Organizational Usability of Cutting-Edge IT Solutions

Alok Gupta

Dept. of IDSC, CSOM
What’s Organizational Usability

- Not an antonym for Unusable Technology
- Instead, technology with following characteristics:
  - Creating Benefits Beyond Expectation
  - Acceptance not even an issue
  - Learning in natural environments/circumstances
    - With minimal effort

*In these tough economic climates only the solutions that are usable survive* – Anonymous Executive
In the last 2 years, IT initiatives
- Are business process driven
  - Internal digitization of traditional processes
  - Back office solutions
  - Component oriented
  - B2B or B2G
    - Constraint driven
- Any significant changes in traditional business processes leads to unacceptability
A Value Framework

Value Matrix

Process Change

<table>
<thead>
<tr>
<th>Marginal Benefits</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Most Preferred</td>
<td>Highly Usable</td>
</tr>
<tr>
<td>Low</td>
<td>Usable</td>
<td>May be</td>
</tr>
</tbody>
</table>

- **Low Marginal Benefits, Low Process Change**: Usable
- **Low Marginal Benefits, High Process Change**: May be
- **High Marginal Benefits, Low Process Change**: Highly Usable
- **High Marginal Benefits, High Process Change**: Questionable Usability

- May be Usable
- Most Preferred
- Highly Usable
- Questionable Usability
An Example

"Can we use digital signatures for deal making process?"

- Document management in the long run
Case: Digital Signatures

Deal Making Process

Location dependent Communications. Primarily Fax based approval for distant communications

External Organization

Emails, Voice for discussion. Faxes for signed documents

External Project Team

Analyst

Legal Representative

Principal Contact

Upper Management

Internal Project Team
Case: Digital Signatures

Challenges

- Digital signatures are transactions oriented (one time use)
- Previous signature invalidated, if
  - Another person signs the document
    - Solution → Sign packages
  - Document repository with versioning is used
    - Solution → don’t use versioning
  - Different versions of “Microsoft Word” is used to save the file
    - Solution → Just sign don’t save
Proposed Solution

- IT representative creates a document flow diagram
  - Jim → John → Stacy → Mark → ...
  - Stacy can sign the file only after John signs it
  - If Mark changes the document, the process starts again from Jim
- Responsibility for highlighting changes on the individual making the change
- Accidental invalidation of signatures a problem
Case: Digital Signatures

Value Matrix

Process Change

Marginal Benefits

Low  High

High

Low

Digital Signature & Deal Making
Changing the Value Proposition

Case: Digital Signatures

- **Document Server**
  - Actions
    - Request for Approval
    - Signature Received with no Modifications
    - Signature Received with Modification to X’s changes
    - Signature Received with Modifications but not to X’s part

- **Team Member X**
  - Send Email
  - Send Email with parsed changes
  - Signatures are not invalidated unless explicitly desired by X

- **Record Signature**
  - Create and store document “diff”
  - Identify the “critical” individuals
  - Mark and store modified and unmodified documents

- **Send Email**
  - Invalidate X’s signature
  - Send Email with parsed changes
  - Reissue request for signature

**Document Server** to **Team Member X**
- Send Email

**Team Member X** to **Document Server**
- Send Email with parsed changes
- Signatures are not invalidated unless explicitly desired by X

**Document Server** to **Record Signature**
- Create and store document “diff”
- Identify the “critical” individuals
- Mark and store modified and unmodified documents
Observations

- Current tools and technology can only partially support document management and deal making application
- New concepts are needed
  - Partial document ownership
  - Soft signatures (initials)
  - Hard signatures
  - Context sensitive diffs
  - *Company and vendors are working on implementing these!*
Realizations & Generalizations

- Value Shift occurs with new\
  Fundamental Development and Vendor Cooperation

- Anticipating Role of New Technology from Process Perspective Leads to
  - Innovative applications and vendor cooperation
  - Quicker organizational acceptance