

RELATIONSHIP BETWEEN ORGANIZATIONAL STRATEGY AND INFORMATION TECHNOLOGY PLANNING

- Use Porter's five forces model to consider the **industry structure** and then develop a **competitive strategy** for the organization.
- This competitive strategy is supported through activities in the **value chain**, which consist of a collection of **business processes** supported by **information systems**

SUPPORTING AN ORGANIZATIONS IT

- How many computers?
- Type of computers
- Purchased hardware when?
- Operating system - which one to support?
- Applications being used
- Purchased licensed software when? Support?
- Networks
- Internet access
- Email
- Upgrades – for everything!

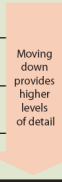
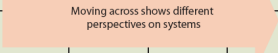
INFORMATION TECHNOLOGY ARCHITECTURE

- Basic framework for all the computers, systems, and information management that support organizational services
- Enterprise architect (new job description)
 - creates a blueprint of an organization's information systems and the management of these systems
 - organizational objectives, business processes, databases, information flows, operating systems, applications and software, and supporting technology
 - www.ewita.com

IT ARCHITECTURE

- No standards, yet
- Typically a complicated document
- Popular method created by John Zachman (1980s)
 - Divides system into two dimensions
 - Six reasons for communication (what-data, how-function, where-network, who-people, when-time, why-motivation)
 - Stakeholders (Planner, Owner, Designer, Builder, Implementer and Worker)
 - Intersection provides view of the enterprise
 - [Zachman Institute of Framework Advancement](http://www.zachman.org/)
- First step to understanding how IS support business objectives

ENTERPRISE ARCHITECTURE - FRAMEWORK

Layer	What? Data	How Function?	Where? Network	Who? People	When? Time	Why? Motivation
Planner	List of important things for business	List of business processes	List of where enterprise operates	List of business functional units	List of business events and cycle	List of business Goals and Strategies
Owner	Entity Relationship Model					
Builder	Normalized Data Model					
Implementer	Relational Data Model					
Worker	Input Screens					

ALIGNMENT, IT'S IMPORTANCE & DIFFICULTY

- Alignment
 - Process of matching organizational objectives with IT architecture
 - Not a straightforward process
 - Example: low-cost retailer vs high-end technology (Wal-Mart)
 - Measured as the degree to which the IT department's missions, objectives, and plans overlapped with the overall business missions, objectives, and plans
- Ongoing continuous challenge
 - Fitting IT architecture to business objectives
- Typically communication between business and IT executives is the most important indicator of alignment

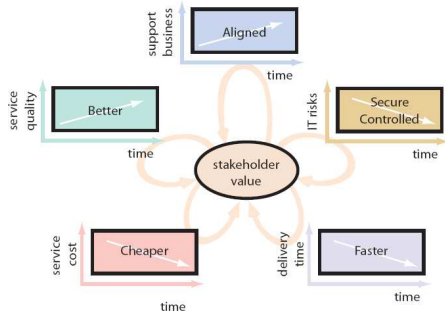
INFORMATION SYSTEMS GOVERNANCE

- Ensure organizations
 - Produce "good" results
 - Avoid "bad" results
- Development of consistent management policies and verifiable internal processes
- Establishment of rules applying to
 - Sourcing, privacy, security and internal investments

INFORMATION SYSTEMS GOVERNANCE

- Goal is to improve the benefits of an organization's IT investment over time
 - Reporting structures
 - Review processes
 - Improve quality
 - Reduce service costs and delivery time
 - Reduce IT risks
 - Better support business processes

CREATING BENEFITS FROM IT GOVERNANCE



INFORMATION SYSTEMS GOVERNANCE

- Organizational governance associated with Information Technology Architecture
- → Laws
 - Sarbanes-Oxley (SOX) Act (US)
 - Bill 198 – Budget Measures Act (Canada)
- Laws, Force companies to comply with standards
 - Collecting
 - Reporting
 - Disclosing information

SARBANES-OXLEY ACT & BUDGET MEASURES ACT

- Sarbanes-Oxley Act ([SOX](#)) (2002)
 - Revision of Exchange Act (1934)
 - Governs reporting of publicly held companies
 - Enacted to prevent corporate fraud
 - WorldCom
 - Enron
 - [Time reports](#)
 - [Verdicts](#)

SARBANES-OXLEY ACT & BUDGET MEASURES ACT

- [Bill 198](#) - Budget Measures Act
 - Similar legislation introduced in Canada
 - Increased level of responsibility and accountability of executive management of publicly held Canadian companies

SARBANES-OXLEY ACT & BUDGET MEASURES ACT

- Require management
 - Create internal controls
 - Produce reliable financial statements
 - Protect organization's assets
 - Issue statement indicating this has been done
- Organization's external auditor
 - Issue an opinion on the quality of controls & management's statements
- Expose management & external auditor to **financial and potential criminal liability** if events show the internal controls were defective

SARBANES-OXLEY ACT & BUDGET MEASURES ACT

- Internal controls
 - Separation of duties & authorities in accounts payable
 - Example:
 - Someone to authorize the expense
 - Someone to issue the cheque
 - Someone to account for the transaction

SARBANES-OXLEY ACT & BUDGET MEASURES ACT

- Computer-based Accounting systems used for the production of financial statements
 - Appropriate controls in place to ensure reliability
- IS production of assets that are subject to liability
 - Example:
 - Order-processing IS storing Customer information
 - Must ensure only authorized access to information

MIS IN USE

Sarbanes-Oxley: Boon or Bane?

- Goal to strengthen and upgrade financial reporting, and thus maintain and improve trust in public companies' financial reports
- Large companies expect to divert more than 15 percent of their IS budgets to Sarbanes-Oxley compliance
- Sarbanes-Oxley Act will provide full employment for internal and IT auditors

INFORMATION SYSTEMS AUDIT

- Examination and verification of a company's information resources that are used to collect, store, process, and retrieve information – including organization's IS policies and procedures
- Many firms offer IS audit services
 - [Information Systems Audit & Control Association](#)
 - Certified Information Systems Auditor [certification](#)

INFORMATION SYSTEMS AUDIT

- Control Objectives for Information and Related Technology (COBIT)
 - framework of best practices designed for IT management
 - Developed by Information Systems Audit and Control Association and IT Governance Institute
 - Provides board members, managers, auditors & IT users
 - Set of accepted measures, indicators, processes and best practices to assist them in getting the best from their organizational IT investments.
 - COBIT 4, latest edition: December 2005
 - Tools and guidelines for IT management policies

COBIT FRAMEWORK

- Allows
 - Management to benchmark the security & control practices for IT control
 - Users of IT services to be assured security and controls exist
 - Auditors to substantiate their opinions on internal control and advise on IT security and control matters

COBIT FRAMEWORK

- Addresses issue of control from three dimensions:
 - Business Objectives
 - Conform to criteria (7 categories)
 - Effectiveness, efficiency, confidentiality, integrity, availability, compliance & reliability
 - IT Resources
 - People, application systems, technology, facilities & data
 - IT Processes
 - Four domains:
 - Planning & organization, acquisition & implementation, delivery & support, and monitoring
- [COBIT Framework](#)

IS GOVERNANCE – IT'S IMPORTANCE

- Increased need to report and disclose IS operational information will require employees at all levels of an organization to become more familiar with the issues facing information technology management
- Senior business managers are required to make assertions about the controls on IS that will expose them to both financial and criminal penalties

INFORMATION SYSTEMS ETHICS

- There are limits to developing a competitive advantage with the use of IT and IS
 - Illegal
 - Unethical
- Concerned with people involved with the system, not hardware or software
- Understanding our own behaviour
 - Thinking and acting that affects others
- Ethical principles
 - [United Nations Declaration of Human Rights](#)
 - [Canada's Charter of Rights and Freedoms](#)
 - [Association of Computing Machinery's code of ethics](#)

GREEN IT

- *Green computing* using IT resources to better support the **triple bottom line** for organizations
- Triple bottom line
 - expands traditional financial reports (based solely on financial performance,)
 - takes into account ecological and social performance
- Primary goals
 - improve energy efficiency
 - promote recyclability
 - reduce the use of materials that are hazardous to the environment

GREEN IT

- Considers the effects of choices on
 - people
 - environment
- **ENERGY STAR** program
 - international government/industry partnership to produce equipment that meets high-energy efficiency specifications or promotes the use of such equipment
 - Green Computing Impact Organization (www.gcio.org)
 - Green Electronics Council (www.greenelectronicscouncil.org)
- **E-cycling**
 - recycling of electronic computing devices
 - Electronics Recycling Canada (www.electronics-recycling.com/canada)