A Value-Added View of Information Systems & Services – the LIS Connection

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TECHNOLOGY IS THE ANSWER!





TECHNOLOGY IS THE ANSWER!



the question?

The User Perspective

- Needs
- Values

Values

- Mathematics the evaluation of a variable or function
- Personal and cultural that make-up our system of beliefs, ideas, or opinions

Economics - the worth of commodities

From Wikipedia, http://en.wikipedia.org/wiki/Values

Values

- Psychology: Value theory refers to the study of the way in which human beings develop, assert and believe in certain values, and act or fail to act on them.
- Sociology: Personal values which are popularly held by a community; how values might change under particular conditions.
- Economics: Value added refers to the additional value created at a particular stage of production or through image and marketing.

From Wikipedia, http://en.wikipedia.org/wiki/Values

Information Values

Information Systems

Information Values

Information Processes That Add Values

Class Agenda

- 1. Setting the Scene An Information Perspective
- 2. Information Systems
- 3. R.S. Taylor: The Value-Added Model
- 4. Applying the Value-Added Model

Information

- 1. Used "sloppily"
- 2. Broad term for anything related to the stuff or task of "informing"
- 3. Above "data" and below "knowledge"

Underlying the Value-Added Perspective

- 1. Information is ubiquitous.
- 2. There is a hierarchy of information the "information spectrum."
- 3. The purpose of an information system is to add value to better meet user needs.
- 4. We are constantly engaged in information problem-solving: encountering, solving, and resolving information problems.

The Information Spectrum



KNOWLEDGE

INFORMATION



21 27/32 15:59 27/32 23

1514500

22 11/16 21 3/ 4

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Time Last Sale	15:59	The second of	Exchange	NASDAQ
Net Change	27/32	in the	Previous Close	22 11/16
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Volume	1514500			

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Sep 15, 1999 @ 16:31

Last Sale	2
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Net Change	2
High	2
Volume	1

21 27/32 15:59 27/32 23 1514500 TickUpExchangeNASDAQPrevious Close22 11/16Low21 3/ 4

SBUX - STARBUCKS CORP Sep 15, 1999 @ 16:31

Last Sale	21
Time Last Sa	ale 1
Net Change	27
High	23
Volume	14

21 27/32 15:59 27/32 23 1514500 TickUpExchangeNASDAQPrevious Close22 11/16Low21 3/ 4



Trend Information



Information and Knowledge

•[external] Scientists trying for coffee bean without the buzz - *at CBS MarketWatch* - 9:19 pm

Wednesday September 8, 1999

•[\$\$ - free trial] Japan's April-June GDP Up 0.2% vs. Prior Quarter; After-Hours Trading

<u>Update</u> - *at TheStreet.com* - 8:57 pm

•[external] Timor can develop economic potential - at CBS MarketWatch - 5:05 pm

•East Timor Could Turn to Prosperity - AP Business - 2:53 pm

•<u>From Homer Simpson's Diary to a Prisoner-Turned-Poet: Joe 2 Reveals the Inner Lives of</u> <u>Great Writers</u> - <u>Business Wire</u> - 9:02 am

Wednesday September 1, 1999

•<u>RESEARCH ALERT - EdwardJones starts Starbucks</u> - <u>Reuters Securities</u> - 4:12 pm Monday August 30, 1999

•<u>OPTIONS - Starbucks volume builds, volumes firm</u> - <u>*Reuters Securities*</u> - 4:53 pm Friday August 27, 1999

•[external] Starbucks Reports 8% Rise in August Same-Store Sales - *at The Motley Fool* - 9:03 am

•••••

Information and Knowledge

News to Go

Interventional and implantable medical devices maker **Medtronic** (NYSE: MDT) announced that it will get into a new line of business by acquiring ear, nose, and throat surgical products maker **Xomed Surgical Products** (Nasdaq: XOMD) for \$800 million in stock, or \$60 per share. Toy retailer **Toys** "**R**" **Us** (NYSE: TOY) said CEO Robert Nakasone has decided to resign his position due to "differing views regarding the direction of the company." Current chairman and former CEO Michael Goldstein will step into Nakasone's shoes until a replacement is found. Quicken and TurboTax developer **Intuit** (Nasdaq: INTU) reported a pro forma loss of \$0.26 per share for the fourth fiscal quarter, which beat the First Call mean estimate for a loss of \$0.33 per share in the period. Net revenues jumped 28% in the period to \$150 million. **Coffee retailer Starbucks Corp.** (Nasdaq: SBUX) posted an 8% increase in August same-store sales compared to a year ago. Total sales during the month rose 25% to \$135 million.

> BREAKFAST WITH THE FOOL Friday, August 27, 1999 "Failure is success if we learn from it." -- Malcolm Forbes Autodesk Earnings Broken Record By Brian Graney (TMF, Panic), 2007













SBUX - Starbucks Aug 2, 2002

Last Sale Time of Last Sale NASDAQ Net Change High Volume

18.81 4:00 -0.03 19.49 4,202,545

Previous Close18.84Low18.478



The Information Spectrum



KNOWLEDGE

INFORMATION



The Value-Added Approach

- R.S. Taylor
- Value-Added Processes in Information Systems
- Ablex, 1986

You should be able to ===>

- 1. Identify an information system
- 2. Describe it from a systems (I-P-O) perspective
- 3. Describe it from a user perspective
- 4. State how it meets the values-added definition of an information system
- **5.** Analyze the system in terms of:
 - user criteria
 - related values added
 - related value-added processes

Taylor: Essentially what is being asked:

(a) What do users want from information systems that would enable them to perform better, however "better performance" is defined in their context?

(b) Upon what basis do users make choices when presented with large amounts of potentially relevant information?

(Taylor p. 55)

Information Systems

- Storage
- Search
- Retrieval
- Processing
- Sharing
- Communication

- Accounting systems
- Environmental monitoring systems
- Geographic information systems
- Inventory control systems
- Libraries
- Blogs
- Voice/data/image transmissions systems
- •

- •

Traditional Views of Information Systems

User \rightarrow Interface \rightarrow System

Input \rightarrow Processes \rightarrow Output

User Views of Information Systems

- The user is the focal point of the system
- The user is part of the information system
- There is constant feedback and interaction of the system processes and the user

The Value-Added User View of Information Systems

 The purpose of an information system is to meet the needs of its users

The system does so by adding value to information

The Value-Added Model

- User criteria of choice
- Interface values-added
- System value-added processes

Taylor's Value-Added Model

USER CRITERIA

OF CHOICE	INTERFACE (Values Added)	SYSTEM (Value-added processes)	
Ease of Use	Browsing	Alphabetizing	
	Formatting	Highlighting important terms	
	Interfacing I (Mediation)		
	Interfacing II (Orientation)		
	Ordering		
	Physical Accessibility		
Noise Reduction	Access I (Item identification)	Indexing	
	Access II (Subject description)	Vocabulary control	
	Access III (Subject summary)	Filtering	
	Linkage		
	Precision		
	Selectivity		

Taylor's Value-Added Model

USER CRITERIA

OF CHOICE	INTERFACE (Values Added)	SYSTEM (Value-added processes)
Quality	Accuracy	Quality control
	Comprehensiveness	Editing
	Currency	Updating
	Reliability	Analyzing and comparing data
	Validity	
Adaptability	Closeness to problem	Provision of data manipulation capabilities
	Flexibility	Ranking output for relevance
	Simplicity	
	Stimulatory	
Time-Saving	Response Speed	Reduction of processing time
Cost-Saving	Cost-saving	Lower connect-time price

Taylor User Criteria of Choice

- Ease of Use
- Noise Reduction
- Quality

Adaptability
Time Saving
Cost Saving

Which is most important?

Schamber Relevance

- topical
- useful
- reliable
- timely/current
- accurate
- comprehensive

understandable
precise/specific
accessible
aesthetically pleasing

interactive

Eisenberg Info Seeking Strategies Criteria (K-12)

- on the topic
- reliable/authoritative
- accurate
- precise
- complete

easy to use
available
current
affordable
fun

Information Values

Taylor	Schamber	Eisenberg
Ease of Use	Accessible	Easy to use
	Understandable	Available
Noise Reduction	Precise/specific	Precise
		a se
Quality	Accurate	Accurate
0.00	Comprehensive	Complete
1 - 20 0 1	Reliable	Reliable/authoritative
	Timely/current	Current
	Topical	On the topic (valid)
	Useful	
Adaptability	Interactive	
Time Saving		
Cost Saving		Affordable
	Aesthetically pleasing	Fun

Exercise: Sample Information Situations

- 1. Common information situations
- 2. In each, think about what is going on in terms of information?
- 3. Consider each one carefully
 - Criteria
 - Values Added
 - Value-added Processes

#1 – Cell Phones



















#1 – Cell Phones





Value Added Analysis

1 Co

User Criteria	Values Added	Processes
Ease of Use	E-AR ALEGE	
Noise Reduction		
Quality		
Adaptability		
Time Saving	5 . 1°	
Cost Saving		
Entertaining		

#1 - The Auto Dashboard







Value Added Analysis

1 Co

User Criteria	Values Added	Processes
Ease of Use	E-AR ALEGE	
Noise Reduction		
Quality		
Adaptability		
Time Saving	5 . 1°	
Cost Saving		
Entertaining		

#2 - Online Education



Value Added Analysis

1 Co

User Criteria	Values Added	Processes
Ease of Use	E-AR ALEGE	
Noise Reduction		
Quality 0.0		
Adaptability		
Time Saving	5 . 1°	
Cost Saving		
Entertaining		

#3 – Integrated Library System





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Starting points for research in most subjects

- Expanded Academic ASAP UW Restricted
- Scholarly and general interest sources in humanities, social sciences, and science and technology.
- ProQuest Databases UW Restricted
- Scholarly and general interest sources in business, news, medicine, humanities, social sciences, and science and technology. Web of Science UW Restricted
- Science, social sciences, and arts and humanities citation indexes.

Starting points for research by subject

- Aeronautics & Astronautics
- African Studies
- American Ethnic Studies
- American Indian Studies
- Anthropology
- Archaeology
- Architecture & Urban Planning Art
- Astronomy
- Atmospheric Sciences Bioengineering
- Biology

- East Asia (general)
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Value Added Analysis

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User Criteria	Values Added	Processes
Ease of Use	the second	
Noise Reduction		
Quality		
Adaptability		
Time Saving	· . / .	
Cost Saving		
Entertaining		

Value-Added and the Nature of LIS

- Information and Reference Services
- Resources and Collections
- Organization of Information
- Information Policy society, making a difference
- Information Systems Design, Development, and Implementation

- Children's Services
- Education Information Literacy Instruction
- Management of Libraries and Information Services
- Research in Library and Information Science

Value-added and LIS

- The purpose of an information system is to meet the needs of its users.
- The purpose of a library is to meet the information needs of its users?

 How can libraries add value to information in order to better meet the needs of users?

Summary

- 1. Remember, it's an information-rich world!
- 2. Information scientists view the world from an information perspective with people using information at the center.
- 3. The information perspective includes
 - The ubiquity of information
 - The changing nature of information (attributes and behaviors)
 - The Information spectrum
 - Information problem-solving
 - Adding value to meet users needs.

Summary

The Value Added Model provides a framework for:

- Analyzing user needs
- Determining values to add that will meet those needs
- Applying system processes that add the desired values.

Want to -

- Help people?
- Improve society?
- Make money?
- Determine
 - User needs/criteria
 - Values to add
 - Processes to add value

Thanks for listening!

