IS/IT Functional Specialty – Role, Structure, Capabilities

PURPOSE

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
Strategy Field

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 – Step 1; 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/ a Business
  - innovate, operate, market, manage, adapt
- Weill & Broadbent
  - communication, messaging, standardization, security, operations, advice & support
Structure?

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

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
  > 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

- Less (?) Formalization

- 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 Centralization
- Less Formalization
- Less Specialization

<----- more communication
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

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**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)