



Information System Management (MIS)

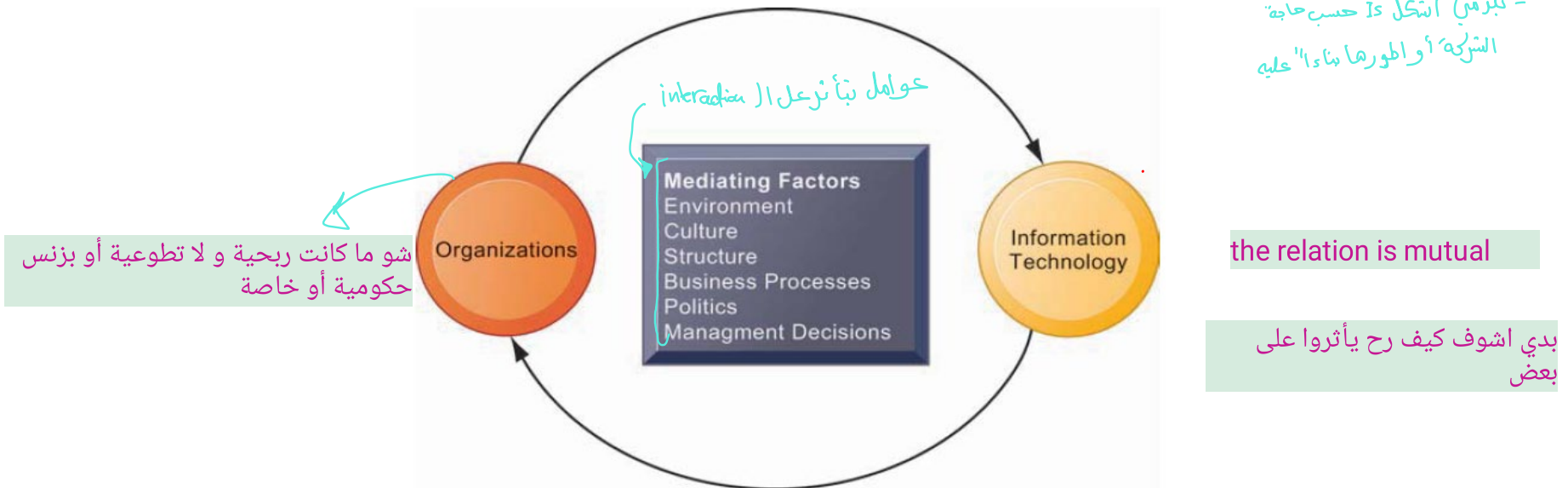
Chapter Three: Information Systems Organization and Strategy

mis
يعني تم تصميم هذا النظام ال IS لتحقيق أهداف و استراتيجية الشركة

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Information Systems and Organizations

- The interaction between information technology and organizations is complex and is influenced by many mediating factors.



The Two-Way Relationship between Organizations and Information Technology

What Is an Organization?

► Technical definition

- Formal social structure that processes resource from environment to produce outputs
- A formal legal entity with internal rules and procedures, as well as a social structure

العاملين شغالين ضمن structure
معين والعلاقات بينهم formal
يتعامل معهم
بمفاهيم التقنية

مشكل اجتماعي
يجب ان يكون له
Social structure
يعتبر

بدي أمثالها ك سيستم في مدخلات و مخرجات

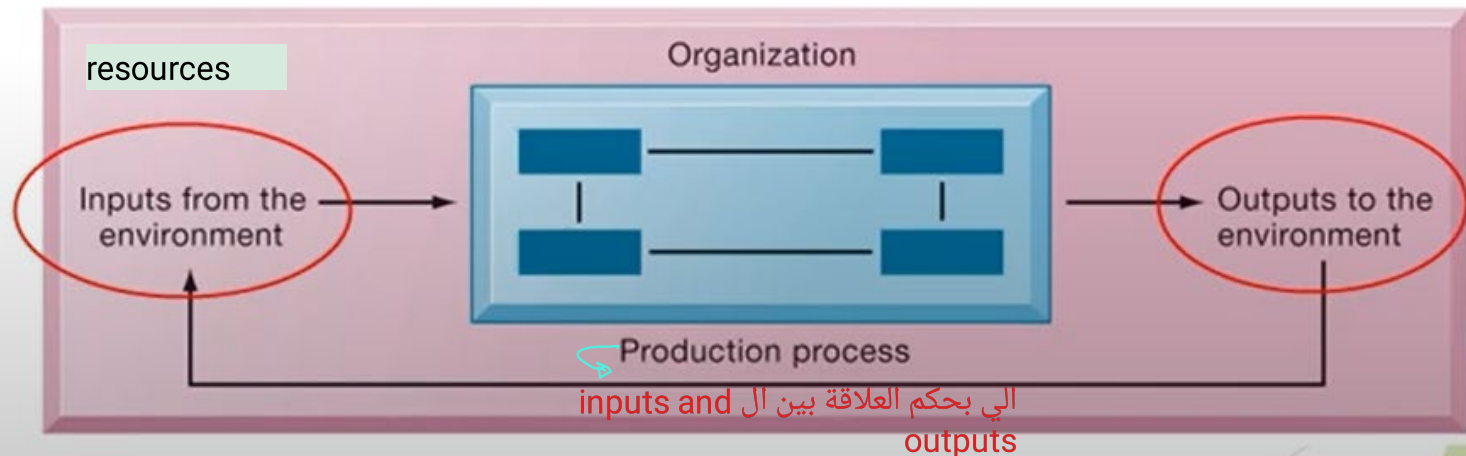


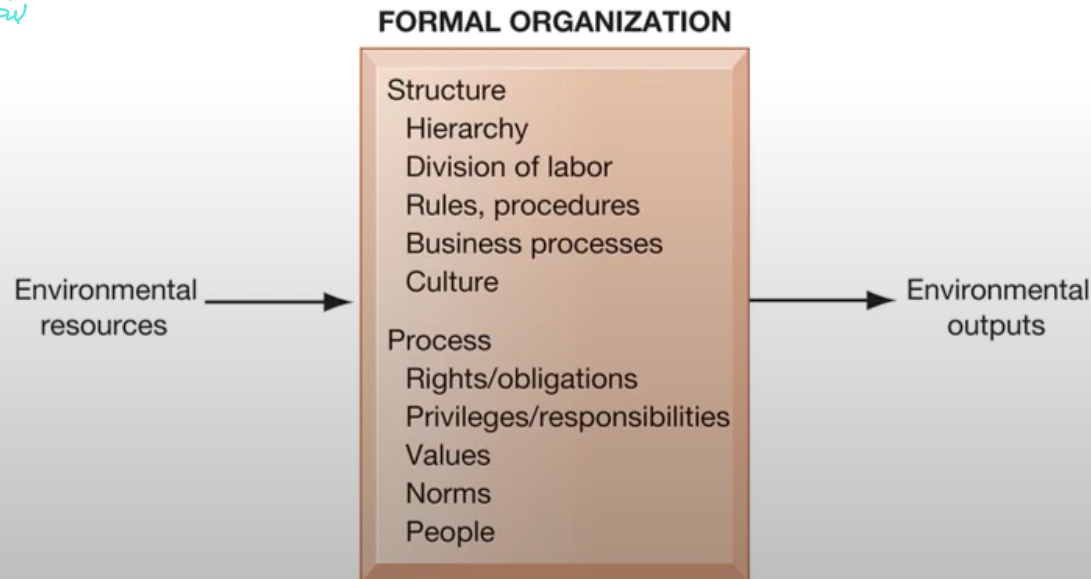
Figure 3.3 The Behavioral View of Organizations

Behavioral definition

يتعلق في طريقة عمل ال org

A collection of rights, privileges, obligations, and responsibilities that is delicately balanced over a period of time through conflict and conflict resolution

يتكون من أشياء موزعة ومتفعل عليها



Common Features of Organizations

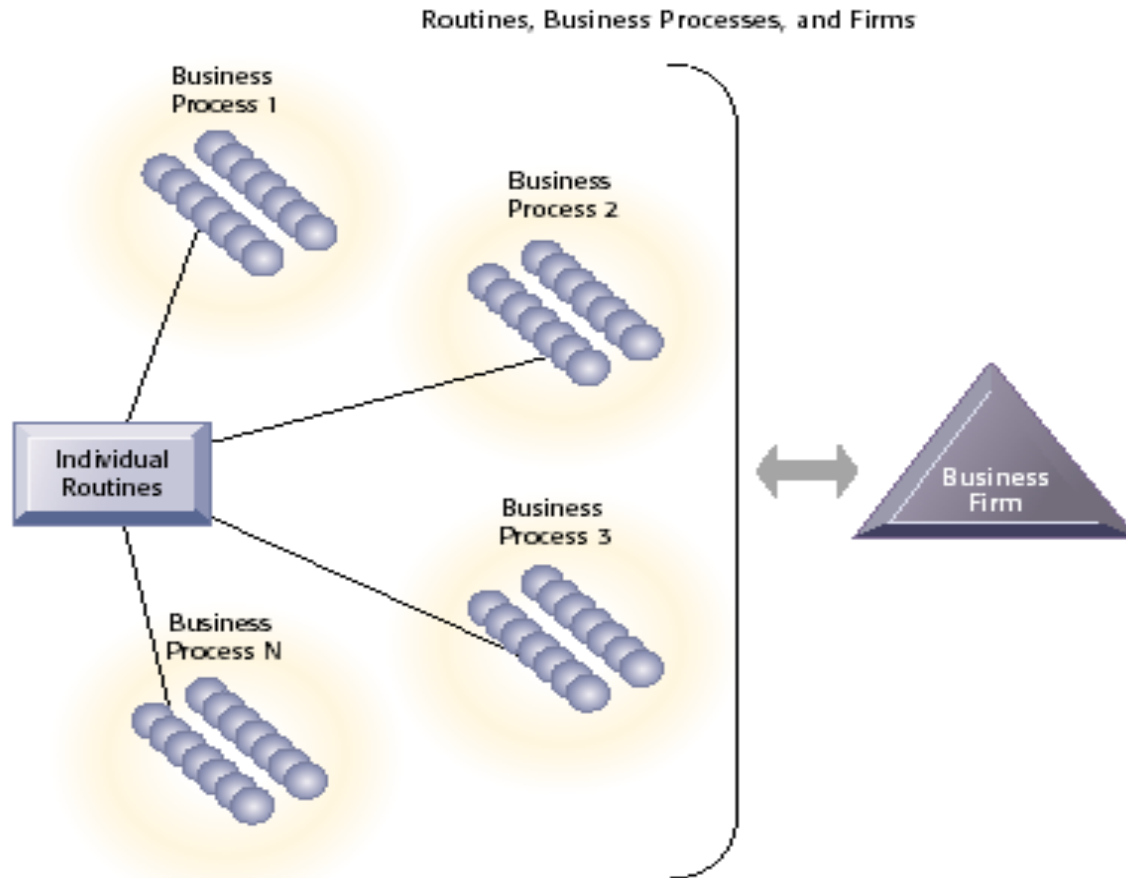
- All organizations have some similar “structural” features:
 - ✓ Clear division of labour
 - ✓ Hierarchy : *structure of roles* “arrangement of people in levels”
 - ✓ Explicit rules and procedures
 - ✓ Impartial judgments *تقييم دقيق أحكام محايدة*
 - ✓ Technical qualifications for positions
 - ✓ Maximum organizational efficiency

Routines and Business Processes

مثلا عملية التسجيل و التعليم تجميع هاي ال
organization business process بعمل ال

- Routines are patterns of individual behavior.
- Business processes are a collection of routines.
- Business firms are a collection of business processes.
- Business processes enable organizations to cope with all recurring expected situations.

Routines, Business Processes, and Firms



Organizational Culture →

لتفريق حسب
الخدمة أو المنتج

كيف تتميز كل org عن الثانية

- What products the organization should produce
- How and where it should be produced
- For whom the products should be produced

Unique Features of Organizations

مميزات خاصة في كل org تخليها مختلفة عن غيرها

- Structures
- Goals
- Constituencies
- Leadership styles ^{تشريعات}
- Tasks
- Surrounding environments

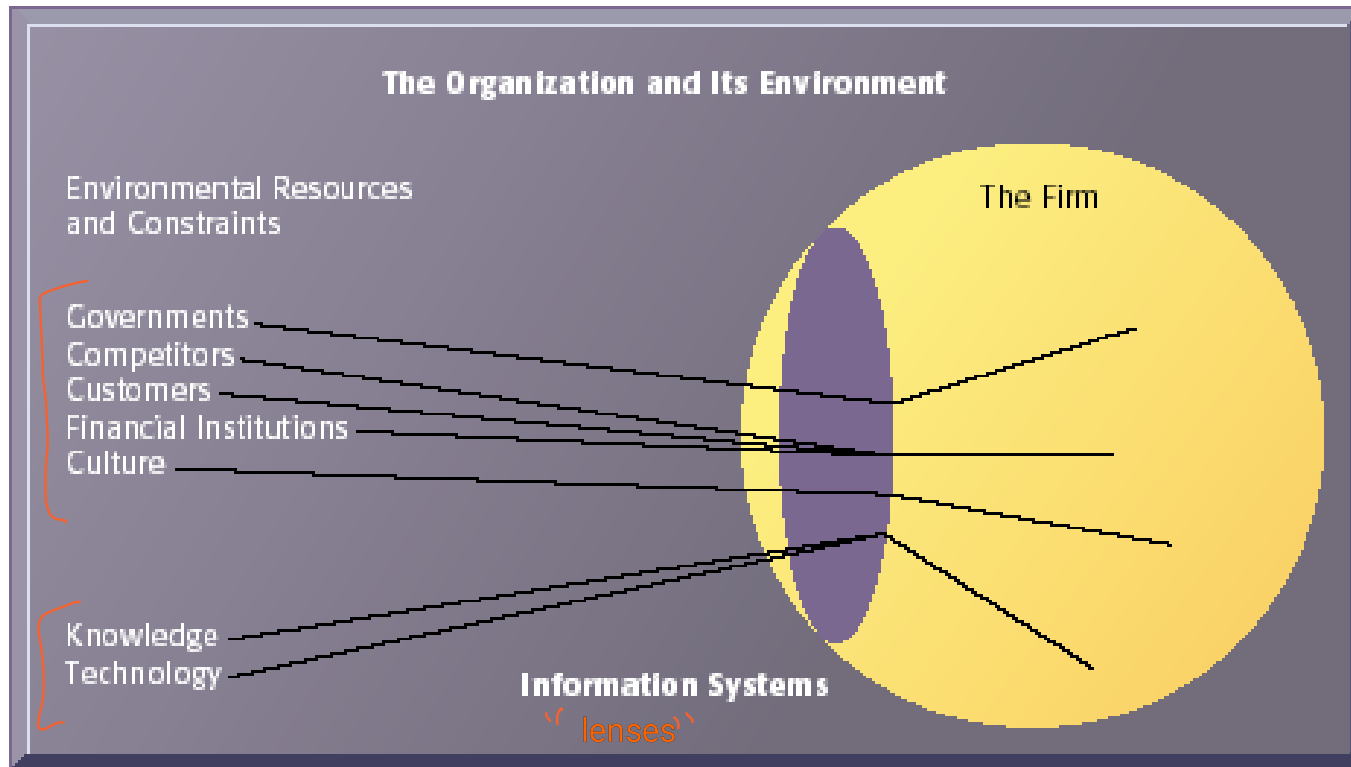
Organizations and Environments

- Organizations and environments have a reciprocal relationship. علاقة عكسية أو تبادلية
- Organizations are open to, and dependent on, the social and physical environment.
- Organizations can influence their environments.

the environment
ممکن تعيد تشكيل المنظمة احيانا

او ال org بتتشكل حسبها بناءا على ال culture تبعها

Organizations and Environments



بتعرف التحديات المشكلات الفرص الموارد رح يمر خلال ال is

Organizations and Environments

- Environments shape what organizations can do, but organizations can influence their environments and decide to change environments altogether.
- Information technology plays a critical role in helping organizations perceive environmental change and in helping organizations act on their environment.

Other Differences Among Organizations

- Ultimate goals
- Different groups and constituencies
- Nature of leadership
لے تشارکیہ اور فردیہ
- Tasks and technology

Organizing the IT Function

The information systems department is responsible for maintaining:

- Hardware
- Software
- Data storage
- Networks

Information Technology Services

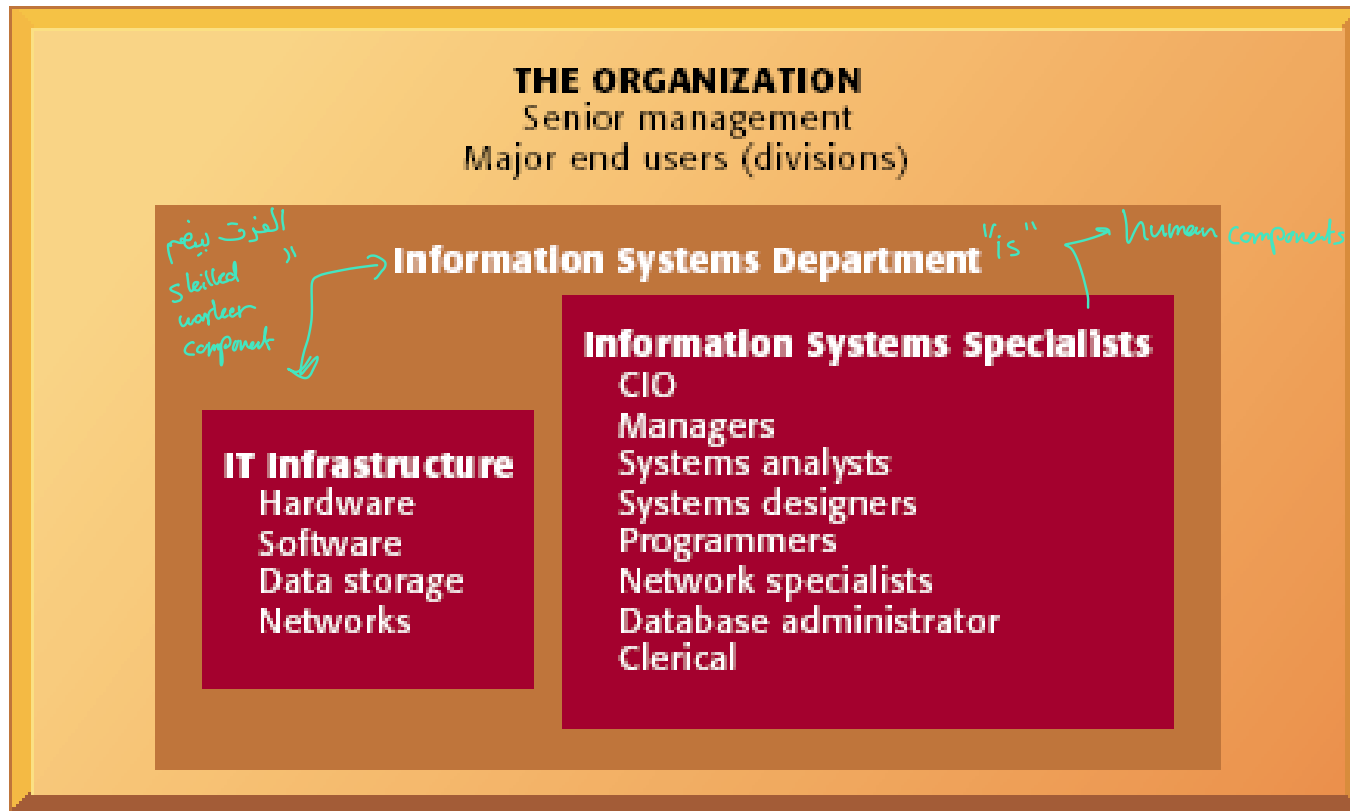


Figure 3-6

Information Technology Services

Includes Specialists:

- **Programmers:** Highly trained, writers of the software instructions for computers
- **Systems analysts:** Translate business problems into solutions, act as liaisons between the information systems department and rest of the organization
- **Information system managers:** Leaders of various specialists

Information Technology Services

Includes Specialists: (Continued)

رئيس الوحدة

- **Chief Information Officer (CIO):** Senior manager in charge of information systems function in the firm
- **End users:** Department representatives outside the information system department for whom applications are developed

الموظفين العاديين الي قدرت من خلالهم اطور ال information system

Economic Impacts

- IT changes both the relative costs of capital and the costs of information.
- Information systems technology is a factor of production, like capital and labor.

IT
صار مكون اساسي من عوامل الإنتاج زي الإنتاج ورأس المال و
العمال

صار مكون اساسي في كل org مثل رأس المال و العمال

بدنا نفهم ليش صار عامل مهم و اساسي يوازي رأس
العمال و الإنتاج و العمال

Economic Impacts

ال cost التشغيلية العادية اليومية

- **Transaction cost theory:** Firms seek to economize on the cost of participating in markets (transaction costs).

it يقلل التكلفة التشغيلية بالشركة عن طريق تقليل عدد العمال

- IT lowers market transaction costs for firm, making it worthwhile for firms to transact with other firms rather than grow the number of employees.

Transform How Data Drives Decisions

Dynamic Workplace Intelligence is designed to empower a businesses' digital transformation. Why is this critical for you and your customers?



87% of companies believe that **digital transformation is a competitive opportunity.**
(CapGemini)



85% of enterprise decision makers feel they have **two years to make significant inroads on their digital transformation** before falling behind their competitors.
(LinkedIn)



88% of firms are using **third-party providers** for at least one component of their digital transformation.
(Accenture)



Worldwide business workflow **automation and optimization market** is expected to grow to \$17.3B by 2022 at 11.1% CAGR.
(Worldwide Business Workflow Automation and Optimization Forecast, 2018-2022)



The biggest **competitive advantage** for 30% of organizations will be the ability to creativity **exploit digital technologies.**
(Gartner MarketGuide for Managed Print Services in the Digital Marketplace)

The Transaction Cost Theory of the Impact of Information Technology on the Organization

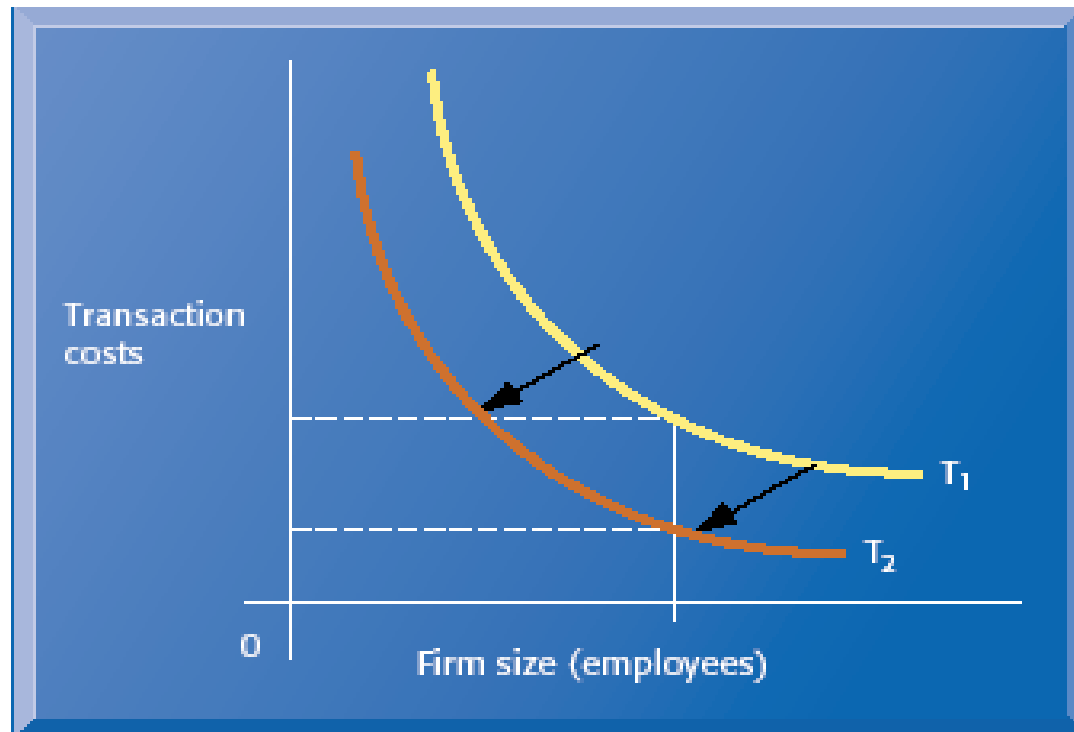


Figure 3-7

قللت العمال و التكلفة قلت

Economic Impacts

(شبكة) مجموعة من المتعاقدين

- **Agency theory:** Firm is nexus of contracts among self-interested parties requiring supervision.
- Firms experience agency costs (the cost of managing and supervising).
- IT can reduce agency costs, making it possible for firms to grow without adding to the costs of supervising, and without adding employees.

ما بدي أعين كثير مديرين من خلال برامج ال it المختلفة ممكن المدير يعرف الإنجاز للموظف بدون اتصال مباشر معه هاد بقل الحاجة لل middle manager

The Agency Cost Theory of the Impact of Information Technology on the Organization

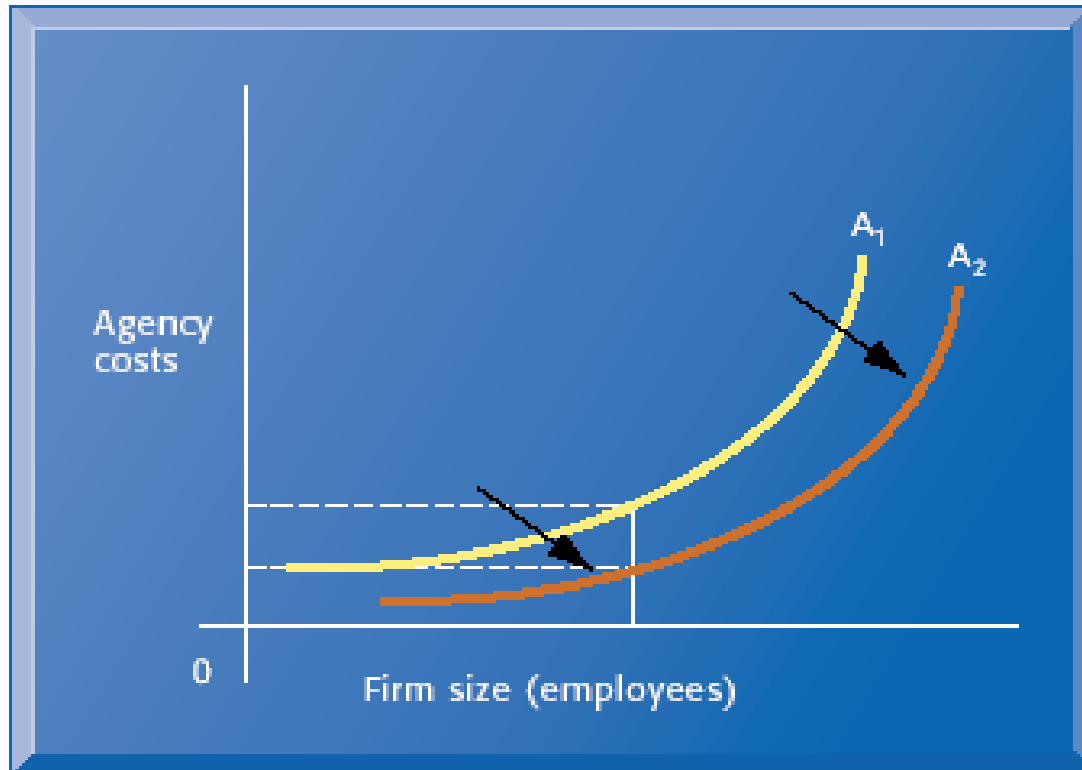


Figure 3-8

Organizational and Behavioral Impacts

IT Flattens Organizations:

- Facilitates flattening of hierarchies
- Broadens the distribution of timely information
- Increases the speed of decision making
- Empowers lower-level employees to make decisions without supervision and increase management efficiency
- Management span of control (the number of employees supervised by each manager) will also grow.

توصل بشكل أسرع و دقيق

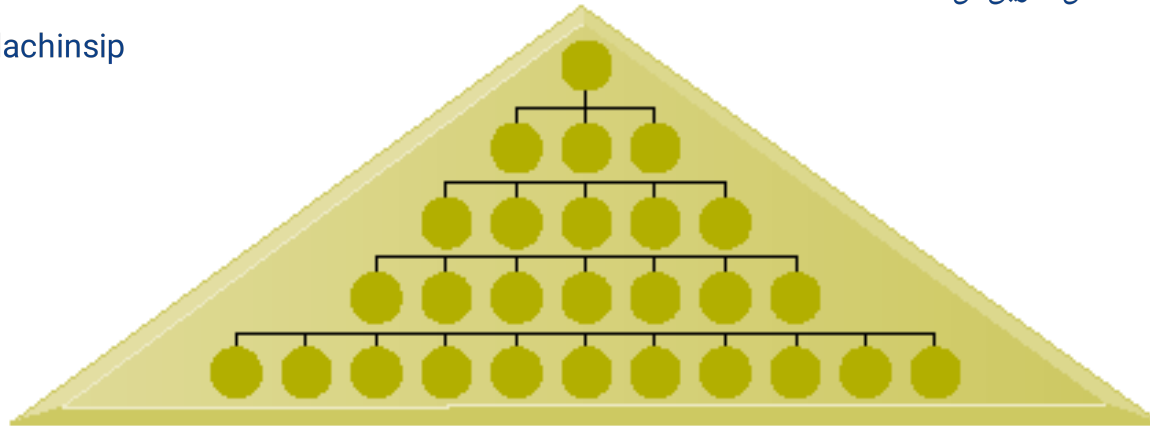
لانه هياكل الإدارة العمودية
قلت ف الأوامر بتوصل

بسرعه

Flattening Organizations

تقليل مستويات الإدارة المتوسطة عن طريق ال
it and is

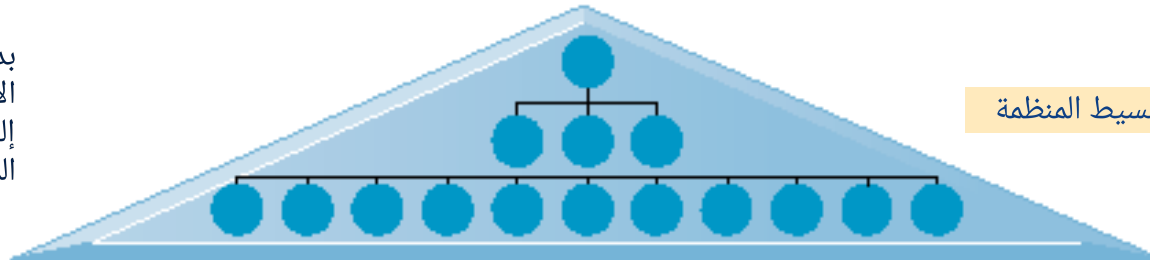
this is the formal relachinsip



A traditional hierarchical organization with many levels of management

so if I want to increas the
efficiency

بدي اقلل تعقيد العلاقات
الإنسانية ف بدي ألغى العلاقات
إلى ما الها داعي تقليل عدد
الموظفين



An organization that has been "flattened" by removing layers of management

تسطيح أو تبسيط المنظمة

رح تصير الشركات نشطة اكثر

Figure 3-9

Postindustrial Organizations and Virtual Firms

كيف الإنترنت ممكن يساعد في تحقيق ال strategy لل
organization

Postindustrial Organizations:

- Authority increasingly relies on knowledge and competence.

تعتمد بدرجة أولى على ال knowledge

- Information technology encourages task force-networked organizations.

ال information technology
كونها بتوزع المعلومات
على جميع العاملين المعنيين
وبالتالي اشي طبيعي يكون عندي task oriented قروب في ال is إلى عندي اياه

Postindustrial Organizations and Virtual Firms

معناها انه ال Website إلى عندي اياها لل org إلى عندي اياها
كيف الفوائد تابعتها كيف ممكن اوصل ل costumer من خارج السوق إلى عندي اياه كيف ممكن التفاعل مع supplier من خارج السوق كمان إلى عندي اياه

Virtual Firms:

- Use networks to link people, assets, and ideas
- Can ally with suppliers, customers to create and distribute new products and services
- Not limited to traditional organizational boundaries or physical locations

How Information Systems Impact Organizations and Business Firms

Increasing Flexibility of Organizations:

- Information systems give both large and small organizations additional flexibility to overcome the limitations posed by their size.
- Small organizations use information systems to acquire some of the muscle and reach of larger organizations.

يمكن أزيد ال flexibility تاعت ال organization ممكن اقل ال physical structure على حساب ال virtual structure ممكن اوصل أسواق صعب اوصلها بالحالة الطبيعية اني محشور في السوق المحلي ممكن كمان أزيد ال customisation البضاعة إلى بتروح بناءا على طلب ال costumer بس هاد كله ممكن ازيد

How Information Systems Impact Organizations and Business Firms

Increasing Flexibility of Organizations: (Continued)

- Large organizations use information technology to achieve some of the agility and responsiveness of small organizations.
- **Customization and personalization:** IT makes it possible to tailor products and services to individuals.

How Information Systems Impact Organizations and Business Firms

استخدام ال it بقلل هاي الشغلة و يساهم بالتغلب عليها

Understanding Organizational Resistance to Change:

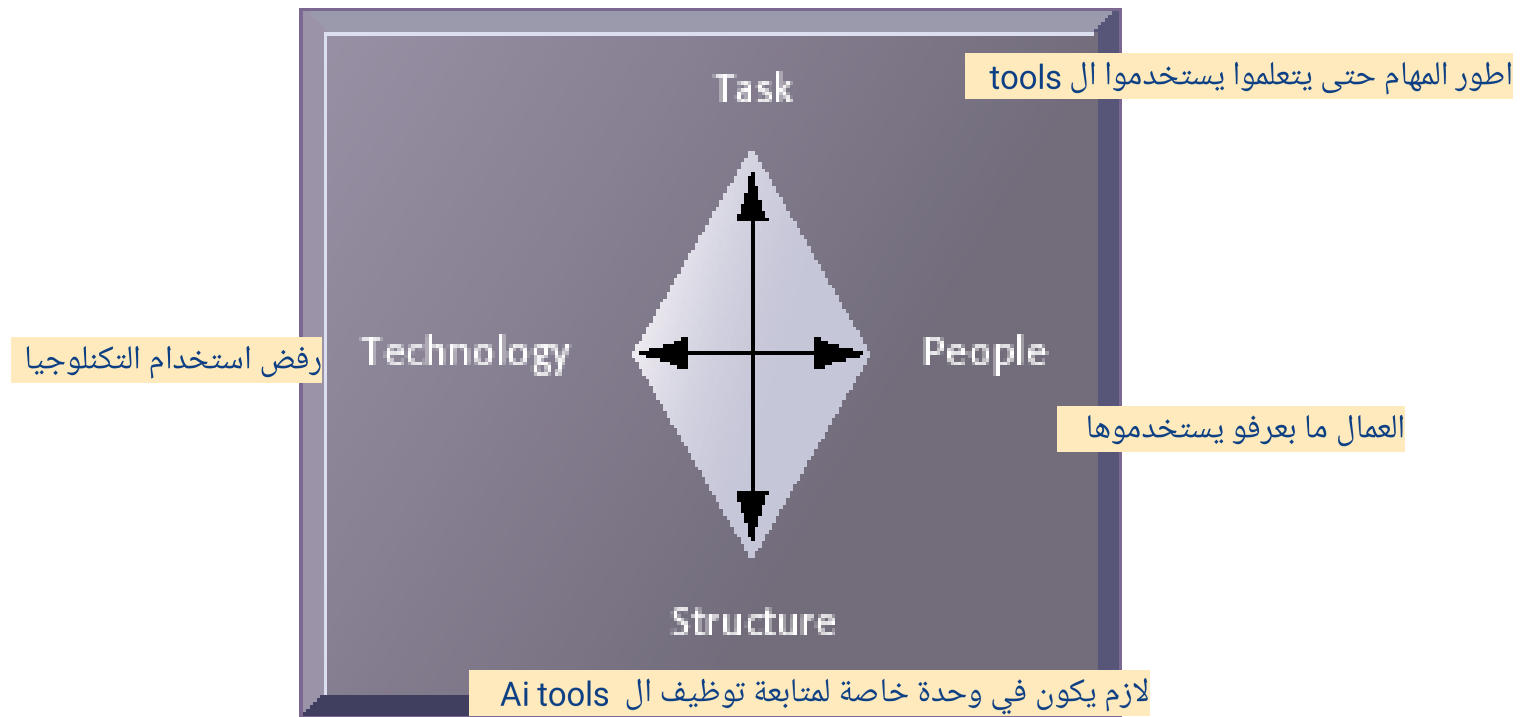
- Information systems become bound up in organizational politics because they influence access to a key resource.
- Information systems potentially change an organization's structure, culture, politics, and work.
- Most common reason for failure of large projects is due to organizational and political resistance to change.

كونه ال is بشكل استشعار دائما لجميع التحديات الحالية والمستقبلية إلى عندي اياها
في ال environment و بالتالي ال is ممكن يقلل دائما ما يسمى في مقاومة التغيير

اهم أهداف ال is مساعدة المدير في اتخاذ القرار

How Information Systems Impact Organizations and Business Firms

Organizational Resistance and the Mutually Adjusting Relationship between Technology and the Organization



Source: Reprinted by permission of James G. March.

Figure 3-10

How Information Systems Impact Organizations and Business Firms



How Information Systems Impact Organizations and Business Firms

The Internet and Organizations

- The Internet increases the accessibility, storage, distribution of information and knowledge for business firms.
- The Internet lowers the transaction and agency costs of firms.
- Businesses are rapidly rebuilding their key business processes based on Internet technology. Example: online order entry, customer service, and fulfillment of orders.

The Impact of IT on Management Decision Making

Implications for the Design and Understanding of Information Systems

بتعید تشکیل ال is بناء على طبيعتها و شكلها

Factors to consider while planning a new system:

- Organizational environment
- Organizational structure, hierarchy, specialization, routines, and business processes
- The organization's culture and politics

The Impact of IT on Management Decision Making

طبيعة اتخاذ القرار بتتأثر في نوع المؤسسة شو ما كانت و في طبيعة القيادة إلى فيها

- The type of organization and its style of leadership
- Groups affected by the system and the attitudes of workers who will be using the system
- The kinds of tasks, decisions, and business processes that the information system is designed to assist

The Impact of IT on Management Decision Making

يقدم بدائل مقترحات و knowledge مستحيل يقدر
ياخذ قرار

Characteristics to be kept in mind while Designing Systems:

- Flexibility and multiple options for handling data and evaluating information
- Capability to support a variety of management styles, skills, and knowledge
- Capability to keep track of many alternatives and consequences
- Sensitivity to the organization's bureaucratic and political requirements

الإدارة هي عبارة عن اختيار من متعدد وبدني اشوف شو في خيارات
وعواقب للخيار

mis is an interface BTW bussines and it

The Impact of IT on Management Decision Making

Business strategy decisions of the firms will determine the following:

- The products and services a firm produces
- The industries in which the firm competes
- Competitors, suppliers, and customers of the firm
- Long-term goals of the firm

Information Systems and Business Strategy

أهداف استراتيجية على مدى طويل أو متوسط

Business-Level Strategy: The Value Chain Model

The most common generic business level strategies are:

- Become the low-cost producer
- Differentiate your product from competitors' products
- Change the scope of competition by enlarging the market or narrowing it to a specialized niche

بدي اختص في جزء من سوق انا بشتغل فيه بختار جزء من السوق استثمر فيه

الهدف : بدي اقلل تكاليف الإنتاج وازيد ال profits margin

Information Systems and Business Strategy

Value Chain Model:

- Highlights the primary or support activities that add business value
- A good tool for understanding strategy at the business firm level

Primary Activities:

- Directly related to the production and distribution of a firm's products or services لها علاقة مباشرة التصنيع وفي إنتاج المنتج نفسه إلى بيعه

Information Systems and Business Strategy

Support Activities:

- Make the delivery of primary activities possible
- ^{المباني} Consist of the organization's infrastructure, human resources, technology, and procurement

تدعم الإنتاج في شتى الوسائل ما في تواصل مباشر مع الانتاج

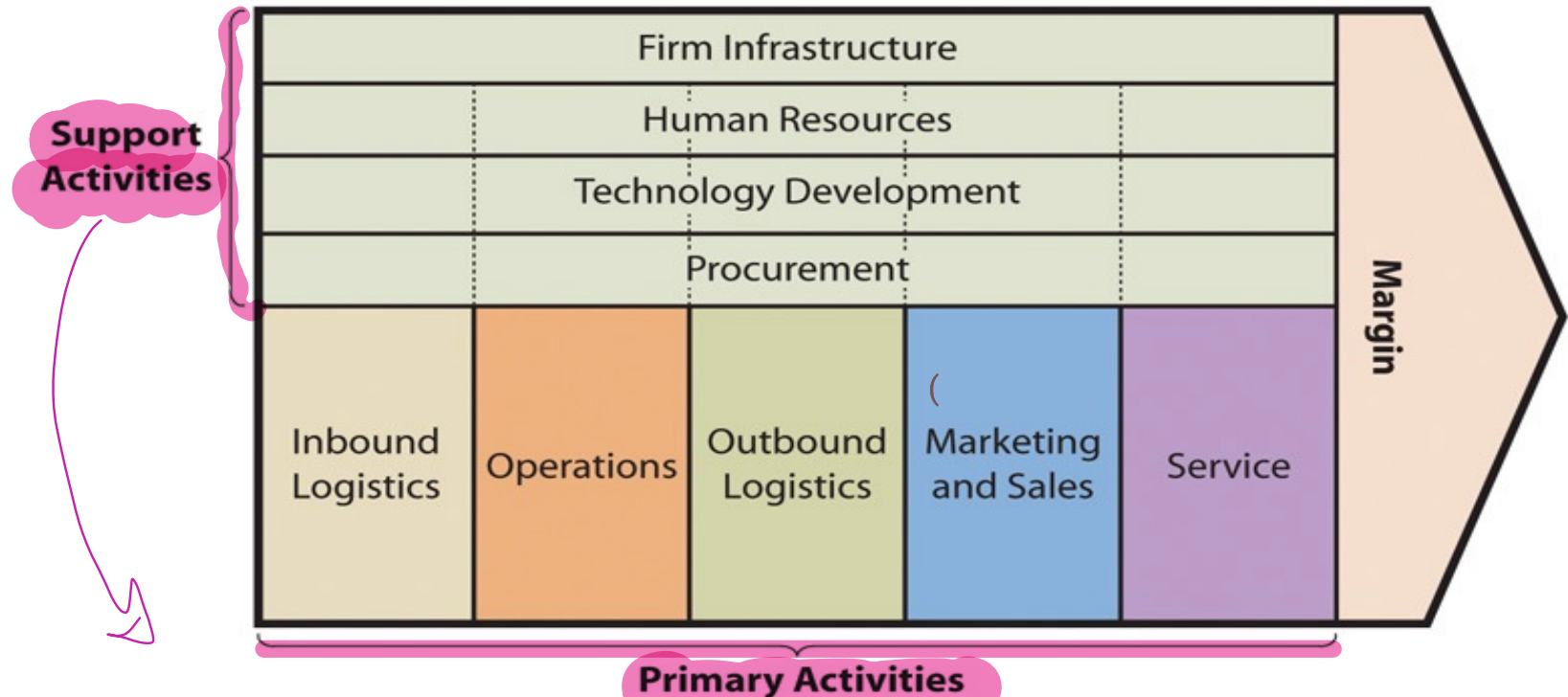
ال it الي يستخدم جزء من ال firm infrastructure

Value Chain

بعضتي ١ net model و profit margin

كل هدول business process

كل هدول activity that added value



هاي ال activity لازم تكون دايمًا موجودة بغض النظر عن التكلفة
وظيفة ال is يخليها تتم بكفاءة عالية وتكلفة قليلة جدا
وبالتالي زيادة ال profit margin

هدفها إعطاء competitive advantage

What Is a Value Chain?

- Network of value-creating activities
- Primary activities
- Support activities
- Linkages

Primary Activities

- Five activities
 - ✓ ■ Inbound logistics
 - ✓ ■ Operations
 - ✓ ■ Outbound logistics
 - ✓ ■ Marketing and sales
 - ✓ ■ Service
- Stages accumulate costs and add value to product
 - ✓ ■ Net result is total margin of chain

Support Activities

- Four activities
 - Firm infrastructure
 - Human resources
 - Technological development
 - Procurement
- Contribute indirectly to production, sale, and service
- Add value and costs
 - Produce margin that is difficult to calculate

Linkages

ليعزز ال flow والسرعة
عمليات ال Cross function بين ال primary و ال support

- Interactions across value activities
- Sources of efficiencies
- Readily supported by information systems
- Reduce inventory costs

Benefits of value chains

- Support decisions for various business activities.
- Diagnose points of ineffectiveness for corrective action.
- Understand linkages and dependencies between different activities and areas in the business. For example, issues in human resources management and technology can permeate nearly all business activities.
- Optimize activities to maximize output and minimize organizational expenses.
- Potentially create a cost advantage over competitors.
- Understand core competencies and areas of improvement.

Information Systems and Business Strategy

The Firm Value Chain and the Industry Value Chain

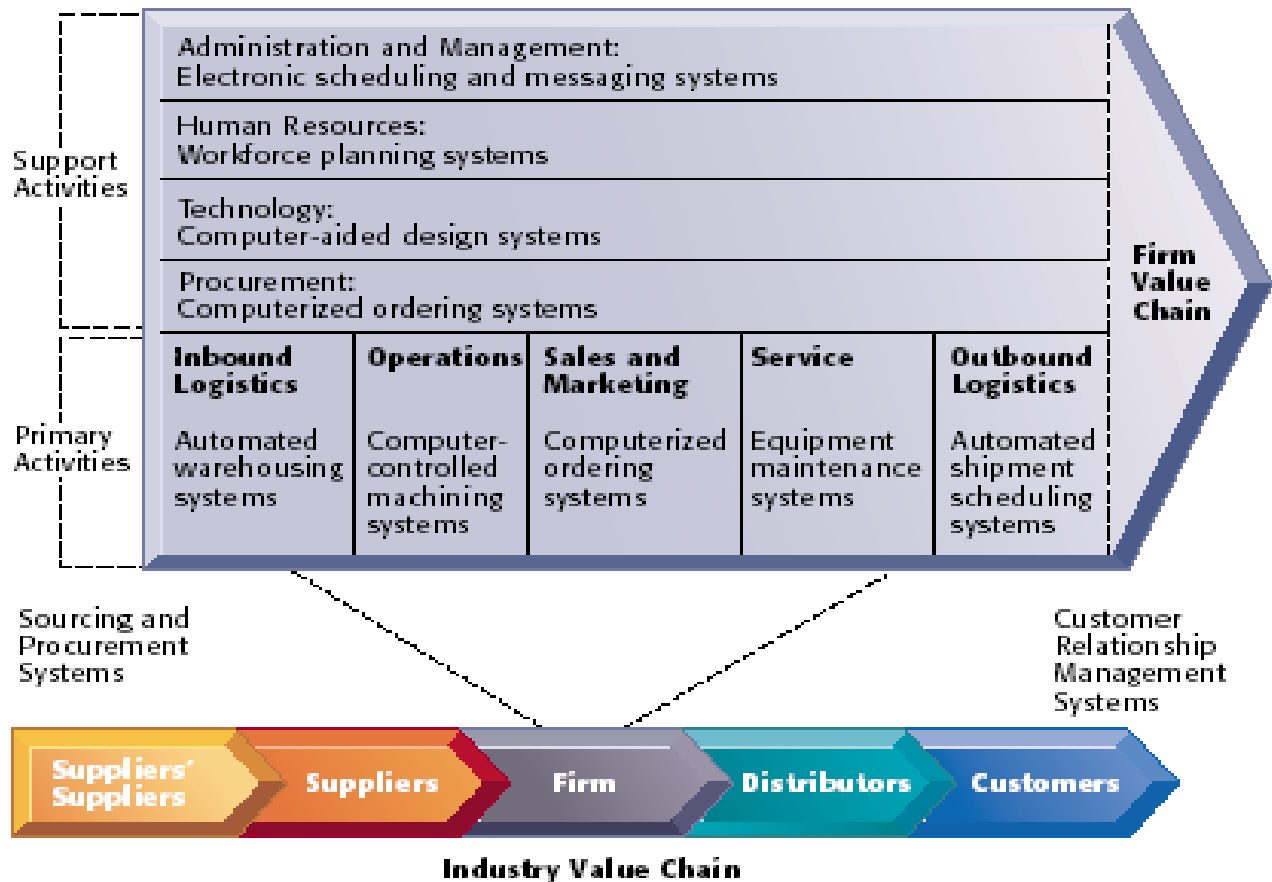


Figure 3-11

Information Systems and Business Strategy

Strategic question:

- How can IT be used at each point in the value chain to lower costs, differentiate products, and change the scope of competition?

Information Systems and Business Strategy

Value Web:

Internet-enabled Web of cooperating firms

- Customer-driven network of independent firms
- Uses information technology to coordinate value chains of separate firms for collectively producing a product or service

Information Systems and Business Strategy

عملية Connection بين الـ suppliers والـ customers عن طريق الـ industry
- Value web:

The Value Web

highly connected

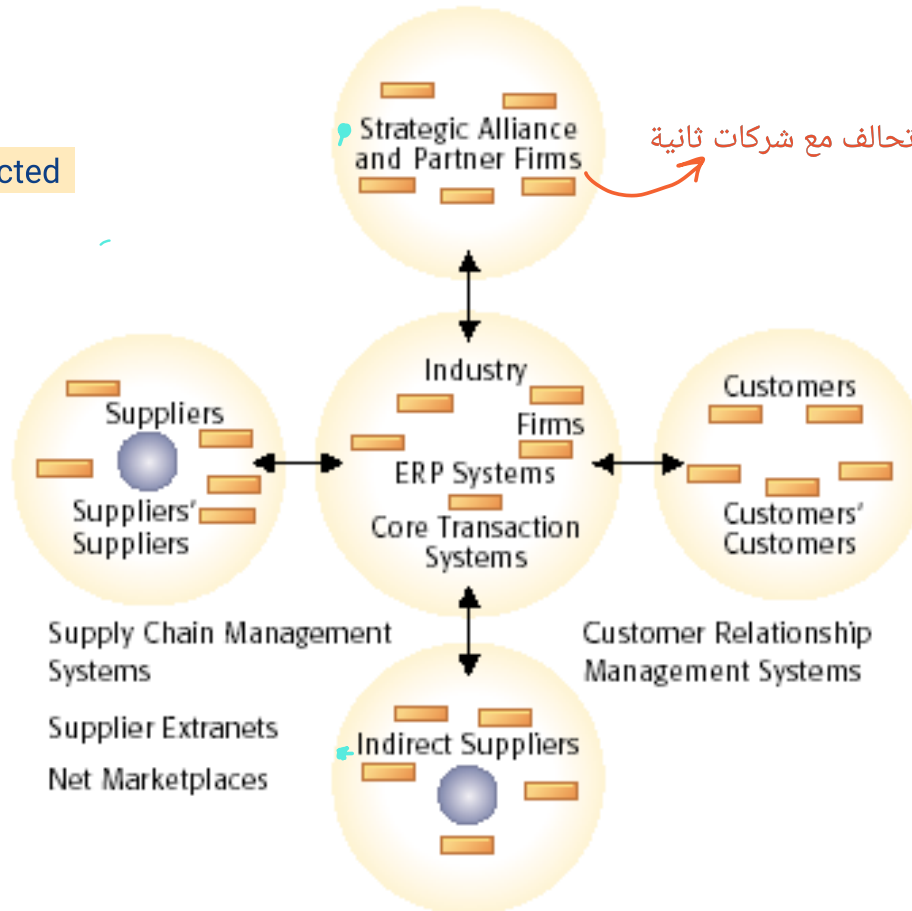


Figure 3-12

Information Systems and Business Strategy

Information Systems Products and Services

Systems that Create Product Differentiation:

التنوع بالمنتجات و الاسواق

- Firms can use IT to develop differentiated products.
- Create brand loyalty by developing new and unique products and services
- Product and services not easily duplicated by competitors

Examples: Dell, Orbitz

ال niche بس اهتم ب segment معين داخل شركة

Information Systems and Business Strategy

Systems that Support Focused Differentiation:

معلومات العميل عن حاله يبدع بطرق جديدة للوصول له

- Uses intensive analysis of customer data to support new ways of contacting and serving the customer
- Enables development of new market niches for specialized products or services
- A niche market is a segment of a larger market that can be defined by its own unique needs, preferences, or identity that makes it different from the market at large.

← value chain model
← هدفه لاكتشف عن business strategy ويبحث كل ال profit margin → one model

Information Systems and Business Strategy

البروز على كل الأشياء يعني ربح
margin

Porter's Five Forces Model

In the larger environment, there are five main forces or threats:

- New market entrants
- Substitute products and services
- Suppliers
- Customers
- Other firms competing directly

على مستوى ال business و
planning strategy

سهل اكتشافها

Information Systems and Business Strategy

Porter's Competitive Forces Model

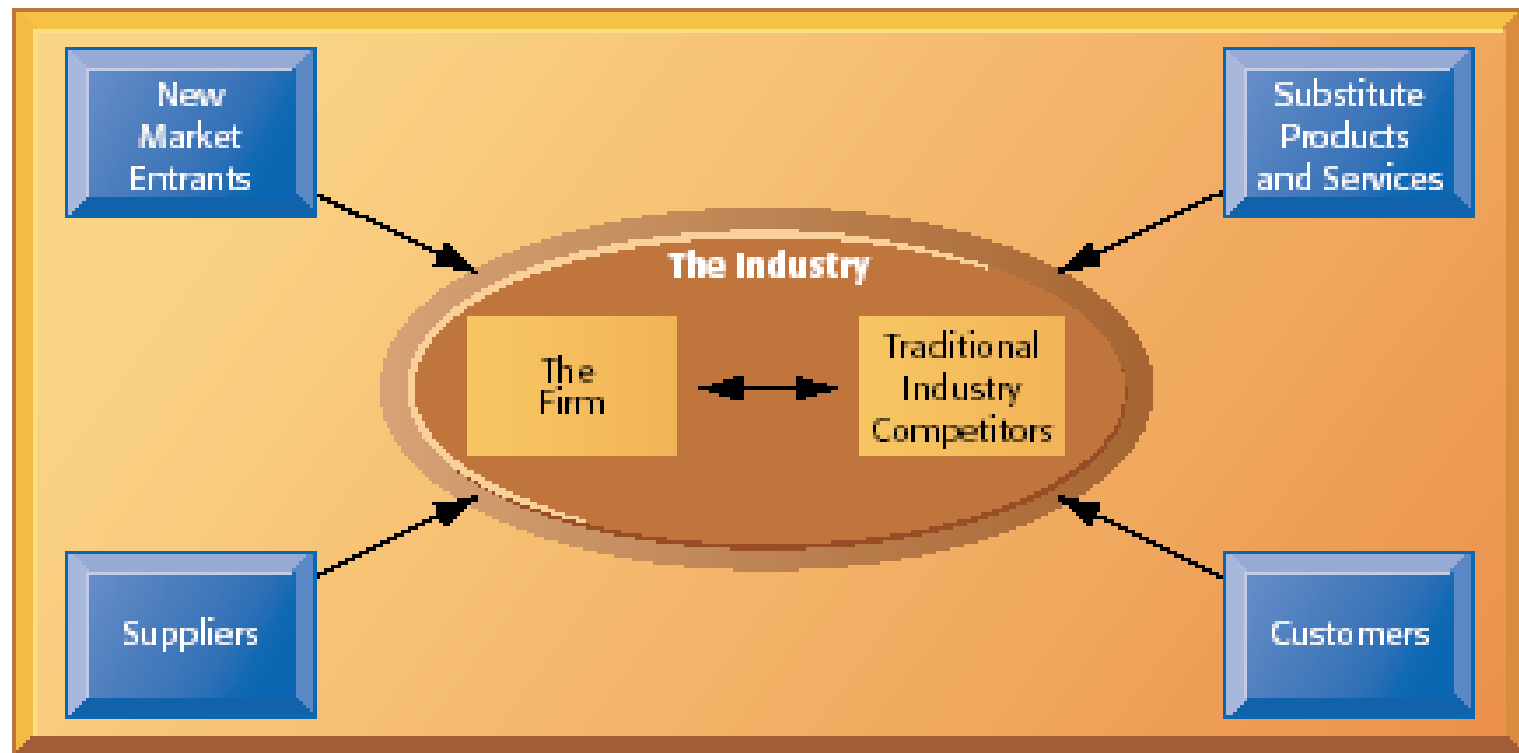


Figure 3-15

Information Systems and Business Strategy

IT and the Internet can greatly change the strength of these competitive forces:

- Encourage new entrants. Example: NetFlix (offers thousands of movies and TV shows for a flat monthly rate) vs. Blockbuster (a pay-per-view video-on-demand service (you rent or buy each title individually))
- Increase customer bargaining power. Example: Expedia.com (travelling agency) and others. تطور عن طريق شبكة الانترنت

Information Systems and Business Strategy

IT and the Internet can greatly change the strength of these competitive forces: (Continued)

- Decrease in supplier power. Example: eCampus.com increases the efficiency of used textbook market, reducing publisher profits
- Substitute products. Example: online music lowers value of record stores

<https://www.youtube.com/watch?v=fO4hzG4u3-Q>

https://www.youtube.com/watch?v=QU3dRhXmC_8

Organizational Strategy

أهداف الشركة البعيدة و المتوسطة

- Determines organization's goal and objectives
- Developed from organizational structure
- Creates the value chain for organization
- Establishes the structure, features, and functions of information systems

What Is Competitive Strategy?

- Organization's response to structure of its industry structure:
- The structure of the industry refers to the nature of barriers to entry and competitive dynamics in the industry.
- Four characteristics of industry structure are particularly important to the performance of new firms in the industry:
 - ✓ Capital intensity يمكن تكون مقياس لل performance تركيز رأس المال
 - ✓ Advertising intensity, تركيز الإعلان
 - ✓ Concentration,
 - ✓ Average firm size.

Organizational Strategy

هدفنا يصير عني
Competitive strategy
or to add competitive
advantage

- Porter identified four competitive strategies:
 - Cost leadership across industry
 - Cost leadership focused on particular industry segment
 - Differentiation across industry
 - Differentiation focused on particular industry segment
- Porter says goals, objectives, culture, and activities must be consistent with strategy

Industry-wide

Cost

better quality
Differentiation

Lowest cost across the industry	Better product/service across the industry
Lowest cost within an industry segment	Better product/service within an industry segment

لنحرم منافسنا بالوسط الصافي
بأي شكل ممكن

Focus

لنحرم منافسنا في Segment معين

التخصص في صناعة معينة بحيث أعطى منتج بسعر منافس وجودة عالية

industry segment = niche
لنحرم منافسنا و quality متازة لأحقق
competitive advantage

Achieving Competitive Advantage

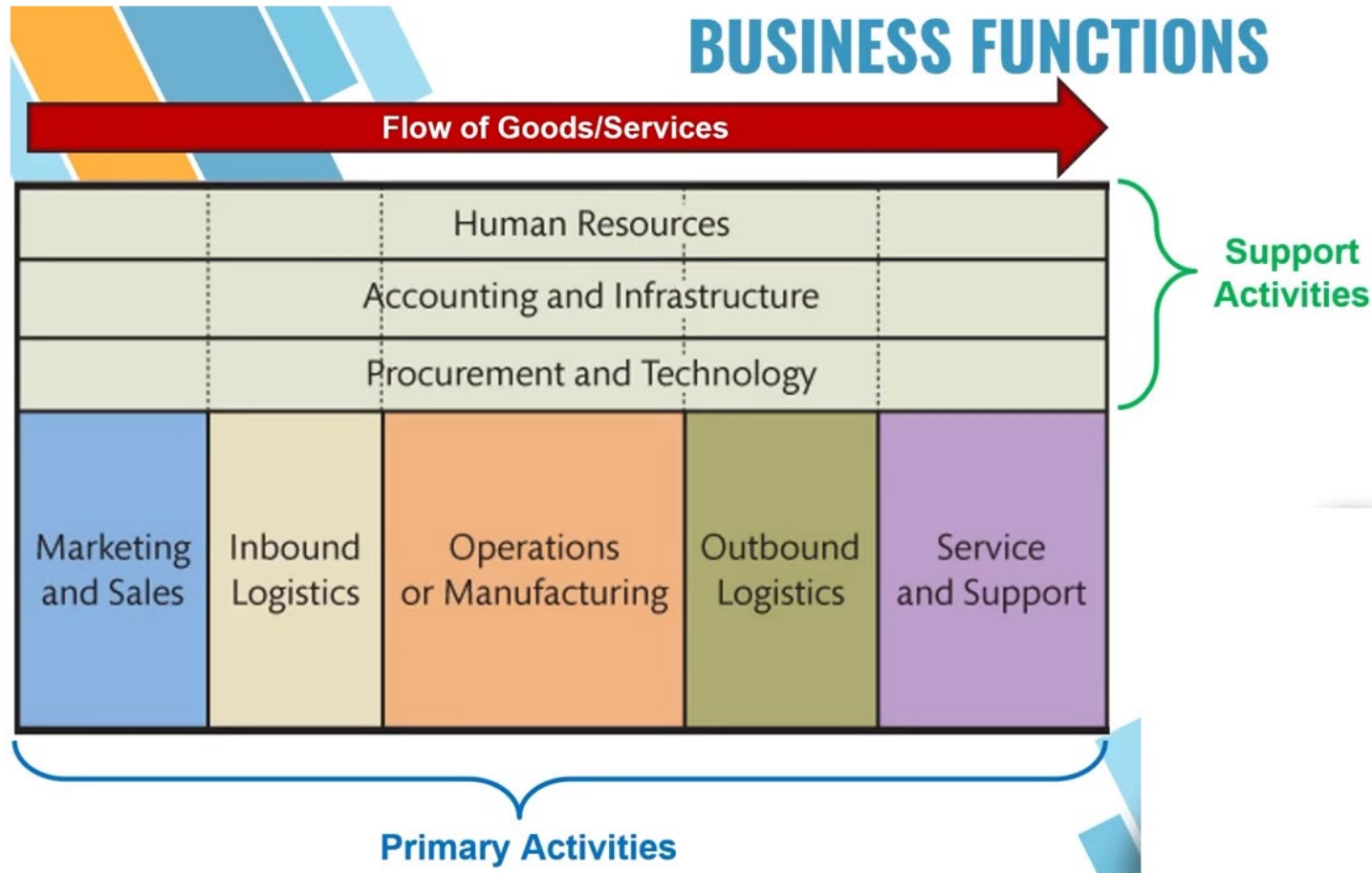
- Businesses determine competitive strategies
- Create processes to achieve strategies
- Information systems developed to support business processes
- Help organizations achieve competitive advantage
- Need to avoid creating systems that are unrelated to organization's strategy

المقصود IS

كل شيء بالشركة لخدم يجب بمصلحة competitive strategy

Business Functions

بده نوع من ال IS



لازم دائما يصب في مصلحة استراتيجية الشركة **Business Functions:** the activities carried out by an enterprise; the combination of all **primary** and **support** activities.

Fundamental Types of Information Systems within Organizations

CROSS SECTION AND DEP

- 
- Calculation systems
 - Functional systems
 - Cross-functional systems

Calculation Systems

بسيط نسبيا
مثل نظام دفع الروابط و التخزين بعطي معلومات روتنيا معلومات صادرة قليلة ل little knowledge

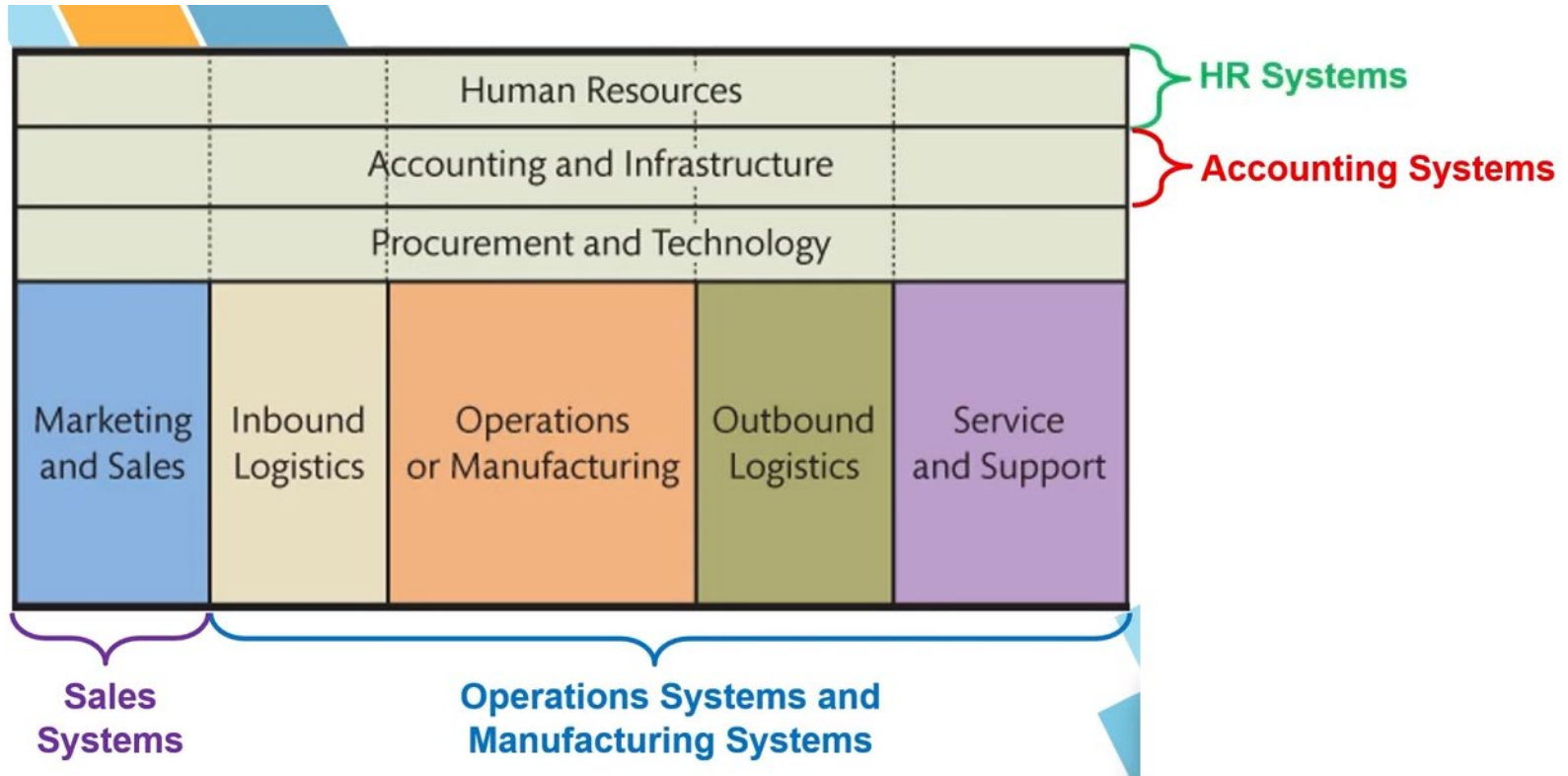
- Antiquates system
- Relieved workers of repetitive calculations
- Labor-saving devices
- Produced little information
- Examples: systems that computed payroll and wrote paychecks; inventory tracking

Functional Systems

- Facilitates work of single department or function
- Functions added to calculation system programs to provide more value *or information*
- ① Islands of automation
 - ✓ Work independently from each other
 - ✓ Effective as independent functions
 - ✓ Inefficient working in cooperation with other processes across entire business
- Examples: human resources; financial reporting

بـتـفـيـر بـن الـدـيـوـيـن بـن دـيـوـيـن تـفـيـر مـن حـزيرة مـعـزولة اذا ما ارتبطت بباقي الـدـيـوـيـن

Functional Systems



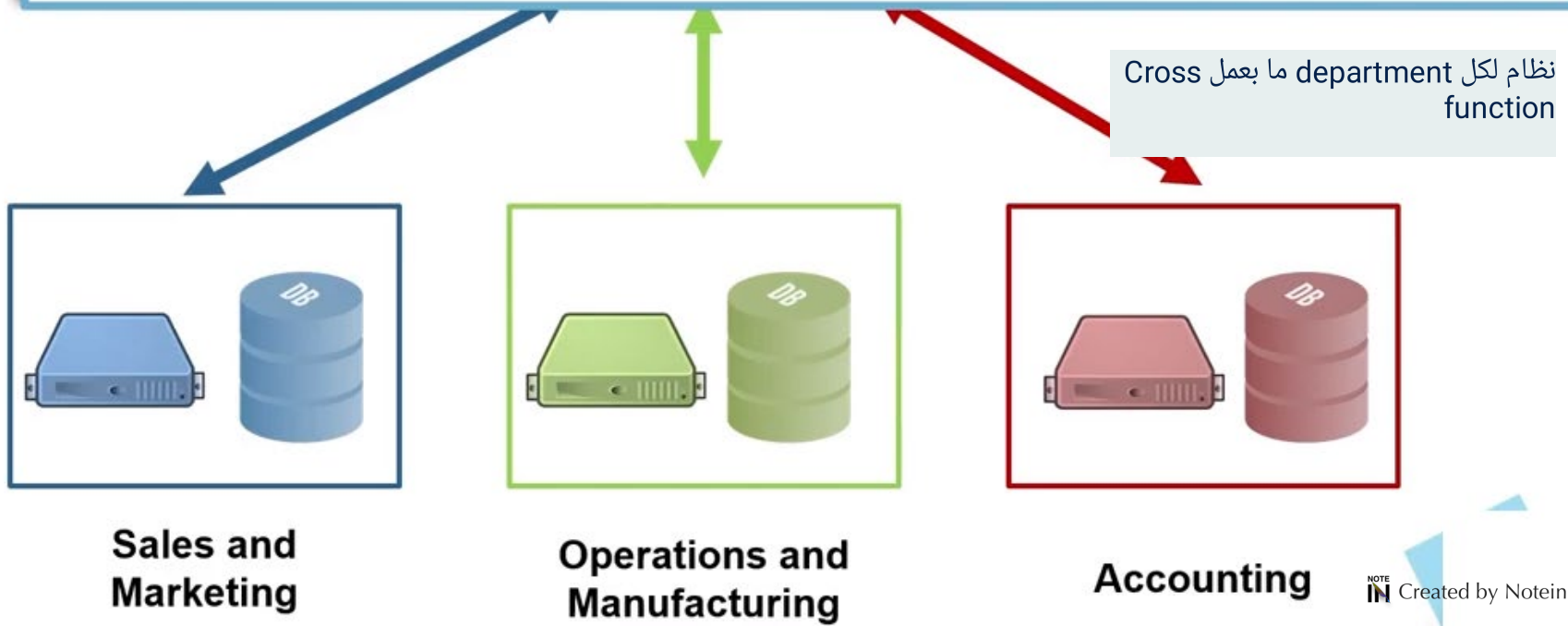
Functional System: Information systems which facilitate the work of a single department or function.

ہر ڈیپارٹمنٹ کی اپنی مخصوص
ہر ڈیپارٹمنٹ کے لئے
Business Process
ہر ڈیپارٹمنٹ کے لئے
Business Process
Cross function department

Functional Silos

FUNCTIONAL SILOS

Functional Silos: Isolated systems designed to work independently of one another.



Functional Systems

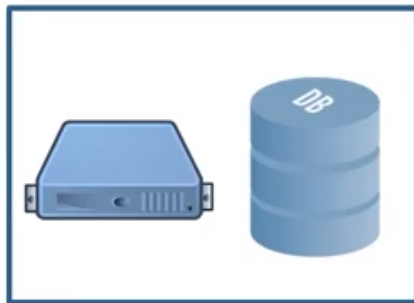
heterogeneity



- Data Integrity Issues:

Order Data

Product	Price
LXZ-0324	\$135.56
LTK-0203	\$38.99



Sales and
Marketing

Inventory Data

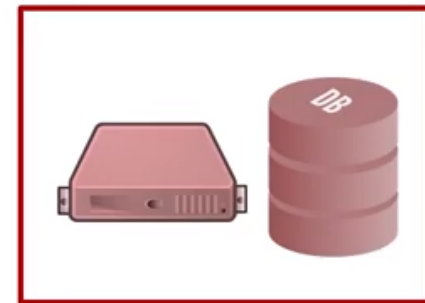
Product	Price
LXZ324	\$135
LTK203	\$38



Operations and
Manufacturing

Accounting Data

Product	Price
00324-LXZ	\$130.25
00203-ATK	\$39.00



Accounting

* ممكن يكون ال Software ابي يستخدم مع هذا ال Dep. صعب يستعمل مع غيره

Functional Systems

- Costly Functional Systems



**Sales and
Marketing**



**Operations and
Manufacturing**



Accounting

Integrated, Cross-Functional Systems

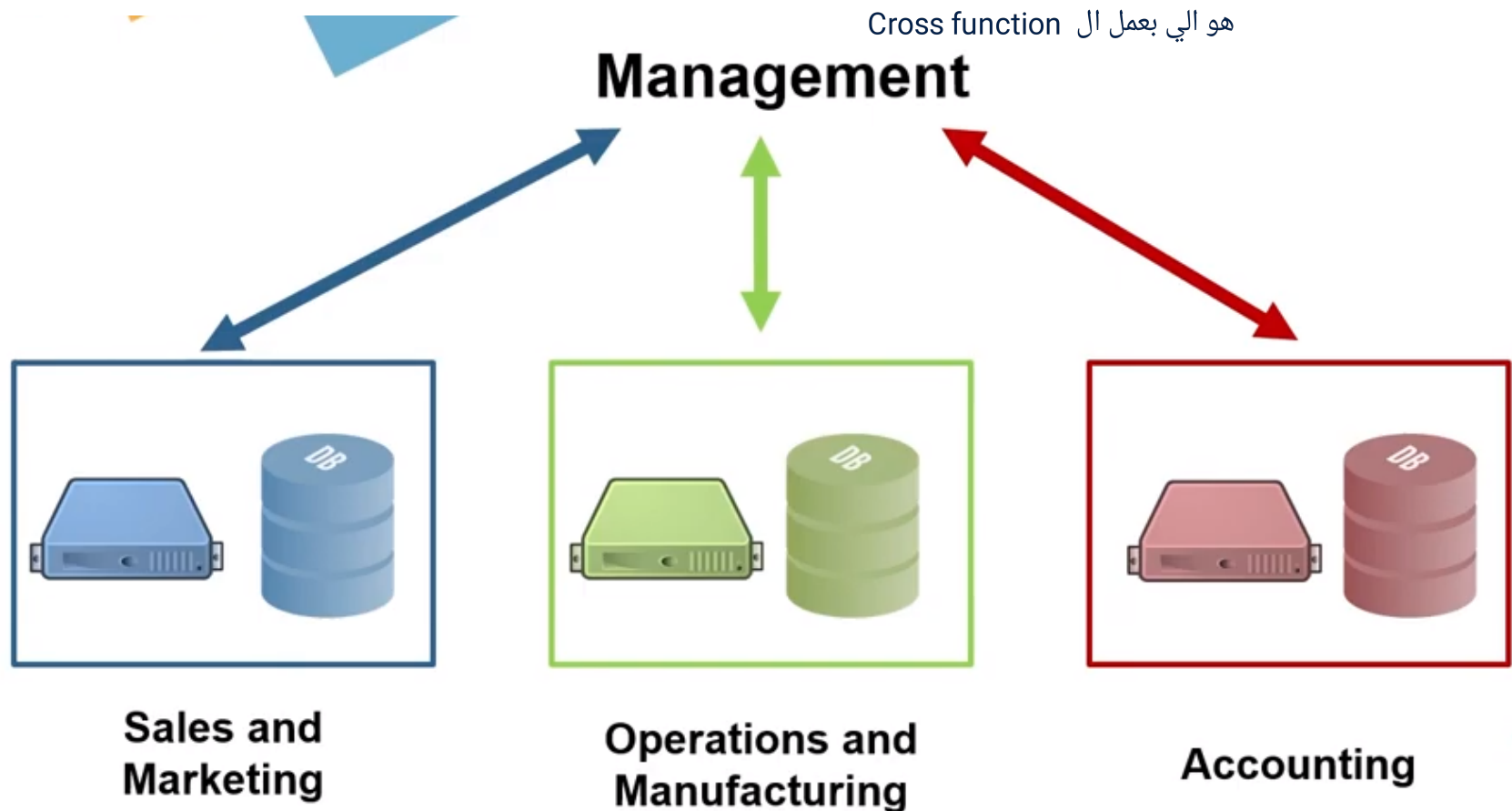
لح بشتغل على الكل من Department

احسن واحد ممكن يساعد في تحقيق الاستراتيجي والتنافسية

- Cross-department systems operate across departmental boundaries
 - Increased functionality
- Process-based systems support complete business processes
 - Integrated processing systems are more efficient
 - Needs clear line of authority

الوقت بين functional و cross-functional
Departmental Based
Process Based

Integrated, Cross-Functional Systems



Functional Systems Problems

- Systems provide tremendous benefits, but are limited because they operate in isolation
 - Data duplication results from each application having own database
 - Potential lack of data integrity
 - Business processes disjointed across functions
 - Produces lack of integrated enterprise information
 - Limited information available at any one source
 - Inefficient decisions based on limited knowledge
 - Increased costs to organization

Cross-Functional Systems and the Value Chain

- Cross-functional systems designed to overcome problems in functional systems
- **Customer relationship management systems (CRM)**
 - Integrates all of the primary business activities
 - Makes the organization customer-centric
 - All customer data stored in single database
- **Enterprise resource management systems (ERP)**
 - Integrates primary value chain activities with human resources and accounting
 - Enterprise-wide systems

Business Process Design

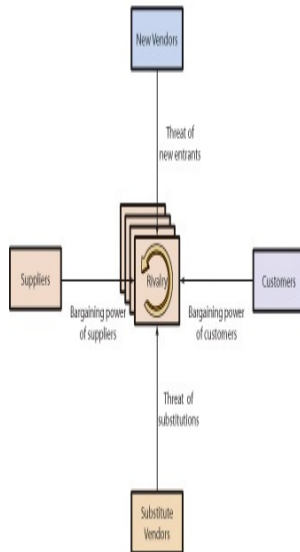
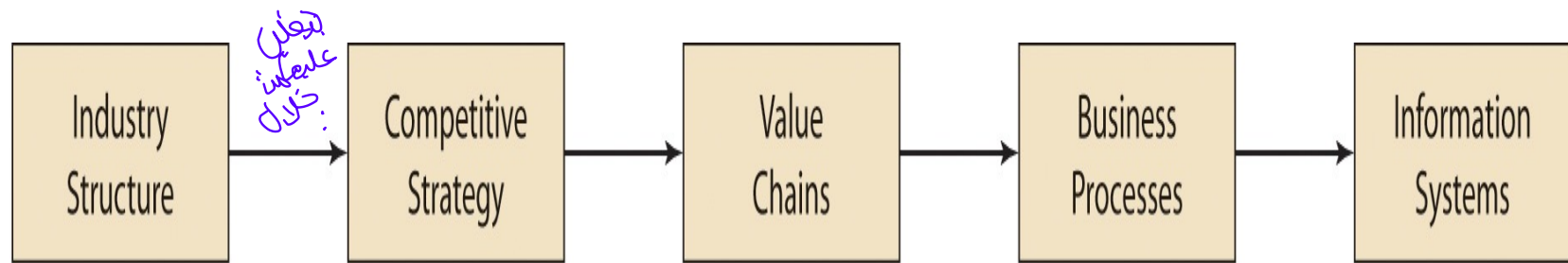
□ Porter's idea

- Create integrated, cross-departmental business systems
- Do not automate or improve existing systems
 - Instead, create new processes:
 - Integrate activities of all departments
 - Across entire value chain

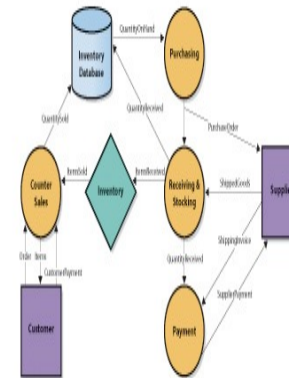
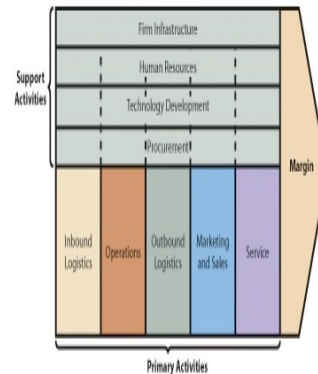
Business Processes

- ④ Network of activities, resources, facilities, and information
- ④ Accomplish a business function حتى تخدم
- ④ Implement value chains or portions of value chains

Organizational Strategy Determines Information Systems



Lowest cost across the industry	Better product/service across the industry
Lowest cost within an industry segment	Better product/service within an industry segment



Competitive Advantage via Products

- Organizations gain a competitive advantage by:
 - Creating new products or services
 - Enhancing existing products or services
 - Differentiating their products or services

Competitive Advantage via Business Processes

❑ Organizations can gain a competitive advantage by implementing business systems

■ Locking in customers

- High switching costs

قيمتهم كبيرة
الاثنين

■ Locking in suppliers

- Making it easy to connect to and work with organization

Competitive Advantage via Business Processes, continued

- Create entry barriers تعريفات جمركية
 - Making it expensive for new competition to enter market
- Establish alliances شركات صغيرة
 - Establish standards تحالفات
 - Promote product awareness
- Reducing costs
 - Increased profitability