Models of E-government

PAD 6710: Lecture 1

Theoretical approaches

- Technological determinism
  - When a technology appears, it creates change and will be adopted
  - Technology for technology’s sake

- Reinforcement theory
  - Technology implemented if it fits managers’ worldviews of org. change

- Socio-technical theory
  - Technological adoption influenced by factors external to organization
Theoretical approaches

- Marshall McLuhan’s approach \([\textit{The Global Village (1964)}]\)
  - Control of the means of communication technology is the dominant force for social change – a counter-argument to Karl Marx’s assertion that control of the means of production was the driver for social change.

- Hiltz and Turoff’s approach \([\textit{The Network Nation (1978)}]\)
  - Revolution in IT systems could lead to decentralization and democratization.
  - Socio-organizational change would be forced by the advance of technology.

---

Theoretical approaches

- Alvin Toffler’s \textit{The Electronic Cottage}
  - \textit{Future Shock}, 1970
    - Too much change in too short a period of time
  - \textit{The Third Wave}, 1980
    - Social change proceeds by “waves”: agricultural era; Industrial Era; Electronic Age.
    - Third Wave Characteristics
      - Work is separated from location.
      - Resources are replicable rather than finite.
      - Management is decentralized.

- Manuel Castell’s \textit{The Network Society}
  - Interaction between the information capitalism of TNCs grassroots social movements
  - \textit{Mobile Communication and Society (2007 book)}
Theoretical Approaches

- World Foundation for Smart Communities approach ([Smart Communities (1997)])
  - Local governments assume a greater, more interactive role for citizens' well-being.
  - The term community is meant to focus on regional change rather than national change.

- Thomas Horan’s approach (Digital Places, 2000)
  - Three levels of digital spaces:
    - Unplugged designs – very low end technology
    - Adaptive designs – medium level technology
    - Transformative designs – high end technology

Theoretical approaches

- Jane Fountain’s approach (Building the Virtual State)
  - Institutional changes required for cross-agency integration.
  - E.g. FirstGov.gov; grants.gov

- Thomas Friedman’s approach (World is Flat, 2005)
  - IT and globalization are leveling the playing field in terms of competition
  - Forces: 11/9/89 (Fall of Berlin wall); 8/9/95 (Release of Netscape browser); Work flow softwares; Open source software; Outsourcing; Offshoring; Supply chaining; In-sourcing; In-forming; Steroids
What is e-government?

- Electronic government refers to government’s use of technology, particularly **web-based Internet applications** to enhance the access to and delivery of government information and service to citizens, business partners, employees, other agencies, and government entities.
- Strategic use of **ICTs** to deliver government services
- Online delivery of public services

What is IT?

- Various terminologies:
  - IT = Information Technology
  - ICT = Information and Communication Technology
- IT components:
  - Hardware: The basic equipment
    - Computers; infrastructure
    - Other hardware (e.g. RFIDs)
  - Software: Algorithms and logic
    - Operating systems; application/ development programs; databases
- Networking is at the core
  - Internet: server/ clients
  - Wireless networking (mobile government)
E-government motivations

- Re-engineering bureaucracy
  - New Public Management: citizens as customers
  - Clinton Gore initiative, 1993: Information superhighway
  - Efficiency
- Legal mandates
  - Clinger Cohen Act, 1996
  - Government Paperwork Elimination Act, 1998
  - E-Government Act, 2002

E-gov models: Layne & Lee

Models are mostly web based.
### Existing models of e-govt

<table>
<thead>
<tr>
<th></th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
<th>Step 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ronaghan (2001)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hiller and Belanger (2001)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wescott (2001)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN (2003)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gartner (Portal)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Government websites

- **Web presence/content management**
  - Information provision
- **Web interaction**
  - Response driven
- **Web transaction**
  - E-payments, billing
- **Web transformation**
  - Organizational change
- **E-democracy**
  - Deliberative governance
Extensions of Existing models

- United Nations
  - E-government to Connected Governance
  - System-orientation to chain-orientation
    - Structure, functioning, skills, and capabilities
  - Steps
    - Intra-Government Process Re-engineering
    - Inter-Government Process Re-engineering
    - Re-engineer legacy technology, processes, skills and mindsets

![Diagram showing progression from Traditional Government to Connected Government](diagram.png)

Connected governance

- ICT-enabled connected governance contributes to:
  - Internally
    - Avoidance of duplication
    - Reducing transaction costs
    - Simplifying bureaucratic procedures
    - Greater efficiency
    - Greater coordination and communication
    - Enhanced transparency
    - Information sharing between agencies
    - Security of information management

- Externally
  - Faster service delivery
  - Greater efficacy
  - Increased flexibility of service use
  - Innovation in service delivery
  - Greater participation
  - Greater citizen empowerment
  - Citizen participation
Extensions of Existing models

<table>
<thead>
<tr>
<th>Metaphors</th>
<th>Descriptions</th>
<th>Stages/concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presenting</td>
<td>Present information in the information space</td>
<td>Information</td>
</tr>
<tr>
<td>Assimilating</td>
<td>Assimilates (or replicates) processes and services in the information space</td>
<td>Interaction, Integration</td>
</tr>
<tr>
<td>Reforming</td>
<td>Reform the processes and services in the real world to match the information space requirements, fitting for efficiency.</td>
<td>Transaction, Streamlining</td>
</tr>
<tr>
<td>Morphing</td>
<td>Change the shape and scope of processes and services in the information space as well as the ones in the real world, fitting for effectiveness</td>
<td>Participation, Transformation</td>
</tr>
<tr>
<td>e-Governance</td>
<td>Processes and service in both worlds are synchronously managed, reflecting citizens-involved changes with reconfigurable processes and services</td>
<td>Involvement, Process management</td>
</tr>
</tbody>
</table>

Extensions of Existing models
Criticisms of Existing Models

- Basic levels of ICT adoption in e-government (content; interaction)

- First level criticisms
  - Technological determinism
  - Linear models: Progressive, In steps
  - Low levels of IT adoption
  - Intellectual property rights
  - Data and information

---

Criticisms of existing models

- Second level criticisms
  - Institutional barriers (Fountain, 2002)
  - Financial barriers; Lack of justification for ROI
  - Organizational (Lack of IT staff)
  - Legal (convenience fees; privacy; security; )
  - Lack of demand
  - Technology barriers (interoperability; lack of standards)
Criticisms of models

Govt. Tech. Applications

- G2C applications
  - Information Dissemination
    - Static/ dynamic web pages; documents; data
  - Citizen Services provision
    - Building permits; Electronic Toll collection
  - Direct democracy
    - Communications with officials; Customer Relationship Management
- G2B applications
  - E-procurements
  - Business services provision (e.g. licenses)
- G2G applications
  - Human resource management
  - Payments and Accounting
  - Data Mining
## Public vs Pvt. Tech Applications

<table>
<thead>
<tr>
<th>PUBLIC</th>
<th>PRIVATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monopolistic – cannot exclude</td>
<td>Competitive – business models</td>
</tr>
<tr>
<td>Captive clientele</td>
<td>Fluid clientele</td>
</tr>
<tr>
<td>Assigned funding—limited cost recovery</td>
<td>Raise funding—bottomlines</td>
</tr>
<tr>
<td>Permanent [record keeping; archiving]</td>
<td>Opportunistic</td>
</tr>
<tr>
<td>Service, information, compliance</td>
<td>Value added Product; JIT crucial</td>
</tr>
</tbody>
</table>

**COMMONALITIES**
- Disintermediation
- Information security
- Enterprise wide standardization