IS/IT Functional Specialty – Role, Structure, Capabilities
To consider the continuing change occurring in the role, structure and capabilities of the IS/IT functional specialty in firms.
Why IS/IT Structure?

> It’s Changeable
> IS/IT “Related” Resources Are Large and Growing
  • 1-10% of revenue
  • Majority of capital expenditures
> Importance to Competitiveness
  • Efficiency (bottom line)
  • Innovation (top line)
  • Improved decision making (business intelligence)
7 S Factors Affecting Firm Performance

- Strategy
- Structure
- Systems
- Staffing
- Skills
- Style
- Shared Values
Functions are a Result of Specialization

- Adam Smith – Efficiency
  - Pin factory (20 fold)
  - Process design and resource assignment
- Al Sloan GM in the 20’s – M Form Organization
- Specialization Creates a Need for Coordination
Functional Specialties – Value Chain

> Primary Activities
  > Inbound & outbound logistics
  > Operations
  > Marketing & sales
  > After-sale service

> Support Activities
  > Human Resources
  > Technology development
  > Procurement
  > Infrastructure
IS/IT – A “New” Specialty

- 1950 – 60 Data Processing
- 1970 – 80 Add Management Information
- 1980 – 90 Add Information Technology
- 1990 – 00 Add Enterprise Information
- 2000 – 10 Add Process Globalization
- 2010 – 20 ?
Current Indicators of Change

- Travelers Insurance – CIO is also Chief Innovation Officer
- Cargill – Tartan Project Creates a New Team
- General Mills – Standardize Data
- Medtronic – Organize to Emphasize Innovation
- United Health Group – Two IS/IT Innovation Units
- Others?
Empirical Evidence of Change

- Adams, Larson and Xia – Centralization of technology and applications
- Latest Work with Eric Larson – Centralization, Standardization, and Less Specialization
- Luftman Survey – From Federal to Central
- Gartner - Centralized
What Relates to Structure?

- In the 60’s Alfred Chandler (Harvard) observed that strategy and structure go together.

- Detour – Consider strategy
Explain why some organizations operating in similar conditions perform differently.
Decision Focus in Strategy

> Scope – Territory of Operations

> Competencies – Basis of Competitive Advantage

> Governance – Decision Rights

Parallels with IS/IT Strategy
Alternative Views of Strategy

> Plan – Step1; if _____ , then Step 2 ; etc.

> Ploy – “fake “ plan

> Position – role, resources/capabilities, structure

> Perspective – comprehensive, long-term

> Pattern – post hoc observation
Organization Levels in Strategy

- Corporate – Mix of Business Units
- Business Unit – Basis of Advantage in an Industry
- Function – Alignment (Corporate? Business Unit?)
Alignment

> Function to Business

> Operations (internal) to Strategic (external)

> Three Dimensions – Scope, Competencies and Governance
## Position (Strategy) of IS/IT Function

- **Role (Scope)**
- **Resources /Capabilities (Competencies)**
- **Structure (Governance)**

> Choosing a strategy for IS/IT means establishing the role, capabilities and structure of the functional group.
Role?

> The expectation of the broader organization regarding the functional specialty.

- Effective, reliable, secure, cheap operations
- Involvement in process improvement
- Involvement in product/service innovation
- Authority in standardization of technology. Of Data.
Resources/Capabilities?

- Adams/Xia – Business W/I a Business
  - innovate, operate, market, manage, adapt
- Weill & Broadbent
  - communication, messaging, standardization, security, operations, advice & support
Structure?

- Configuration (relationships/network)
- Centralization
- Formalization
- Standardization
- Specialization

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- Flexibility (Adaptability) - Stigler; Quality Literature - (variation) - common cause/ specific cause
Specific Configurations

Agarwal and Sambamurthy – Relationships

> Partner – innovation (IS/IT = B.U.)
> Platform – infrastructure (IS/IT supports B.U.)
> Scalable – flexible (IS/IT supports via vendors)
Specific Configurations

Weill and Ross
  > Business Monarchy
  > IT Monarchy
  > Feudal
  > Federal
  > IT duopoly
  > Anarchy
Specific Configurations

Gartner

> Heritage (efficient, reliable)
> Aligned (supportive)
> Engaged (agile, business value driven)
> Pervasive (transformational)

> Community (business unit owned/cloud)
Reprise- Why Focus on Structure?

> It’s changeable

> It’s changing

> Affected by the Environment
  > Demands for integration, innovation, and intelligence
  > Uncertainty, volatility, pace
  > Desire to imitate the larger Unit structure
Major Forces

> Demand for *Integration*

> Demand for *Innovation*

> Demand for *Intelligence* (Analytics)

> Desire to *Imitate* larger unit structure

> Environmental Uncertainty, Volatility, and Pace
Demand for Integration

> Top Line – Customer Relationship

> Bottom Line – Supply Chain

> Regulation – SOX, EPA, FDA

> Knowledge Management- Sharing (Roberto 10/14)

> Economies of Scale/Scope (diversification)
Effects on Structure of Demand for Integration

> Configuration Change (CIO Rank)
> More Centralization
> More Standardization
> Less Specialization

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Less (?) Formalization

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> Centralizing Affect of IS/IT’s Position as a Coordinating Mechanism
Demand for Innovation

- More marketing – access to the user
- More creativity – less directed by the business unit
- Less restricted on resource use
- Access to technical specialists via sourcing relationships
Effects on Structure of Demand for Innovation

- More Standardization  --| | <---- more communication
- More Centralization  --|
- Less Formalization
- Less Specialization
Demand for Intelligence

- Infrastructure capabilities
- Embedded in processes/systems
- Embedded in devices
Effects of Demand for Intelligence

- More centralization
- More formalization
- Mixed standardization
- More specialization
Environmental Uncertainty

- Technical – scale; sourcing
- Economic (cost/price) – globalization; recession
- Social (norms) - social media; post office
- Political (regulation) – Dodd-Frank, EPA
- Organizational (imitation) - constraint
Effects on Structure of Technical Uncertainty

- Centralization – increasing
- Standardization – increasing
- Specialization - ?
- Formalization - ?
Effects on structure of Economic Uncertainty

- Centralization – increasing
- Standardization – increasing
- Specialization – less
- Formalization - less
Effects on Structure of Social Uncertainty

> Centralization – increasing

> Standardization - increasing

> Specialization - less

> Formalization - less
Effects on Structure of Political Uncertainty

- Centralization – increasing
- Standardization – increasing
- Specialization ?
- Formalization - less
Effects on Structure of Organizational Environment

- Centralization – less
- Standardization – less
- Specialization – increasing
- Formalization - increasing
Collateral Impacts

> Change – Resistance

> Curriculum – Enterprise System Implementation

> Human Resources – Broad Individuals with Access to specialists

> Corporate Strategies – Importance of IS/IT
Change

> C group resistance

> Top down or bottom up

> Crisis motivator – competition

> Available talent – Permanent and transient

> Training
Curriculum

> Enterprise System Implementation- degree of standardization (SAP)

> Social Media – Internal (knowledge management)/External (customer relations)

> Business Analytics – Technical vs. Practical

> OJT – University of Chicago
Human Resources

- Breadth vs. Depth Expertise
- Local vs. Global Perspective
- Importance of Users’ vs. Providers’ Training
- Importance of Turnover (+, -)
Corporate Strategies


> Business Unit – Key to Competition (Cost, Niche, Differentiation)