

Co-evolution of Research and Practice: The BLS and FedStats Case

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Marchionini, Levi, & Haas

Context

- 1996 - Present: Collaboration of information science researchers and Bureau of Labor Statistics / FedStats personnel
 - Marchionini & Hert
 - Haas
 - Shneiderman & Liddy

Purpose

- Understand how people seek and use statistics
- Assist Federal agencies to better serve constituents
- Develop effective user interfaces

Tools

- Interviews
- Focus groups
- Analysis of e-mail
- Transaction logs
- End-user testing

Deliverables

- User task and type taxonomy
- Methodologies for assessing user behavior
- Relation Browser
- Linguistic mappings
- Table browser

Research Benefits

- User-task taxonomy for statistical information seeking
- Transaction log methods
- Interface designs and usability tests
 - Relation Browser
 - Table Browser
- Vocabulary mappings

More Benefits

- Dynamic queries
- Statistics, tables as distinct information medium
- “Story behind the number”
 - Data flow models (databases to metadata with XML to client interface)

Observation of Agency Evolution

- User-oriented culture
 - Vocabulary
 - Email services
- Quality control (timely releases)
- Websites as infrastructure rather than add-on
- New partnerships within government agencies and universities

Learning about Reality

- Multiple stakeholders, role of policy and politics
- Technical limitations
- Lab vs production
- Maintenance
- Adoption and change

Government Benefits: Products

- Reports with recommendations & specifications
 - User task analysis
 - User type taxonomy
 - Specific website design recommendations
 - Vocabulary cross-walk

Government Benefits: Political Tool

- Leverage research results in marketing changes to higher levels of management

Government Benefits: HCI Education

- Deeper understanding of HCI
- Implicit & explicit examples
- Wider audience within BLS

Government Benefits: Inspiration

- Stimulate new ideas
 - Often not related to specific topic of conversation
- Create space for imagination
- Encourage creative risk-taking

Tensions: Focus

- Researchers with a specific interest and mandate
- Federal staff for whom this area is only one of many competing demands

Tensions: Timing

- Researchers want their insights to bear visible fruit
- Federal staff working within a slow-moving culture

Tensions: Working Systems

- Researchers built prototypes, want to see their labor put to good use
- Federal staff want ideas but not code

To be Successful: Structure

- Need the right organizational structure
- BLS actually sub-optimal for this, but collaboration worked despite that

To be Successful: People

- Need the right people in place

Conclusions

- Create partnerships based on shared interests
- Clearly state goals
- Hold regular meetings
- Align individual goals with products and outcomes
- Secure sufficient budget and time