ISRC *Notes* – January 2000

The Governance and Structure of The IT Organization

Based on a Presentation by Dr. V. Sambamurthy

The new millenium was ushered in at the January seminar with an interesting look at some new ideas for structuring the IT organization. Our guest speaker was Dr. V. Sambamurthy of the Robert H. Smith Business School at the University of Maryland, College Park. Samba's extensive research in the field, including studies with a number of Fortune 500 companies, has given him a unique perspective on emerging ideas for managing and organizing IT.

Introduction and Overview

The concept that the governance structure of the IT organization was simply either centralized, decentralized or federal no longer fits the organizational needs of today. According to Samba, in order for the IT function to contribute business value, it needs to be positioned for competitive agility. The structural design needs to be one that can react quickly to competitive opportunities and efficiently utilize all the available resources.

The Imperatives for the IT Function

The role of IT in the organization is changing again. IT is now shaping the business strategy rather than just aligning with it. New business models such as E-trade are emerging causing shifts in the business strategy. Samba sees a transformation in business strategies from static positioning wherein the business focuses on what it already does well to a role of competitive agility. This is a "sense and respond" model where business opportunities are observed and the organization reacts quickly in order to take advantage of them.

The IT infrastructure is also shifting. The future is a digitally converged world. A seamless, global enterprise extending beyond just the internal enterprise and into the extended enterprise consisting of supply chain partners and customers. There are also shifts occurring in vendor relationships from simply passive buying to active webs of alliances. There is growth in collaborations, selective sourcing, and joint venturing. The nature of the work performed in the IT organization is also evolving. The shift is from application development to solutions integration and from an internal service provider to a strategic business partner.

The pressure continues to be applied for IT to contribute value to the business. This value can manifest itself through IT being ready to respond to strategic business options that occur unexpectedly. By defining a structure and governance designed with a focus on agility, IT becomes a strategic partner with the organization. Agility requires some up-front investment in capital so that the resources are defined and in place for responding to competitive opportunities in an IT-intensive environment. The five forms of capital are process capital, knowledge, social, relational and digital which collectively form the business infrastructure.

(1) Process capital
   (a) IT-enabled seamless, global enterprise processes
   (b) Electronically link the entire sales, production, and delivery process into one seamless flow of information

(c) Examples, supply chain integration, product data management

(2) Knowledge capital
   (a) IT-enabled integration of organizational knowledge
   (b) Leverage economies of expertise
   (c) Examples, data mining, Intranets, OLAP applications

(3) Social capital (within the Firm)
   (a) IT-enabled collaborative links among IS and business managers across the enterprise
   (b) Partnering, collaboration, joint risk-sharing
   (c) Examples, E-mail, videoconferencing, groupware

(4) Relational capital (outside the Firm)
   (a) IT-enabled relationships within the extended enterprise: customers, suppliers
   (b) Seamless integration, information transparency, and trust among partners
   (c) Examples, Extranets, customer relationship management

(5) Digital capital
   (a) IT-enabled transformation of physical assets into information assets
   (b) Releasing value through the economics of information
   (c) Examples, E-trade, portals

In order for the IT function to align with this business infrastructure, traditional thinking about structure needs to be reevaluated. Traditional thinking about IT was as an overhead cost or support service. The objective of the IT structure was to balance cost-effectiveness and efficiency with client responsiveness. The expanded objectives of organizing IT are to allow flexibility and the ability to accommodate change resulting from competitive disruptions. Speed is now an important part of making IT a value driver.

IT Value Streams

Samba defines each of the critical activities that are performed by the IT function as being "value streams". Each stream can take on its own organizational structure that best optimizes its ability to contribute business value. These value streams are as follows:

1. Infrastructure – The hardware architecture, standards and implementation assets
2. Knowledge – attracting and retaining the necessary skill sets and providing access to knowledge
3. Strategy – Developing and aligning business strategies
4. Innovation – creativity in designing and implementing applications
5. Utilities – services, help desk, etc.
6. E-business – eventually will be absorbed into the other value streams

Based on case studies with a number of Fortune 500 companies, there are several alternatives for successfully structuring each of the value streams.

VALUE STREAM	ALTERNATIVES
Infrastructure	▪ Centralized ▪ Outsourced ▪ Leased
Knowledge	▪ Centralized around competencies or skill centers
Strategy	▪ Centralized ▪ Corporate IS and divisions
Innovation	▪ Centralized ▪ Divisionalized ▪ Corporate IS and divisions ▪ Independent subsidiary ▪ Outsourced
Utilities	▪ Centralized ▪ Divisionalized ▪ Outsourced
E-business	▪ Centralized unit within existing IT ▪ Separate unit outside IT ▪ Shared between IS and divisions ▪ Outsourced ▪ Independent subsidiary ▪ Joint venture

The factors that influence the choice of structure for each of the value streams include the level of IT knowledge of the business managers, the top management team and CIO philosophy, corporate history and culture, and the priority of alternative IT-enabled value propositions (customer oriented, product quality oriented, etc.).

Integrating the Value Streams

Once the structure of each of the IT value streams is determined, they must be meshed into the overall IT function governance and structure. Integration is necessary in order to have CIO and executive oversight and to align with the business strategy. Samba outlined six different structural strategies for integration of IT with the business.

1) Corporate IS –
   - Appropriate for small firms
   - A centralized structure
   - The innovation stream is through informal relationships rather than a delineated responsibility

- All other value streams are directly under the CIO

2) Aligned through Role –
   - Appropriate for medium size firms
   - Basically still a centralized structure but innovation is moved closer to business units
   - Solution delivery application teams are co-located in business units
3) Aligned through Mirror-image Unit –
   - Appropriate for large firms
   - Basically still a centralized structure but innovation, strategy and solution delivery are organized around line of business, geography or work processes
4) Federal -
   - Appropriate for large multi-divisional firms
   - The dominant model today
   - Matrix reporting with innovation and solutions delivery reporting both to the line of business and to the CIO
5) Decentralized –
   - Appropriate for loosely coupled firms
   - Innovation, utilities and solutions delivery are a part of the line of business with a dotted line to the CIO
6) Outsourced –
   - Strategic partnering
   - Innovation is a part of the business units, solution delivery and utilities through alliance partners
   - Several levels of variation

The various value streams will have different weights when it comes to deciding on the overall integrated structure. In addition there are effective coordinating mechanisms that enhance structural integration such as IT Management Council, service level agreements, and informal one-on-one relationships.

Summary

The organization and governance of the IT function is an even more important part of the CIO's responsibilities as the pressure to contribute business value increases. The traditional logic of simply choosing between centralization, decentralization, or a hybrid (federal) organization might be inappropriate today. The new logic includes defining the value streams and then organizing each stream for maximum effectiveness. The individual streams are then integrated to provide an organization that is agile and can respond quickly to opportunities for competitive advantage.

Additional Information

http://disc.cba.uh.edu/isrc.html

An ISRC Topic Brief will be available in the near future under the "Research" link category.

Arrangements for Information Technology Governance: A Theory of Multiple Contingencies by V. Sambamurthy and Robert W. Zmud in **MIS Quarterly**, volume 23, number 2, pages 261-290, 1999.

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