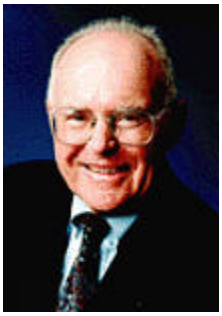
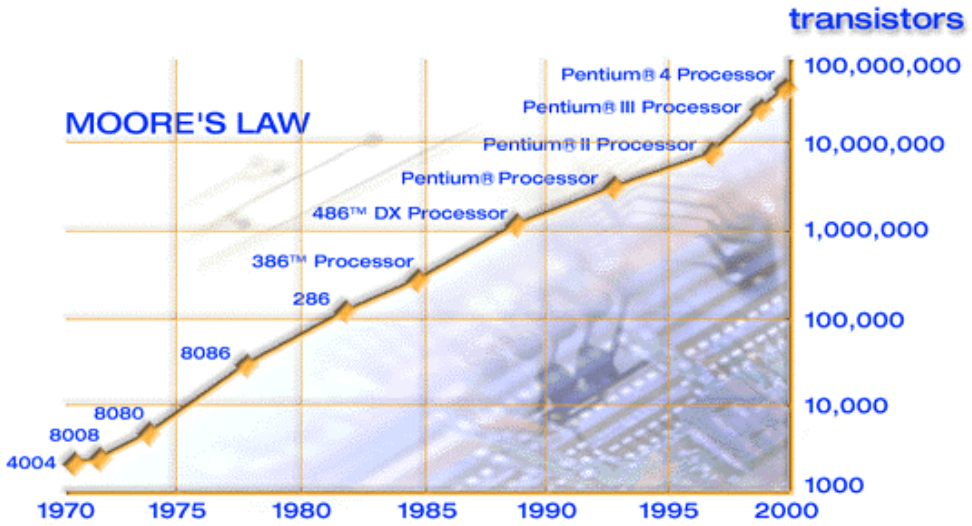
Streamlining ToolsÔ: Strategic IT Planning

Information Technology is the heart of all business operations, leveraging technology to achieve business efficiencies.



One of the biggest challenges facing businesses today is determining the right balance for managing technology. Moore's law suggests that technology doubles in computational capabilities about every four years.

One of the founders of Intel Corporation, Gordon Moore made his famous observation in 1965. He observed an exponential growth (doubling every few years) in the number of transistors per integrated circuit and predicted that this trend would continue. So far, he has been right; this trend is expected to continue at least until the end of this decade.



Businesses need to be both cautious and aggressive about their technology needs because it may serve to be a competitive advantage for them or a costly mistake.

Business Comes Before Technology

Strategic Information Technology (IT) Planning cannot be done without **Business Strategic Planning** as a precursor. Most businesses make the mistake of planning for technology, which is completely wrong. Technology is needed to support business operations; therefore, **business drivers need to promote technical solutions.**

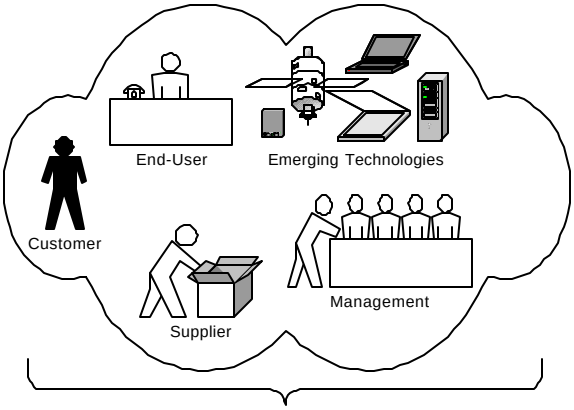
The business side of the organization needs to clearly identify its business drivers, including:

- Sustainable Competitive Advantage - what makes us competitive?
- Mission - what are we doing and for whom; why do we exist?
- Lessons Learned - what things have worked and failed?
- Key Factors for Success - what must we have to stay in business?
- Resources - what do we have available to us?
- Business initiatives, goals, objectives and actions - what we want to do?

Sometimes in a developing business that lacks disciplined planning and management processes, the internal IT organization may have to push for a definition of business objectives and initiatives.

Once the direction of the business ❶ is understood and initiatives have been identified, the business can start the process of evaluating technology needs to support its business initiatives.

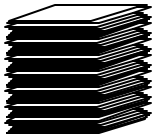
First an **environmental scan / analysis** of the needs of various stakeholders ❷ (customers, end-users, suppliers, managers, etc.) is conducted. Management interviews / workshops (~2 to 4) are held to set IT goals and objectives ❸ and employee knowledge is assessed ❹. Then an analysis of emerging technologies ❺ is performed using a "T-Analysis" where initially a `breadth` of requirements and capabilities is evaluated; once issues specific to the direction of the business are identified, detailed analysis (`depth`) is performed to determine if the needs or technologies are a good fit or feasible options for the business.



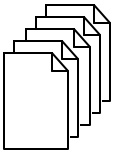
Environmental Analysis of Needs, Capabilities, Technologies, and Goals and Objectives

IT business processes are mapped ❻; a "Gap Analysis" is conducted to determine the gaps between the current [AS-IS] and target [TO-BE] environments ❼, including:

- Process Management Environment
- Network Management Environment
- Desktop Management Environment
- Production Management Environment
- Systems and Applications Management Environment
- Cost Management Environment
- Integration Environment



Gap Analysis of AS-IS to TO-BE Environments
Consolidation, Organization and Prioritization of Issues



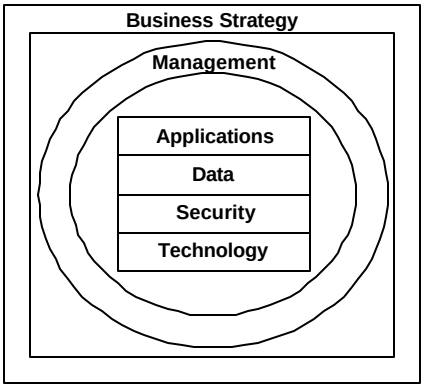
Architectures

Opportunities are prioritized ❽ and a roadmap ❾ is developed to achieve the outcomes desired.

ITSP
Strategic IT Plan

IT initiatives are developed and broken down into:

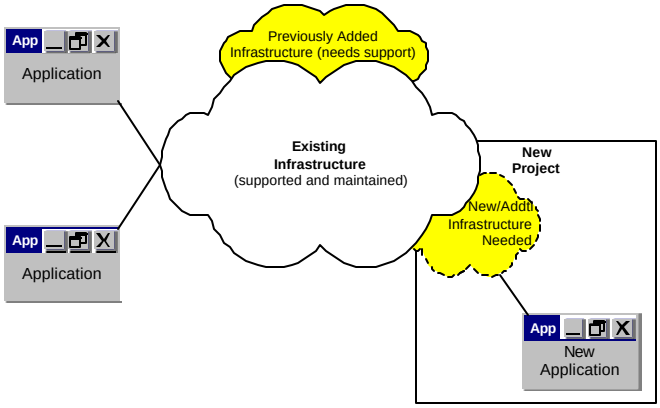
- Applications,
- Data,
- Security,
- Technology and
- Management architectures.



Applications Architecture

Definition: The Applications Architecture supports the business processes of the organization. It is a compilation of the issues, directions, and trends that affect all business functions' initiatives. The architecture addresses applications necessary to support business operations and the elements necessary for successful applications development:

- Principles,
- Methodologies,
- Standards,
- Tools,
- Training,
- Challenges,
- Project management,
- Priorities,
- Trends, and
- Collaboration opportunities.



In addition, the infrastructure (networks, technologies, databases, etc.) to support the applications is identified; both existing infrastructure and new infrastructure for proposed initiatives or projects. The compilation of this information is important for management and funding purposes, both to develop new applications and to maintain them for the duration of their life once they are up and running.

Data Architecture

Definition: The Data Architecture supports the business' data and information management needs. It provides direction for developing, accessing and managing all of the business' data and information resources:

- Data management principles,
- Data management policies and standards,
- Data management roles and responsibilities (data stewards, data owners),
- Definitions for both private and public data, information, records, enterprise data, corporate data, etc.
- Database management processes,
- Database, content, document, knowledge management tools and technologies, and
- Management Decision Support Systems.

Security Architecture

Definition: The Security Architecture supports the business by protecting its data, applications, and day-to-day business processes from both internal and external attacks. It provides direction for identifying risks, developing, accessing and managing all of the business' technology and establishing contingency plans. The security architecture is defined in terms of:

- **Physical Security** - lock down and limitation of access to physical locations.
- **Privacy and Encryption** - for transfer of data across internal and external networks.
- **On-Line Intrusion Protection (Hacking)** [there are over 400,000 web sites with hacker tools and utilities posted].
- **Disaster Recovery** - preventing disasters and bringing the critical systems back on-line should a disaster occur through the use of database replication (integrity controls), hot server sites, "offices on wheels", etc.
- **Employee Monitoring and Tracking** - (audit trails) limiting liabilities due to inappropriate uses (pornography, theft, etc.)
- **Day-to-Day, On-Line Applications and Network Access Management**
- **Virus Protection**
- **Identity Theft**

Minimally, IT security strategies must involve:

1. Consistent and reliable backup and recovery processes,
2. Access authentication - usernames, passwords, etc.,
3. Virus protection, and
4. Firewalls between remote systems.

Technology Architecture

Definition: The Technology Architecture supports the business' Application, Data and Security Architectures. It provides automation infrastructure upon which the business operates, including voice and data networks, computer hardware and software, operating systems, application environment, and office productivity tools. The types of infrastructure, tools and services that needs to be defined are:

- Network services: LANs, WANs, etc.
- File services,
- Print services,
- Database services,
- Publication / broadcast services,
- Directory, messaging / email services,
- Mobile computing / dial-in services,
- Storage management,
- Internet, intranet, extranet services,
- Workstation, server and network management,
- Voice communication and telephony services,
- Mainframe services,
- Security services: firewalls, filters, etc.
- Etc.

Management Architecture

Definition: The Management Architecture provides the business with strategic vision and management of resources (staff, funding, assets, etc.) to implement and maintain the IT infrastructure. This includes continuously identifying and improving processes for:

- Governance and Organization (roles and responsibilities, Technology Management Council),
- Project management,
- Portfolio of systems and applications management,
- Long-term funding for infrastructure and applications,
- Investment measurement - identifying IT investment value,
- Research and development process for emerging technologies,
- Business continuity / resumption,
- Outsourcing opportunities, and
- Asset and inventory management.

Prioritized Projects

The projects related to each initiative identified within the IT architectures are then consolidated and evaluated from a resource, feasibility and funding perspective. Priorities are assigned to the projects and they are scheduled for planning and implementation.

Linkage of Planning Elements

All the planning elements of both business and IT need to be aligned so that there is clear lines of communication and understanding of why things are being done. These linkages will facilitate better change management as new systems are implemented and will reduce confusion and conflict while enhancing accountability.