# Chapter 1
# Business View of IT Applications

**Content of this presentation has been taken from Book**

"**Fundamentals of Business Analytics**"

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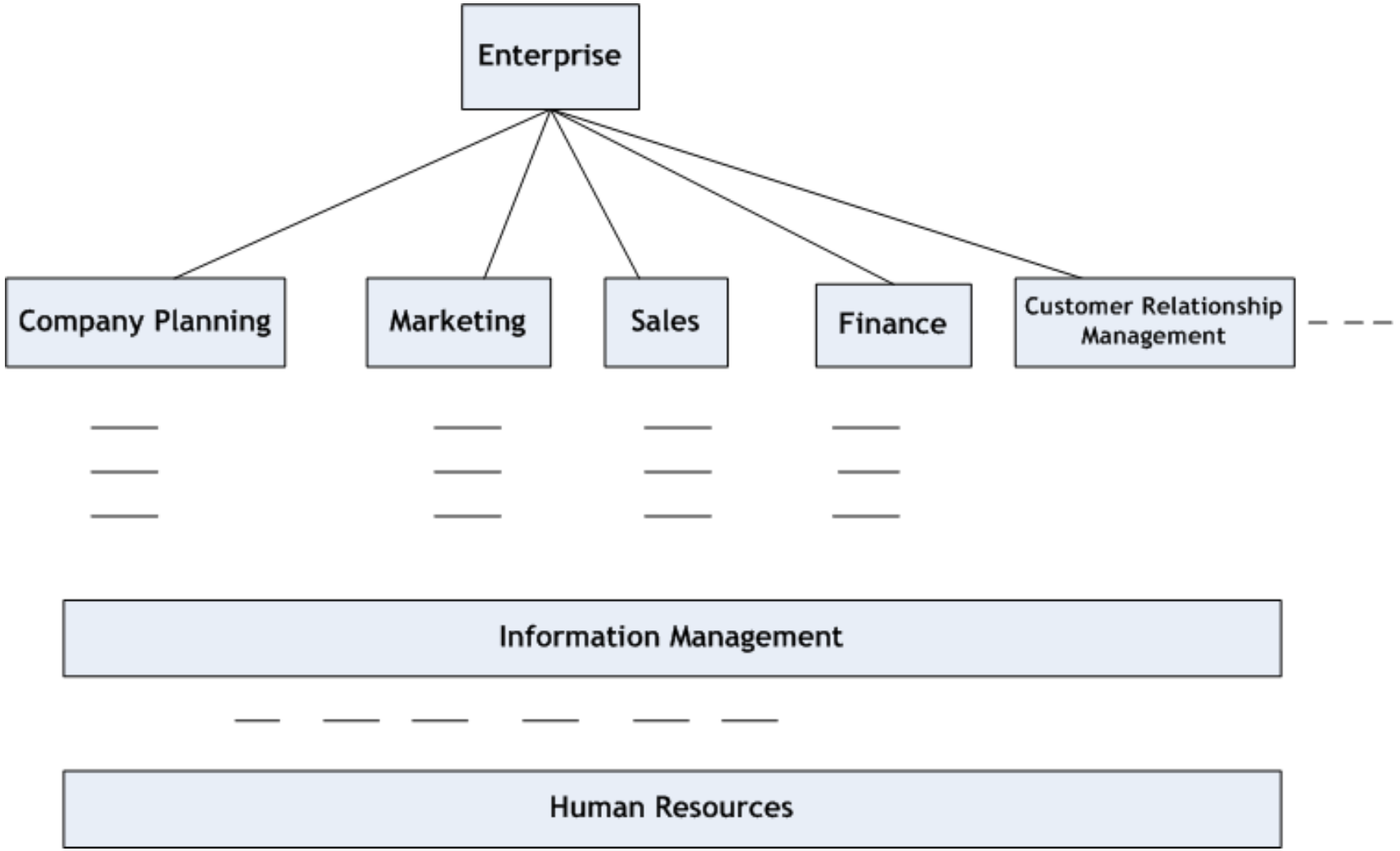
# Power of Information Technology – Power of Data

- Whatever profession you all choose for your career, there will be an element of IT in your job.
- The competence to harness the power of data will be among the critical competencies that you will be required to develop in your career.
- As enterprise grow and expand their business, they acquire larger computers, change operating systems, database management systems, connect systems by digital network, and migrate to powerful database management systems. **They never discard any data!**
- **Historical data** is like the “finger print” or DNA of an enterprise and can potentially be a smart guidance system.

# Business Enterprise Organization, Its Functions and Core Business Processes

- Think of any industry domain – retail, banking, manufacturing, transport, energy etc., the organizational structure is similar
- In general, business serve their customers either with products or services or both.
  - Thus, this leads to creation of immediate need for functions such as product/service search, product manufacturing or service delivery, quality assurance, purchase, distribution, sales, marketing, finance and so on.
- As the product or service consumption increases, there is need of functions like support, planning, training etc.
- Thus, the functions will be carried out by its workforce, creating the need for human resources management, IT management, customer relationship management, partner management, and so on.
- As the business expands into multiple product/service lines and starts global operations, new requirements emerge, and each function realigns its own "internal services" to meet new demands.
- Support Units are created.
- Business units – Product or Service lines that generate revenue
- Today, businesses, irrespective of their size, leverage IT as enabler to achieve market leadership or unique position.

# Organization of a typical Enterprise



# Why businesses design standard enterprise-level processes for common core functions?

- Most of the enterprise-level processes for their core functions are common in business designs.
- The basic idea behind creating standard processes is to ensure repeatable, scalable, and predictable customer experience.
- Well Designed processes make customer experience independent of people and geographical location.
- A good example is the common dining experince in many McDonald's outlet anywhere in the world!
- Some business processes are contained in one department or invlove multiple departments for its working Like a process " Hire students from campuses" will be managed by HR, but a process like " order to delivery" in a computer manufacturing company will involve functions of sales, order fulfillment, shipment, and finance. It is these processes that will automated by the use of IT.

# Why do we require core business functions?

- Why do we require core business functions?

  - for a smooth day-to-day functioning of the organization and for performing tasks efficiently and on time.
- List of a few common core business functions:
  - Sales and Marketing
  - Product/Service Delivery
  - Quality
  - Product Development
  - Accounting
  - Technology
  - Human Resource Management
  - Supplier Management
  - Legal and Compliance
  - Corporate Planning
  - Procurement (Purchases)
- All the above core business functions listed above might not be used in all organizations.
- There could be several factors for not using a core business function; for example, shortage of resources or in a small organization, a particular process can be easily managed manually, etc.

# Example

- Consider an IT products and Services company with the name “Imagination”.
- Suppose, the number of employees in this company is 550.
- Suppose, Within a short time of its inception, it has 32 clients spread across the globe.

# Example – Contd…..

**Businesses Processes invloved -**

- Sales and Marketing
- Product/Service Delivery
- Quality
- Product Development
- Accounting
- Human Resource Management
- Supplier Management
- Corporate Planning
- Procurement

# Moving Ahead …

Think of generalizing or abstracting the commonalities between different businesses in different industries Like bank, an electronics goods manufacturing plant, a large retail chain like McDonald's.

**Consider HR Department function –**

- They all hire new employees
- Train New Employees
- Pay for Employees
- Evaluate employees on-the-job performance
- Maintaining relationship with suppliers and employees by way of programs such as "employees competency development", "employee loyality program"etc.
- Measuring the contribution of employee to business

**Thus, now think on similar lines about the other functions!!!!**

# Moving Ahead …Example…

A bank may view home loan as a product, credit card as product, etc.

A large CT Scanner manufacturer may view installation of equipment as a service associated with their product that generates additional revenue.

# Core Business Functions

Business functions design core business processes that are practiced within the function or cut across several business and support functions.

Few of the common core business processes are explained in next slide -

**Table 1.1** Few Core Business Processes

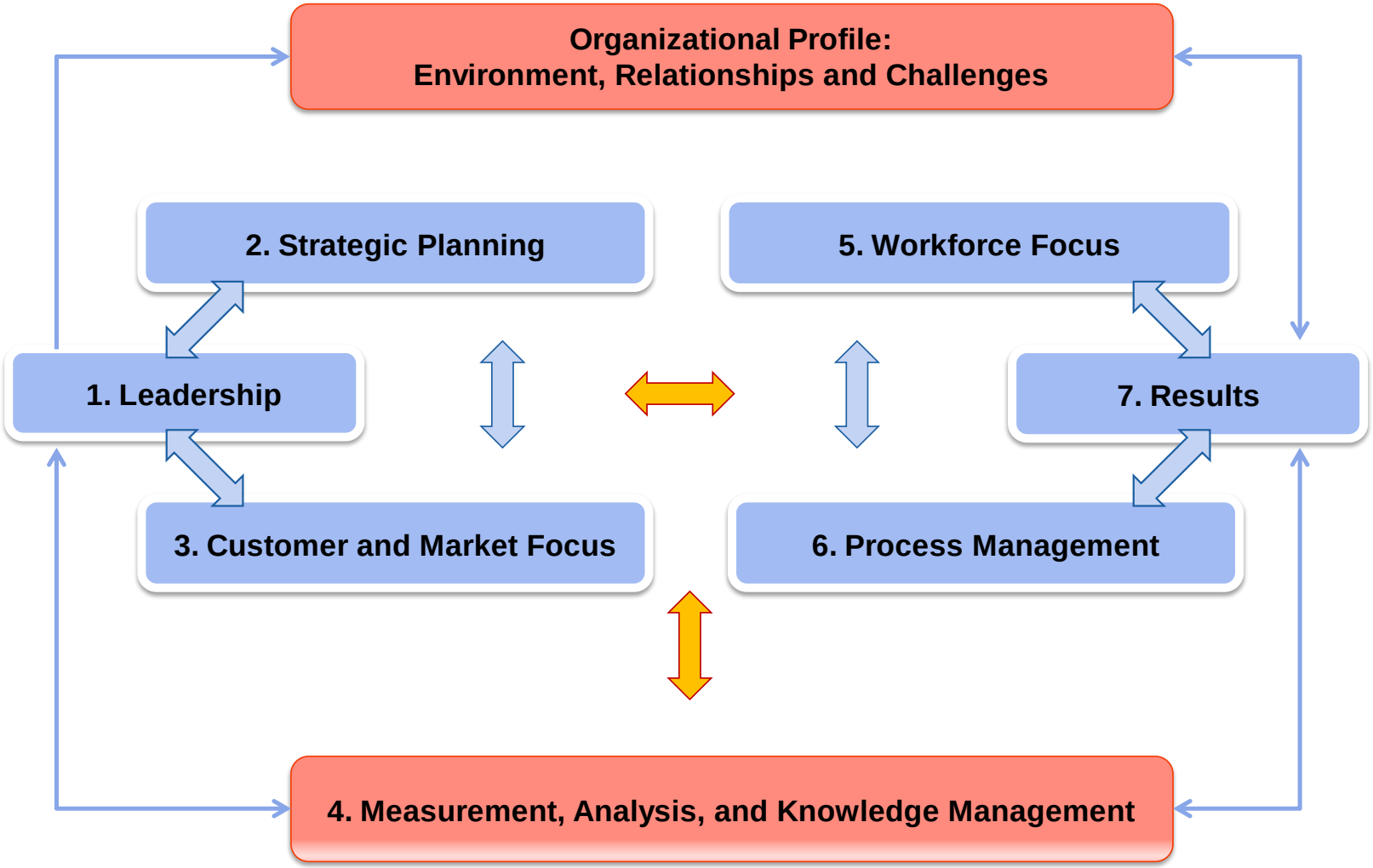
| *Resource Management* | |
|---|---|
| **Acquire to Retire (Fixed Assets)** | This end-to-end scenario includes processes such as Asset Requisition, Asset Acquisition, Asset utilization enhancement, Asset Depreciation, and Asset Retirement. |
| **Hire to Retire** | An end-to-end process adopted by the HR unit/function of enterprises. It includes processes such as Recruitment, Hire, Compensation management, Performance management, Training, Promotion, Transfer, and Retire. |

| *Business Process Management* | |
|---|---|
| *Process* | *Explanation* |
| **Procure to Pay (Also referred to as Purchase to Payment)** | This end-to-end process encompasses all steps from purchasing goods from a supplier, to paying the supplier. The steps in the process include: determination of requirement → vendor selection (after comparison of quotations) → preparation of purchase order → release of purchase order → follow-up/amendments on purchase order → good received and inventory management → inspection of goods received → verification of invoice → issuance of payment advice |
| **Idea to Offering** | This entails research → concept, concept → commit, design → prototype, validate → ramp-up, monitor → improve, improve → end of life cycle |
| **Market to Order (Also referred to as Market to prospect)** | This end-to-end process is as follows: research → market identification, market identification → plan, campaigning → lead, lead → order, account strategy → relationship management |
| **Order to Cash** | The basic activities of this core business process include:<br>• Create or maintain customer<br>• Create or maintain material master<br>• Create or maintain condition records for pricing<br>• Enter and authorize sales order<br>• Convert quote to order<br>• Validate product configuration<br>• Verify billing, shipping, payment details<br>• Apply discounts<br>• Review credit of customer<br>• Verify stock<br>• Plan delivery schedule<br>• Pack and ship product<br>• Billing and cash receipt<br>• Contract to renewal |
| **Quote to Cash** | This process essentially is a two step process:<br>• Generation of quotations<br>• Order to cash (described above) |
| **Issue to Resolution** | The basic steps here are: detection of an issue → identification of the problem → development of solution → return/replace → closed loop feedback |

**Can we represent all businesses in some common model?**

The answer is **YES!**

# Malcolm Baldrige Performance Excellence Framework



## Do It Exercise

Surf the net to read about the case study on

**Texas Nameplate Company (TNC)**

(Two time winner of the Malcolm Baldrige National Quality Award)

# Answer a Quick Question

**Why is "Measurement, Analysis, and Knowledge Management" so important for any enterprise?**

# Key Purpose of Using IT in Business

- **Departmental IT applications**
  - Payroll processing applications
- **Online Transaction Processing Systems**
  - Train/Air reservation application
- **Business Process/Model Innovation**
  - Amazon book store
  - The ability to transfer money across the globe to any bank account from home is a new innovation
- **Decision Support Systems**
  - Example: A system that supports a user's decision of buying a vehicle by providing a range of options to choose from based on the users specified input of budget, mileage, speed, etc.

## Answer a Few Quick Questions

- Cite a few examples of **Department IT applications**
- Cite a few examples of **OLTP applications**
- Cite a few examples of **Business Process/Model Innovation**
- Cite a couple of examples of **Decision Support Systems**

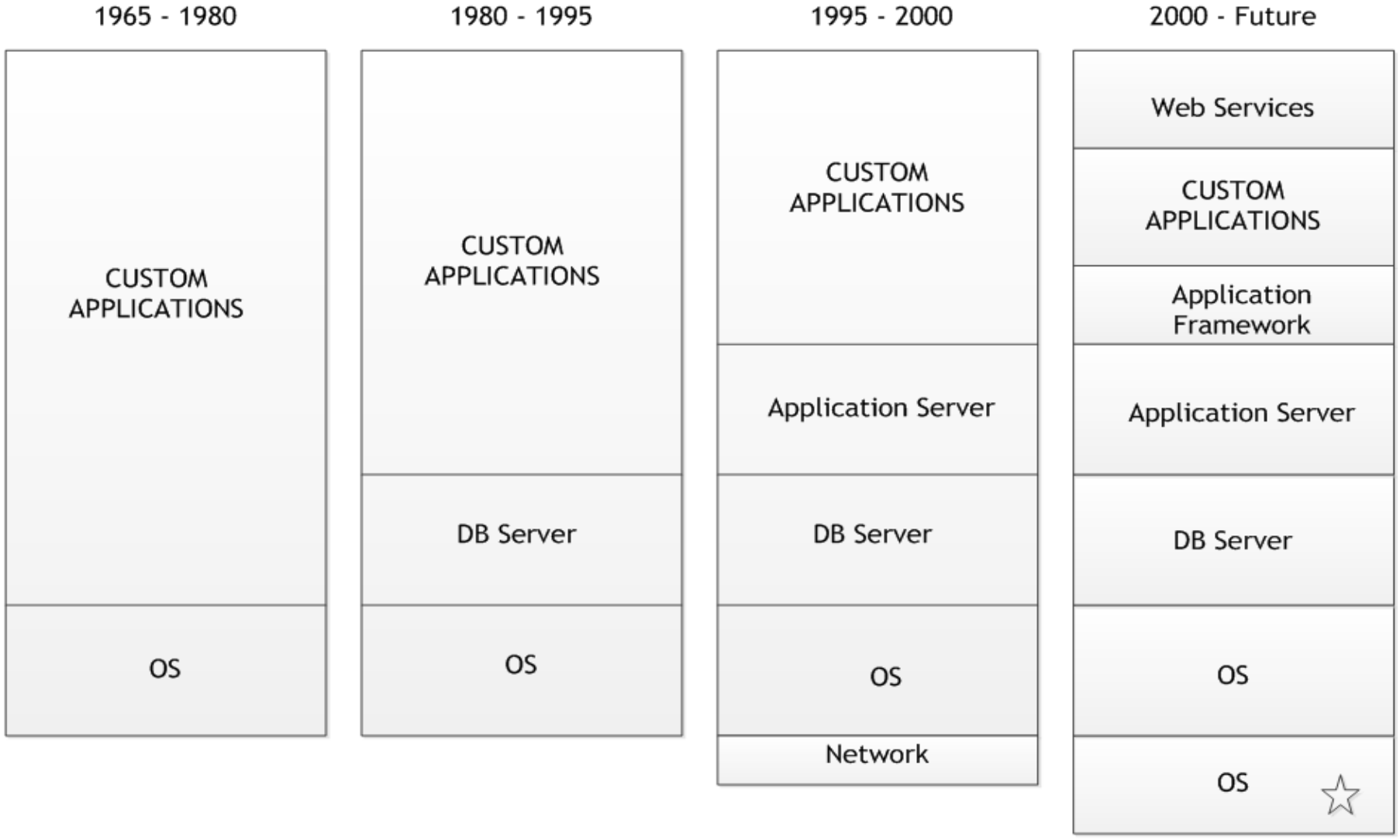
# Answer a Quick Question

According to your understanding, what are the chief characteristics of **Internet-ready IT applications**

# Characteristics of Internet-ready IT Applications

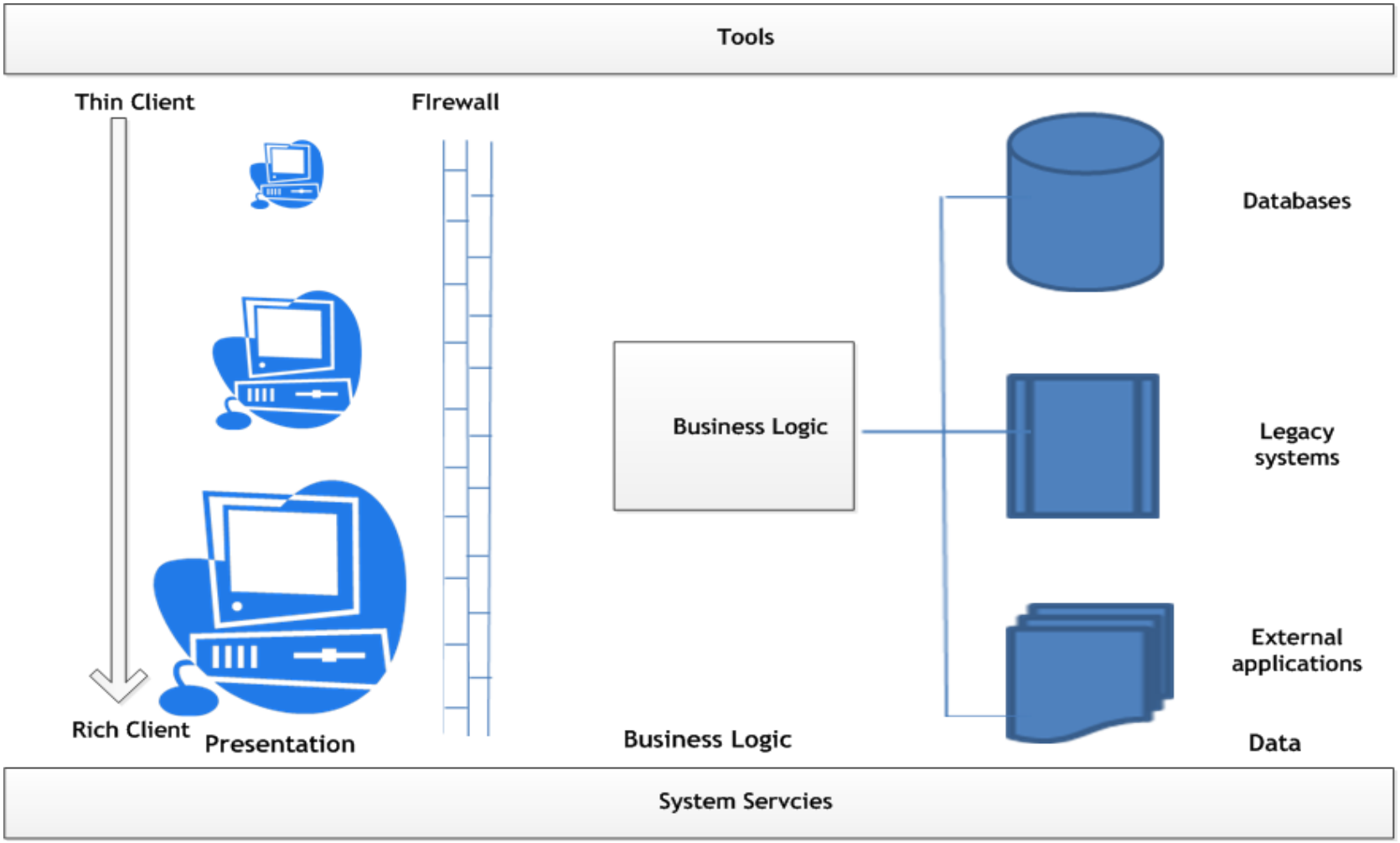
- Support large number of users of different interests and abilities
- Provides display on multiple devices and formats
- Deployed on large secure servers through license management software
- Support single sign-on and support special authentication & authorization requirements
- Ability to run on any operating system
- Ability to use/connect to any RDBMS for data storage
- Could be implemented in multiple programming languages or combinations as well
- Leverages enterprise storage capabilities and back-up systems
- Supports extensive connectivity to different types of networks and Internet services
- And many more...

# Technology Centric Applications – From 1965 to 2000 to Future



# Typical Enterprise Application Architecture

Almost all IT applications will invariably have application-specific user interface, business logic associated with the areas of business operation and a data store that holds master and transaction data of the applications.



## Enterprise Applications(ERP/CRM etc.) and Bespoke IT applications

- Large businesses have hundreds of processes and frontier areas to be enabled by IT for competitive advantage. This results in several IT applications being deployed in the enterprise. There are several ways in which we could look at the classification of these IT applications. We have already seen various such classifications based on these IT applications such as Office automation, business innovation, decision support etc.
- We could also look at classifying IT applications based hardware platform they run like mainframe, open system, or Internet (distributed servers).
- Another key classification parameter for IT applications is the application users.
- When it comes to IT enablement of any chosen business area, there are four different approaches enterprises typically follow-
- 1. bespoke application development
- 2. Designing IT applications in enterprise but outsource the development.
- 3. Procure licenses for global standard software and implement it with some customization.
- Entire Outsource the processes

# ERP

- ERP – Enterprise Resource Planning
- It is the critical business IT applications suite that many enterprises choose to procure , customize, and implement.
- The most attractive element of ERP is the integrated nature of the related applications.

# Some conclusions

- All IT applications required to run an enterprise will never be created at the same time. There will be several generations of applications developed or purchased over several years.
- All IT applications need maintenance as business rules and business environment change, and each IT application will be at a different stage of maintenance at any given point of time. Enterprises migrate from small IT applications to more robust integrated suites as business grow.
- Enterprises chose the optimum hardware, software, OS, RDMS, network and programming language available at the time of making build or buy decision. This results in heterogeneous hardware and multi vendor software products in the same enterprise. Also, enterprises may acquire other businesses to expand their growth in a non lonear ways, and this may again result in multiple technologies to co-exist in the same enterprise.
- The same way, enterprises may have ERP, home grown applications, partially outsourced IT application development etc.
- Enterprises may loosely bring together several applications in an enterprise portal but may have limitations in terms of data exchange across IT applications.
- Enterprises may design new applications to combine data from several critical data sources for the management information system(MIS).

# Few Information Users and their Requirements

- ***Role-based users*** who have access to certain category of IT application, certain level of classified information, access to specific systems & even specific operations they are allowed to perform.

- ***Administrative users*** who configure IT environment, manage users, access control, anti-virus, perform anti-theft checks, install updates/upgrades and back-up enterprise data and restore in the event of data corruption.

- ***Knowledge workers/analytical users*** who discover new patterns in enterprise data to help businesses make innovative moves in the market place for competitive advantage.

- ***Multi-device access users*** who sometimes work in office, move in the field, use different devices ranging from desk top system to hand held smartphone to connect to enterprise IT applications.

## Case Study Briefs

- GoodLife HealthCare Group
- GoodFood Resturants Inc.
- TentoTen Retail Stores.