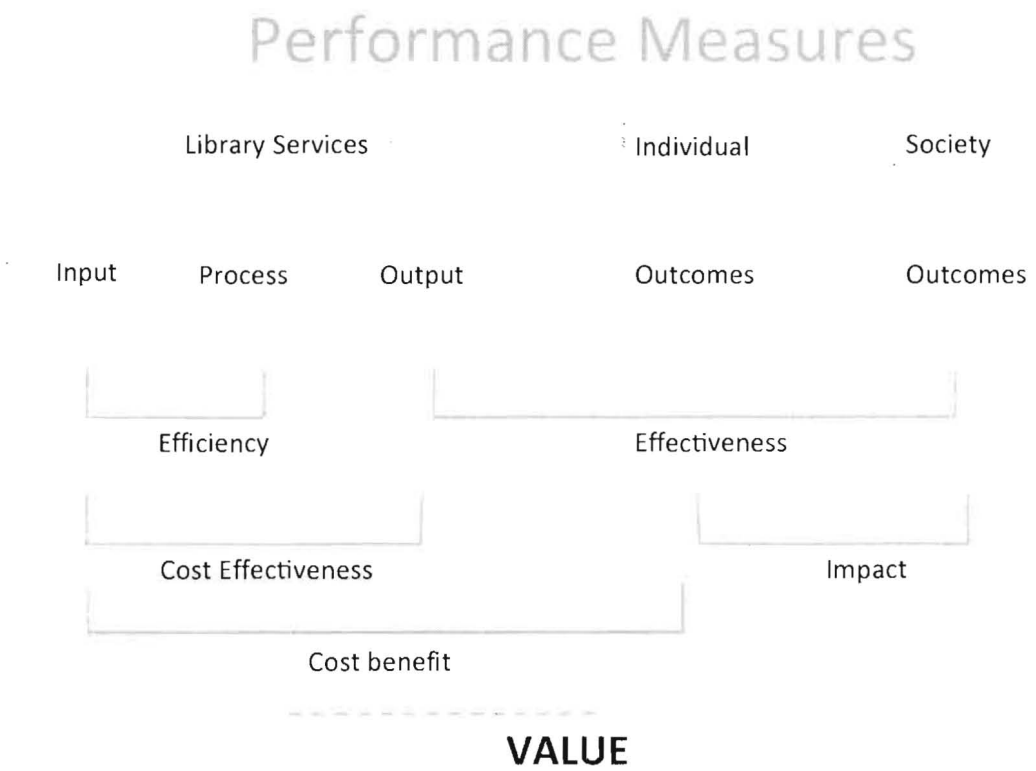
Working Together[1]

Performance Measures



Richard Orr in 1973[2]

Input measures – budget, staff, space, collections,
Output measures – actual use of library services and collections (counts)
Process measures – time or cost or quality to perform a task or activity
Outcome measures – change in attitude, behavior, knowledge, skill, status or condition. Outcomes occur first in people and then in organizations (or society)
Efficiency – are we doings things right?
Effectiveness – are we doing the right things?

Outcomes accrue first to the individual and then to the organization and/or society at large.

The How Questions

- Library control
- Library & Customers decide
- Customers decide

"If you live by the numbers, you die by the numbers."[3]

Outcome tutorial, see http://www.shapingoutcomes.org

Challenges with Performance Measures

1. Lack of consensus about what should be measured and how
2. Lack of understanding of performance measurement and metrics
3. Organizational structural issues
4. Lack of precision in measuring performance, and
5. Alignment issues
6. Determining the "bottom line" is too far away
7. Majority of stakeholders are too far away
8. Library staff find it difficult to see the "big" picture

And the survey said? Two-thirds of managers who are responsible for approving library budgets – no idea of value of the library[4]

Lack of a Connection

- Budget and outputs (and outcomes) are separated
- No "bottom line" measure for libraries
- Decision-making process is bigger than the library
- Library has neither champions nor foes
- Library benefits are not widely self-evident

Mooers' Law – "An information retrieval systems will tend not to be used whenever it is more painful and troublesome for a customer to have information than for him not to have it."[5]

S. R. Ranganathan's Fourth Law of Library Science - "Save the time of the reader."[6]

Criteria for judging value of an information service[7]

Customer Criterion	***Value Added by the Service***
Ease of use	Browsing, formatting, mediation service, orientation service, ordering, physical accessibility
Noise reduction	Access (item identification, subject description, subject summary), linkage, precision, selectivity
Quality	Accuracy, comprehensiveness, currency, reliability, validity
Adaptability	Closeness to problem, flexibility, simplicity, stimulatory
Time savings	Response speed
Cost savings	Cost savings

Calls for accountability and transparency

Key Question – It is not how much an information resource and/or service is used, but rather what is the impact or benefit of the information service in the life of the library customer.

Key Insight - Value is determined from the perspective of the user.

Carol Tenopir and Don King[8]

1. Implicit measures that imply value, but do not directly measure value
2. Explicit measures that directly describe purchase or use values.

The nature of information is changing

Orr's Fundamental Questions

- How
- What
- How

Tools for Assessment - Evaluation

Levels of Assessment

- Individual student
- Course
- Departmental/Program
- College or University

Types of Measures

- Direct
  - Provide tangible, visible and self-explanatory evidence of what students have & have not learned
- Indirect
  - Capture students' perceptions of their knowledge & skills; supplement direct measures; sometimes called surrogates

Qualitative Tools

- Provides in-depth understanding of user responses and interactions
- Represents part of a long-term strategy of formative evaluative

Quantitative Tools

- Surveys
- Transaction logs
- Statistics from systems
- Observations (count)

Triangulation is important

Correlation does not equal causation - careful

Definitions of Value

Its own philosophical discipline – *axiology* or Value Theory

- A noun
    - Exchange for or equivalence
    - Monetary or material worth
    - Usefulness, utility
    - Principle, standard, or quality
    - Toll, cost or price
    - Darkness or lightness of color

- A verb
    - Estimate the worth of something (appraise)
    - Regard highly (esteem)
    - Assign a value to something

Other definitions depending on the field

Qualify other terms

Adam Smith

- Value-in-exchange
  The price paid is the accepted indicator of value

- Value-in-use or "utility theory"
  Benefits to the user define the value (of information)

    - *Normative value* – models to assess risk in decision making

    - *Realistic value* – before and after consequences of information on the performance of decision makers

    - *Perceived value* – Users can recognize (and articulate) the direct and intangible values of information

Individuals determine or attribute value

Definitions of Information

1. Information as subjective knowledge
2. Information as useful data
3. Information as a resource
4. Information as a commodity
5. Information as a constitutive force in society[9]

Information may, or may not, reduce uncertainty[10]

Quality of information

> This fast food approach to information consumption drives librarians crazy. "Our information is healthier and tastes better too" they shout. But nobody listens. We're too busy Googling."
>
> ~ Peter Morville

Convenience trumps everything!

Herb Simon Satisficing[11] Good enough

Different conceptions of information

- *Epistemic information* – within the context of human knowledge and understanding
- *Systemic information* – information as a part of transmission – Shannon-Weaver model of communication

Library services are:

- Nonexcludible - use by one individual does not reduce their availability (and potential value) to another
- Nonrival – individuals are not excluded form using the library

Key characteristics of information[12]

Uncertainty	Knowledge
Ambiguity	Indeterminacy
Redundancy	System dependency
Sharing	Timeliness
Compression	Presentation
Stability	Multiple life cycles
Leakability	Substitutability

Value of Information

Information needs an expected value-in-use to arouse the interest of the user.

Information in a library's collection represents a "*potential value*" until used.

The collection also represents a "*future value*" since it will be available for future generations of students, faculty, and researchers.

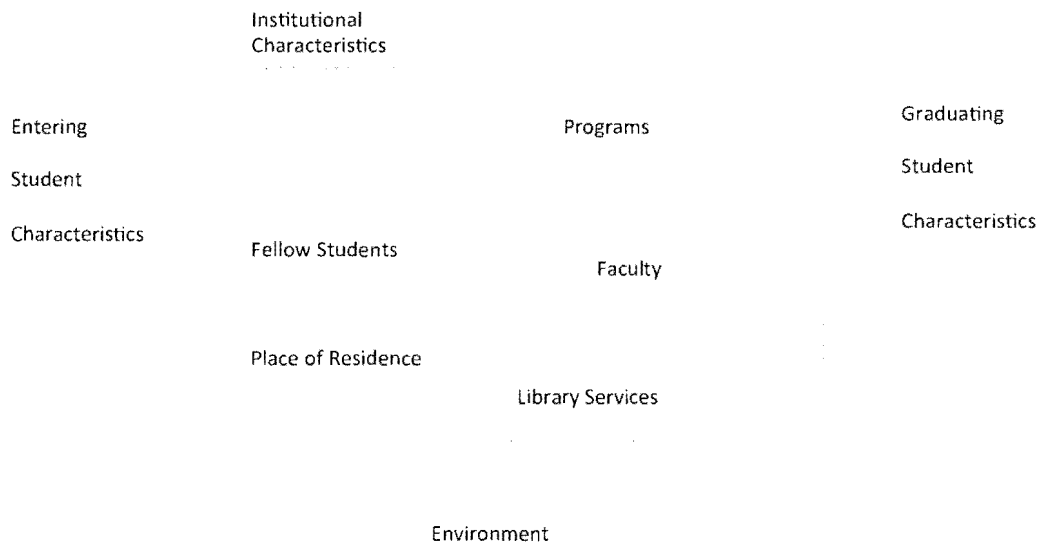
The value of the local collection is, however, declining each year (dramatically). Collections are being disrupted as we move from atoms (objects) to bits.

We are not talking about insurance value or replacement value.

Historically, information has been embedded in physical modes of delivery.[13]

- Reach
- Richness
    - Bandwidth
    - Degree of Customization
    - Amount of Interactivity

The Internet changes everything!



Astin's Input-Environment-Output Model[14]

Meta-analysis of 109 higher education studies showed that for:[15]

Entering student characteristics – Socioeconomic status (SES), high school GPA, and ACT/SAT are the best predictors of student success

Psychosocial and study skill factors – Academic goals, academic self-efficacy, and academic-related skills are the best predictors of college retention. In addition, social support and social engagement are good predictors of college retention. Financial support and institutional selectivity are correlated with retention.

Achievement motivation is the strongest predictor for GPA.

Intelligence

General Fluid Crvstallized

Inheritance x Accumulated Experience

General Reasoning

Verbal Quantitative Spatial

Example: Graduate Record Examination

Broad Abilities

Reasoning Critical Thinking Problem Solving
Decision Making Communicating

In Broad Domains
Disciplines - Humanities, Social Services, Sciences
And Responsibility – Personal, Social, Moral, and Civic

Example: Collegiate Learning Assessment

Knowledge, Understanding, and Reasoning

Direct Experience

In Major Fields and Professions (Business, Law, Medicine)

Example: ETS's Major Field Tests

Framework for Student Learning Outcomes[16]

Define, develop, and measure outcomes

that contribute to

institutional effectiveness

ACRL *Standards for Libraries in Higher Education*

Perspectives on Value

Value of a Library

Personal Perspective

Tefko Saracevic and Paul Kantor[17]

Impact categories

1. **Cognitive results**. Use of the library may have an impact in the mind of the user. "What was learned?"

2. **Affective results**. Use of the library may have an emotional impact on the user.

3. **Meeting expectations**. Users may be getting what they needed, sought, or expected; be getting too much; be getting nothing

4. **Accomplishments** in relation to tasks

5. **Time aspects**. Information provided by a library may lead to saving time

6. **Money aspects**. Using the library may result in saving money or generating new revenues.

Personal

Gates Foundation Generic Learning Outcomes

Knowledge & Understanding	**Skills**
• Knowing what or about something • Learning facts or information • Making sense of something • Deepening understanding • Making links & relationships between things	• Knowing how to do something • Being able to do new things • Intellectual skills • Information management skills • Social skills • Communication skills • Physical skills
Attitudes & Values	**Enjoyment, Inspiration, Creativity**
• Feelings • Perceptions • Self-esteem • Attitudes towards others • Increased capacity for tolerance • Empathy • Increased motivation • Attitudes towards an organization • Attitudes related to an experience	• Having fun • Being surprised • Innovative thoughts • Creativity • Exploration, experimentation and making • Being inspired
Activity, Behavior, Progression	
• What people do • What people intend to do • What people have done • Reported or observed actions • A change in the way people manage their lives	

Organizational Perspective

Student Learning is Affected by ... (NSSE)

- Full-time students
- Live on campus
- Interact more with faculty
- Study more
- Collaborate with their peers

Is the Academic Library Used?

- 50% never used the library [18]
- Use of libraries at small, academically challenging liberal arts colleges are correlated with other purposeful activities
- Library use less intensive at larger universities
- Students who work harder use library resources

Caution – Halo error[19]

Academically Adrift[20]

- Gains in student performance are quite low
- Individual learning is characterized by persistence
- Notable variation within and across institutions

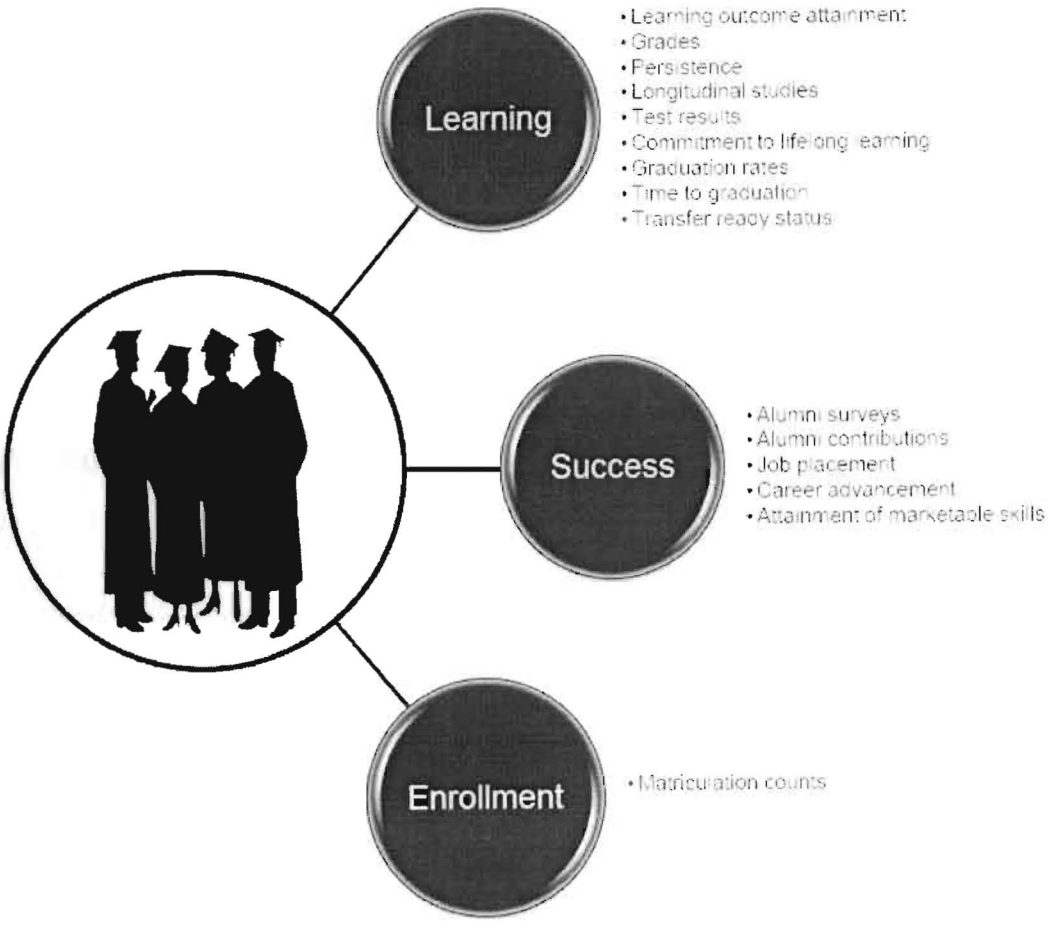
Wabash National Study[21]

Bibliographic Instruction

Information Literacy

Academic Organizational Value[22]

Student	*Faculty*	*University*
• Student enrollment • Student retention & graduation • Student success • Student achievement • Student learning • Student experience, attitude & perception of quality	• Faculty research productivity • Faculty grants • Faculty teaching	• Institutional reputation & prestige



Surrogates for Student Learning

Student Enrollment[23]

Student Learning

Meta-analysis

Student Learning occurs ...

Direct measures

- Capstone experience
- Use of a portfolio
- A standardized exam (e.g., the Collegiate Learning Assessment).

Indirect measures

- Grade point average
- Student retention rates
- Collegiate experience surveys - NSSE
- Success in graduate school exams
- Graduate student publications
- Fellowships
- Post-doctorates
- Time to first job
- Salary of first job
- And so forth

In England, the *Library Impact Data Project*[24]

8 Universities analyzing data from the last 6 years

- Visit library buildings
- Borrow materials
- Download eResources

Results of the Library Impact Data Project show

- A correlation between borrowing materials and downloading eResources and a student's grade point average.
- About half of all undergraduate students did not use ANY library service
- Largest group of library non-users are part-time and distance students
- Some library non-users achieve high GPAs
- Majority of library non-users did poorly – low GPAs

Remember: Correlation does not = Causality

See http://library.hud.ac.uk/blogs/projects/lidp/

See also, the JISC EBEAM Project – Evaluating the Benefits of Electronic Assessment Management http://library.hud.ac.uk/blogs/projects/ebeam/

See also, the JISC Copac Activity Data Project – Sharing and reusing HE library circulation activity data http://copac.ac.uk/innovations/activity-data/?tag=copacad