International Information Technology

Through the lens of an IT Specialist
Summary & Conclusions

Fall 1999 - IB 8710
K. D. Loch
SUMMARY

- Analyzed the drivers that influence IT infrastructure globally
  - new business models ==> business strategy

- Related Hofstede's & Hall’s cultural characteristics to the development of systems internationally and to the management of systems professional abroad

- Evaluated the IT infrastructure status by regions of the world
The Three Pillars of International IT:
Strategy, Culture & National Development
## International Business
### Orientations & Configurations

<table>
<thead>
<tr>
<th>ORIENTATION</th>
<th>STRATEGIC FOCUS</th>
<th>FIRM CONFIGURATION &amp; Systems</th>
<th>IT CONFIGURATION &amp; Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLOBAL</td>
<td>Cost advantages</td>
<td>Centralized databases, processes driven by HQ</td>
<td>Centralized operations -</td>
</tr>
<tr>
<td>MULTINATIONAL</td>
<td>Strong national bases, Local autonomy</td>
<td>Decentralized assets, national self-sufficient</td>
<td>Decentralized &amp; IT operations</td>
</tr>
<tr>
<td>INTERNATIONAL (coordinated federation)</td>
<td>Worldwide diffusion + ParentCo Adaption</td>
<td>Linked databases with some application sharing -- based on core competencies</td>
<td>Some joint development; formalization &amp; standards established</td>
</tr>
<tr>
<td>TRANSNATIONAL (integrated network)</td>
<td>Global efficiency + Flexibility, Learning</td>
<td>Integrated arch; shared databases &amp; global processes</td>
<td>Centers for global applications;</td>
</tr>
</tbody>
</table>

## Business Pressures & IT Management Responses

<table>
<thead>
<tr>
<th>International Business Orientation</th>
<th>Global</th>
<th>Transnational</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Centralized IT Management</td>
<td>* Federated IT management</td>
<td></td>
</tr>
<tr>
<td>* High Infrastructure Capability</td>
<td>* Selective Strategic Infrastructure Capability</td>
<td></td>
</tr>
<tr>
<td>International</td>
<td>International</td>
<td>Multinational</td>
</tr>
<tr>
<td>* Selective Dispersed IT Management</td>
<td>* Decentralized IT Management</td>
<td></td>
</tr>
<tr>
<td>* Limited Infrastructure Capability</td>
<td>* Minimal Infrastructure Capability</td>
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</table>

**Local Responsiveness**

- High

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Vitalari & Wetherbe, 1996  
Broadbent, 1997
Business Pressures & IT Management Responses

Vitalari & Wetherbe, 1996
Broadbent, 1997
Reflection

- Why are companies globalizing their IS functions?
- What does it mean to “globalize the IS function?”
Hmmm...  

- Business shift AWAY from geographic, national focus ==> integrated, network structure.
  
  *TRANSNATIONAL*

- The IS function must support global processes vs. regional and local
Hmmm......implications?

- Demands of a new global consumer
- Demands of a new global business customer
- Demands of global sourcing
- Demands of global product R&D
Characteristics of an integrated network

- common global architecture
- powerful telecommunication backbone
- uniform global systems with flexible modules
- centers for global application development with responsibility for systems worldwide
- culture of shared management
- culture of shared application building
- culture of shared innovation
What is Culture?

- Hofstede’s dimensions
  - revering hierarchy
  - individualism / collectivism
  - taking care of business
  - risk avoidance
  - long term orientation
What is Culture?

- Hall’s dimensions
  - space
  - material goods
  - friendship
  - time
  - agreement
What is **National Development**?

- Who are the players?
- What’s the action?
### Dimensions of Institutional Intervention

<table>
<thead>
<tr>
<th>Influence</th>
<th>Supply Push</th>
<th>Demand Pull</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Knowledge Building</td>
<td>- Mobilization</td>
</tr>
<tr>
<td></td>
<td>- Knowledge Deployment</td>
<td>- Subsidy</td>
</tr>
<tr>
<td>Regulation</td>
<td>- Innovation directive</td>
<td>- Standards</td>
</tr>
<tr>
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</tbody>
</table>

Gurbaxani et al., *Proceedings of ICIS*, 1990, pp 87-98
### Dynamics of IT Policy

<table>
<thead>
<tr>
<th>Strong Supply of resources needed to acquire new technology to supply new services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weak Supply of resources needed to acquire new technology to supply new services</td>
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</table>

| | Demand for new services stemming from rapid economic development and globalization |
|-------------------------------|
| Low |
| High |

<table>
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<tr>
<th>I: MONOPOLY</th>
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<tbody>
<tr>
<td>MARKETS: protected</td>
</tr>
<tr>
<td>SERVICES: basic</td>
</tr>
<tr>
<td>STRUCTURE: functional</td>
</tr>
<tr>
<td>RESOURCES: revenues</td>
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</tbody>
</table>

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<th>II: LEARNING</th>
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<tr>
<td>MARKETS: sheltered</td>
</tr>
<tr>
<td>SERVICES: value-added</td>
</tr>
<tr>
<td>STRUCTURE: technologies</td>
</tr>
<tr>
<td>RESOURCES: alliances</td>
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</tbody>
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<th>III: COOPERATIVE</th>
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<td>MARKETS: open</td>
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<td>SERVICES: value-added</td>
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<td>STRUCTURE: customers</td>
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<td>RESOURCES: capital markets</td>
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<th>IV: COMPETITIVE</th>
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IT in Regions of the World - Application
Objectives

- To synthesize attractiveness of regions of particular countries
- To extend our knowledge domain of IT in regions of the world
Regions & Countries Assessed

- Europe
  - United Kingdom
  - Germany
  - France
  - Spain
  - Portugal
  - Belgium
  - Netherlands
  - Italy

- Eastern Europe / CIS
  - Russia
  - Czech Republic
  - Poland
  - Romania
Regions & Countries Assessed

- Latin America
  - Brazil
  - Mexico
  - Venezuela

- Africa
  - Israel
  - Nigeria
  - South Africa
  - Morocco

- Pacific Rim
  - New Zealand
  - Australia
  - Japan

- South Asia
  - India
  - Taiwan
  - China
  - Singapore
Model of Global IT Environment

Focus of IT Adoption

- Infrastructure Issues
- Operational Issues
- Mgt & Control Issues
- Strategic Issues

Level of Economic Growth

- Underdeveloped Countries
- Developing Countries
- Newly Industrialized Countries
- Advanced Countries

Key Issues in Information Systems Management

- ADVANCED (US, Western Europe, Australia, Japan)
  - Info architecture
  - Data resource
  - Strategic planning
  - IS human resource
  - Org learning

- NIC (Taiwan, Hong Kong, Ireland, South Korea, Singapore)
  - Comm users/IS
  - Top mgt support
  - IS strategic plan
  - Competitive Adv
  - Goal alignment
Key Issues in Information Systems Management

DEVELOPING (Argentina, Brazil, India, Mexico)
- Understand & aware of MIS contribution
- HR/Personnel for MIS
- Quality of data

UNDERDEVELOPED (Kenya, Zimbabwe, Haiti, Jordan, Iraq)
- Obsolescence of
  - hardware
  - software
- Availability of skilled labor
Reoccurring Themes

- Business strategy and IT alignment
- Privatization
- Deregulation
- Telecommunication Backbone
- Complexity
- OTHERS???????
Semester Reflection

- Challenge you to
  - READ
  - REFLECT
  - ANALYZE
  - SYNTHESIZE
  - COMPARE & CONTRAST

- Learn your geography!
Semester Reflection

- Readings -- theory and foundation
- Cases -- marry theory and real life
- Exams -- analysis, synthesis, comparison & contrast
- Guest speakers: the REALITY CHECK
- Projects
One must learn by doing the thing; though you think you know it, you have no certainty until you try.”

-- Publilius Syrus, *Moral Sayings*
Now onto the fun stuff !!!