DS3000: Entrepreneurship & Management functions

Session 10

https://sites.google.com/a/iiitdm.ac.in/sudhirvs/courses/entrepreneurship-management

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, DESIGN AND MANUFACTURING, KANCHEEPURAM

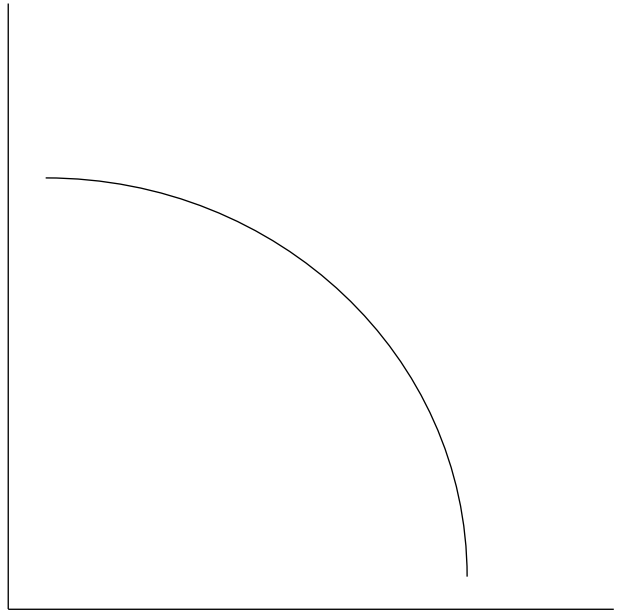
- Dr Sudhir Varadarajan
- Dr Suresh Varadarajan

Contents

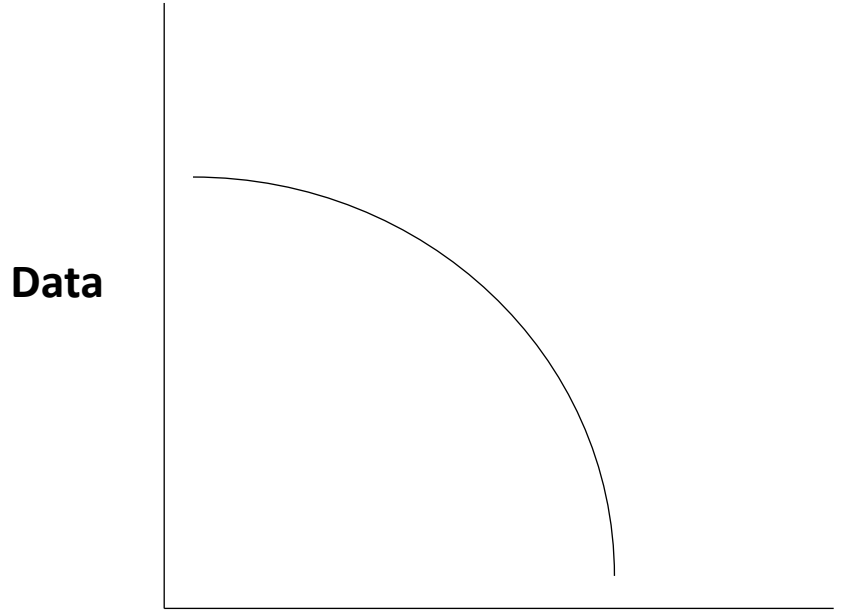
- Data / Information / Knowledge as an asset
- IPR and Knowledge Management
- Designing Enterprise Information Systems

Growing importance of information in enterprises

Industrial Age

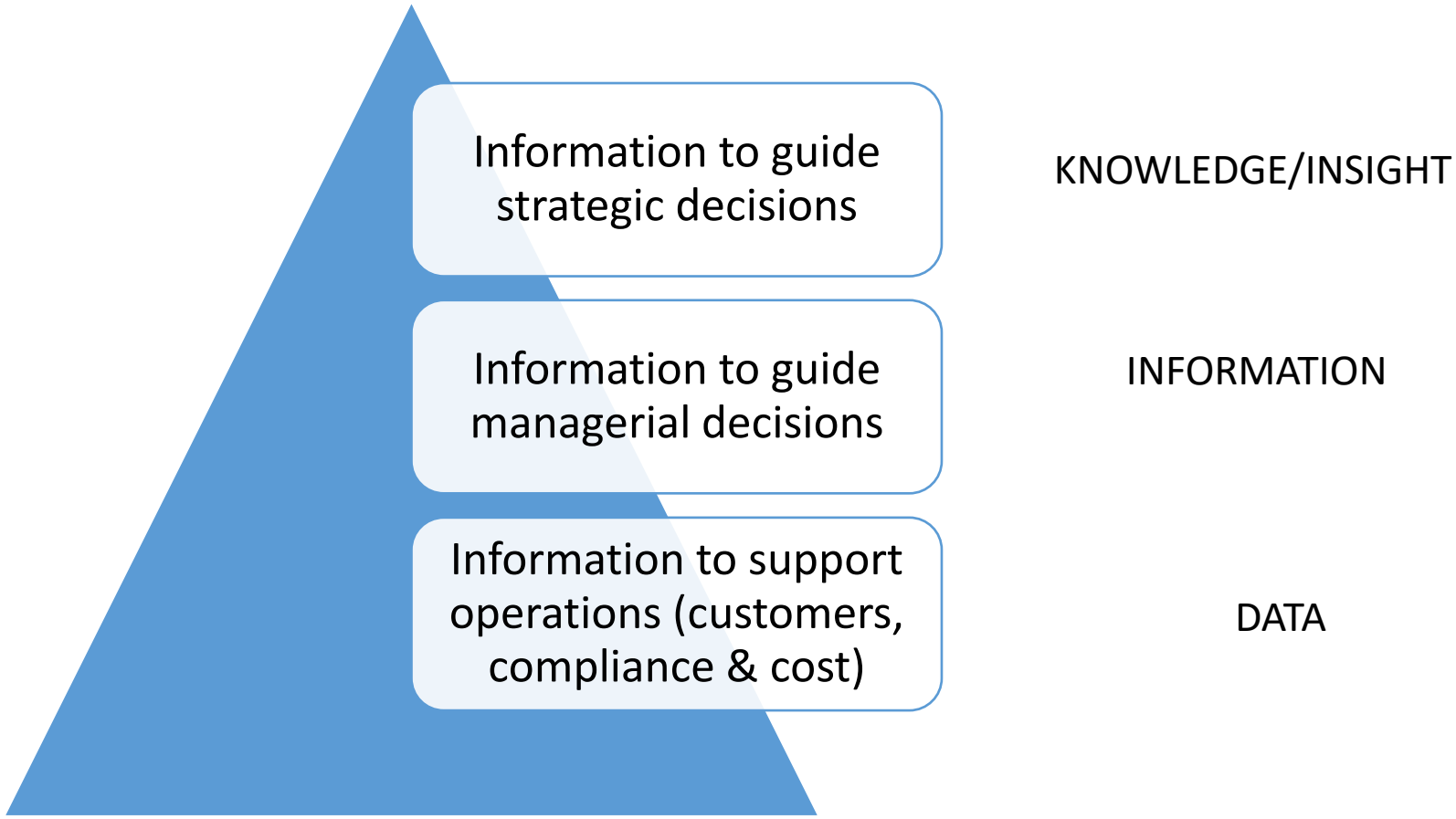


Information Age



Labor-intensive -> Capital-intensive -> Information/Knowledge-intensive

Understand information needs of the business and the implicit hierarchy



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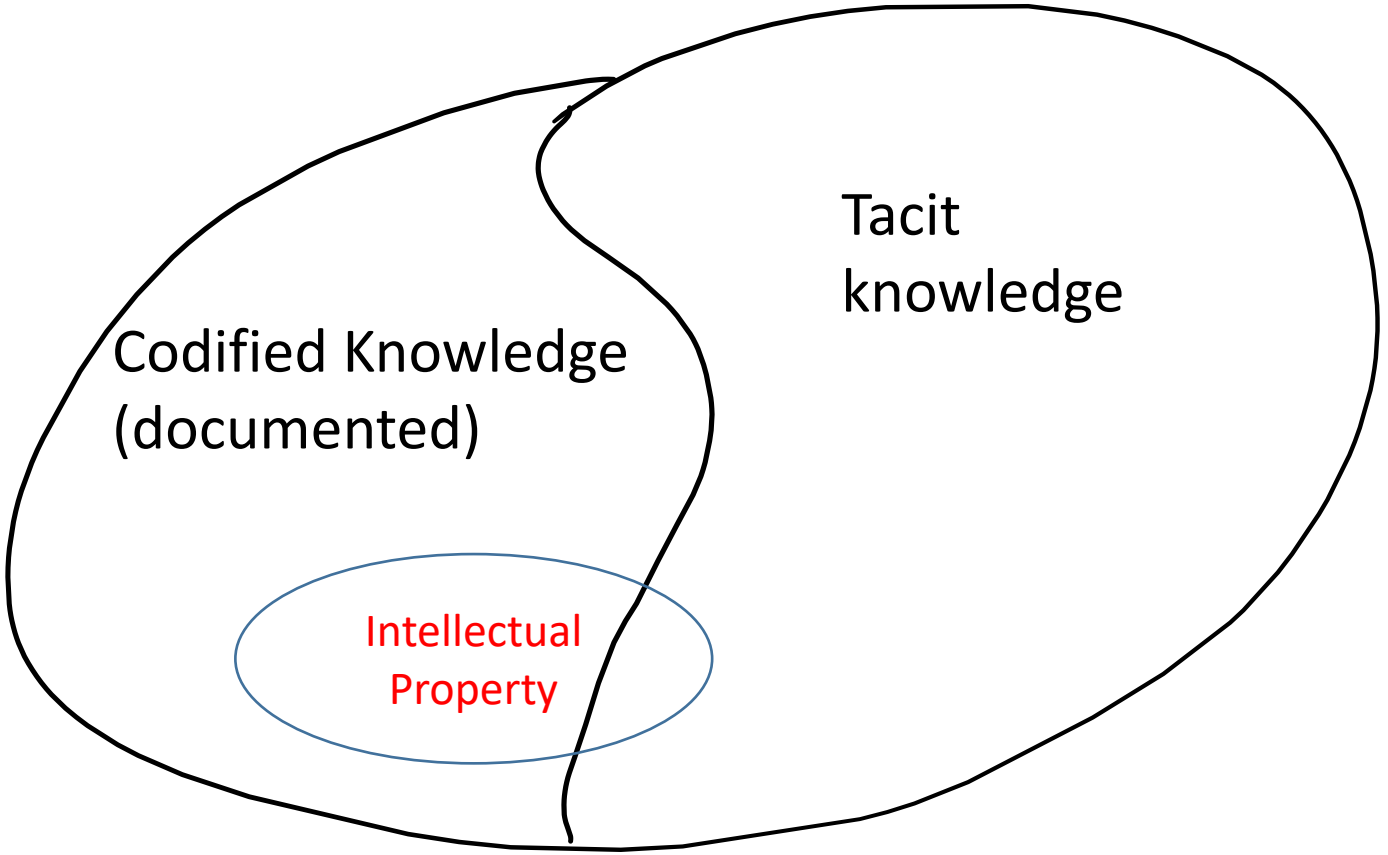
Elements of Industrial Knowledge



Intellectual Property Rights

- Intellectual property (IP) refers to creations of the mind: inventions; literary and artistic works; and symbols, names and images, whether used in commerce or otherwise.
  - It includes all categories of intellectual property covered under Sections 1 to 7 of Part II of the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS).

- Intellectual Property Rights: means ownership and associated rights relating to Intellectual Property, either registered or unregistered, and including applications or rights to apply for them and together with all extensions and renewals of them, and in each and every case, all rights or forms of protection having equivalent or similar effect anywhere in the world.

Types of Intellectual Property recognized in India

- Patent: Defined under Section 2(m) of the Patents Act, 1970
  - "patent" means a patent for any invention granted under this Act
  - "invention" means a new product or process involving an inventive step and capable of industrial application;
  - "inventive step" means a feature of an invention that involves technical advance as compared to the existing knowledge or having economic significance or both and that makes the invention not obvious to a person skilled in the art;

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(19) INDIA
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(21) Application No.202041037135 A
(43) Publication Date : 07/01/2022

(54) Title of the invention : WHOLISTIC WEARABLE DEVICE FOR MONITORING OF POST ANGIOPLASTY STATUS OF PATIENTS

(51) International classification :A61B0005024000, A61B0005053000, A61B0005110000, A61B0005000000, A61B0005160000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

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(57) Abstract :
Abstract Wholistic wearable device for monitoring of post angioplasty status of patients The invention provides a wearable solution for monitoring the health and performance of patients post-angioplasty surgery. There is an overcoat module (11). (1) and (2) are PCBs consisting of an IMU wherein (2) additionally has a transmission device, and microcontroller. (110) is wrist band module. (3) is the extension pads placed on the fingers. (4) is the wrist band connected to the pulse sensor. (31) are the galvanic skin response sensors. (41) is the case holding PCB containing transmission device and microcontroller. The device keeps track of the pulse rate, psychological stress, posture, and activity status of the patient. This data is stored and can be viewed by the doctor to understand the rises and falls in patient performance over time, which will allow them to assess risks to patient health and recommend a recovery plan. The usage of the device is intended to be an alternative to stress testing done in the 4-7 weeks post surgery. Fig1

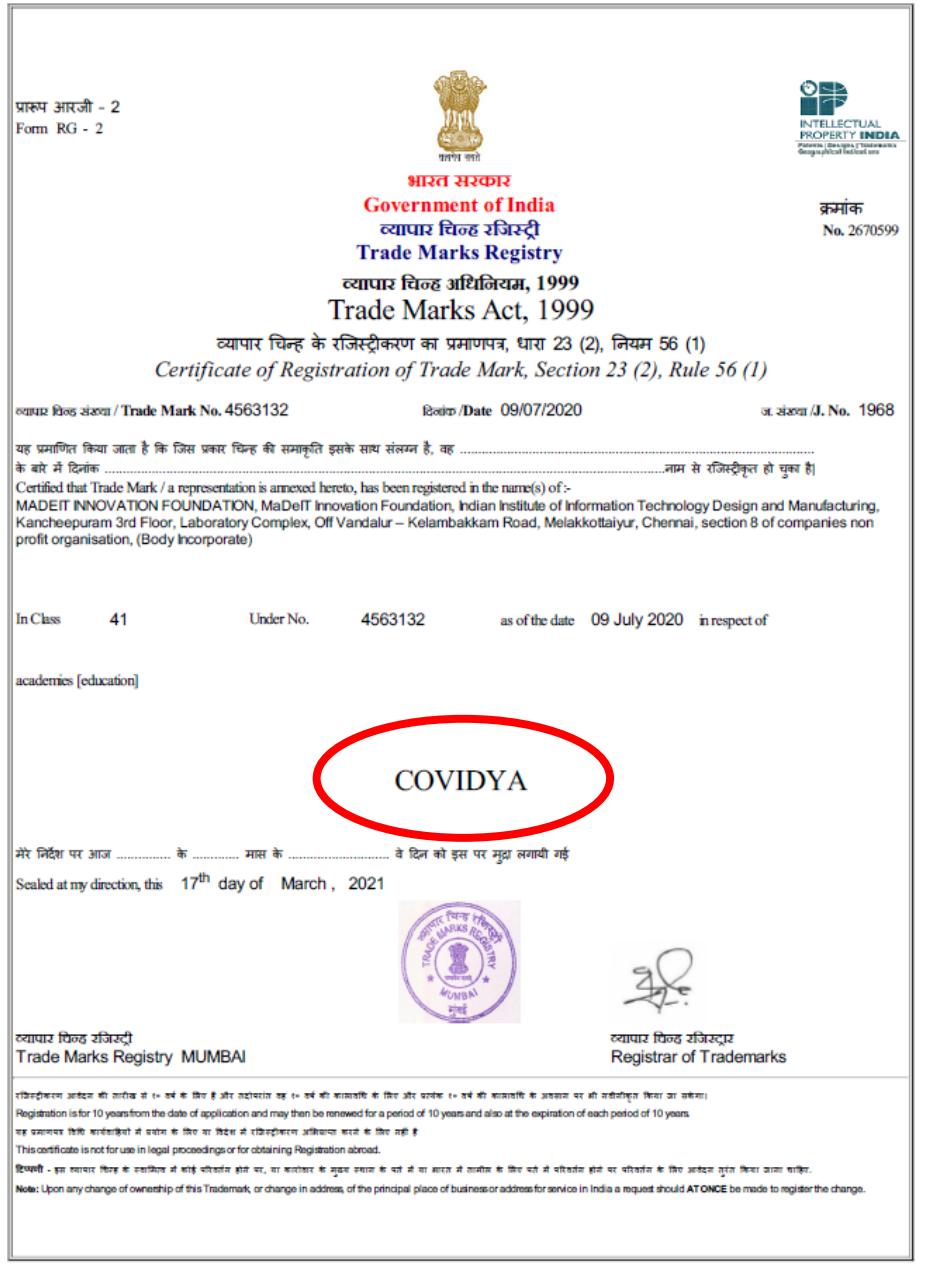
No. of Pages : 15 No. of Claims : 3

What is not an invention as per Indian Patent Act

- (a) **an invention which is frivolous or which claims anything obviously contrary to well established natural laws**; (b) an invention the primary or intended use or commercial exploitation of which could be contrary to public order or morality or which causes serious prejudice to human, animal or plant life or health or to the environment;
- (c) the **mere discovery of a scientific principle or the formulation of an abstract theory or discovery of any living thing or non-living substance occurring in nature**; (d) the **mere discovery of a new form of a known substance which does not result in the enhancement of the known efficacy** of that substance or the mere discovery of any new property or new use for a known substance or **of the mere use of a known process, machine or apparatus unless** such known process results in a new product or employs at least one new reactant
- (e) a substance obtained by a mere admixture resulting only in the aggregation of the properties of the components thereof or a process for producing such substance; (f) the mere arrangement or re-arrangement or duplication of known devices each functioning independently of one another in a known way;
- (h) **a method of agriculture or horticulture; (i) any process for the medicinal, surgical, curative, prophylactic diagnostic, therapeutic; (k) a mathematical or business method or a computer programme per se or algorithms; (l) a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever including cinematographic works and television productions**; (m) a mere scheme or rule or method of performing mental act or method of playing game; (n) a presentation of information; (o) **topography of integrated circuits;**

Types of Intellectual Property recognized in India

- **Design:** As defined under Section 2 (d) of the Designs Act, 2000
  - "design" means only the features of shape, configuration, pattern, ornament or composition of lines or colours applied to any article whether in two dimensional or three dimensional or in both forms, by any industrial process or means, whether manual, mechanical or chemical, separate or combined, which in the finished article appeal to and are judged solely by the eye; but does not include any mode or principle of construction or anything which is in substance a mere mechanical device, and does not include any trade mark as defined in clause
  - Semiconductor Integrated Circuit: As defined under Section 2(r) of the Semiconductor Integrated Circuits Layout Design Act, 2000
- **Copyright:**
  - Copyright is a right given to creators of literary, dramatic, musical and artistic works and producers of cinematograph films and sound recordings. It also applies to architectural works and computer program/software. Works are as defined under the Copyright Act, 1957
- **Trade Mark:**
  - As defined under Section 2(zb) of the Trade Marks Act, 1999 … It means a mark capable of being represented graphically and which is capable of distinguishing the goods or services of one person from those of others and may include shape of goods, their packaging and combination of colors



प्रारूप आरजी - 2
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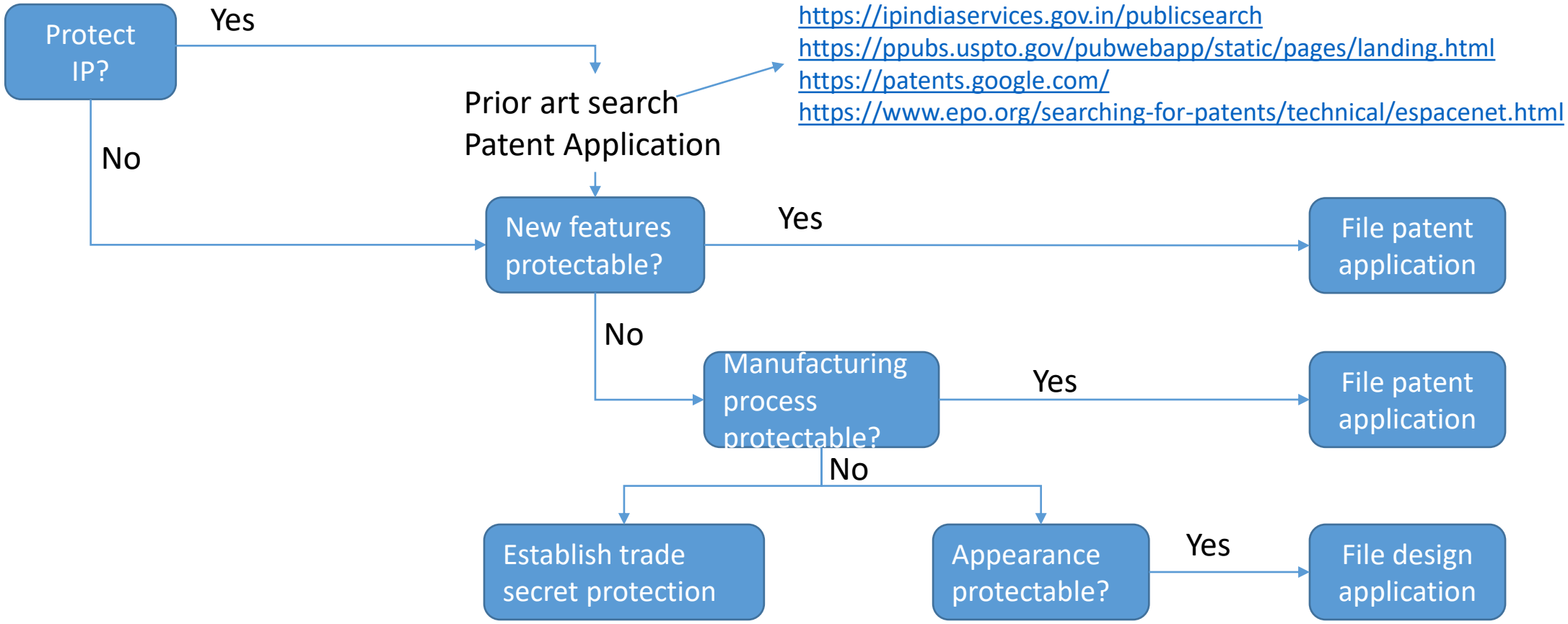
IIITDM IPR Policy

- The IP over which the Institute shall have full ownership comprises:
  - a. all Works generated by computer hardware or software owned or operated by the Institute;
  - b. all Works created with the aid of Institute facilities including (by way of example only) films, videos, photographs, multimedia works, typographic arrangements, and field and laboratory notebooks;
  - c. all Works funded by the Institute;
  - d. all Institute Commissioned Works of any kind, whether or not covered under (a)-(c)
  - e. know-how and information associated with the above.

http://old.iiitdm.ac.in/img/Innovation_Initiatives/IIITDM-IPR-Policy-Version-2-20Apr2022.pdf

Typical approach to patenting a technology



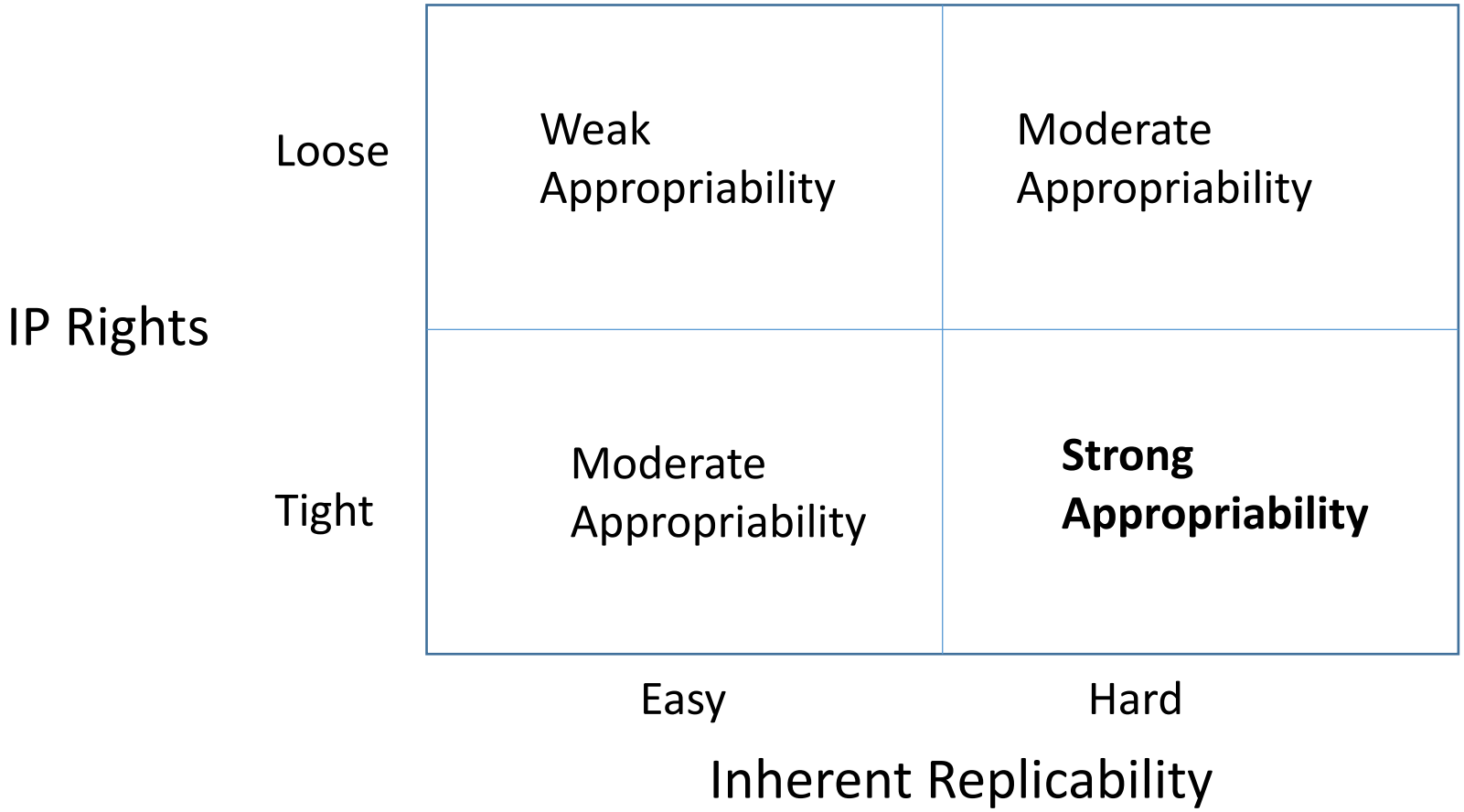
Source: David Teece (2000), Managing Intellectual Capital

Activity (to be added to the final business plan submission):

- Analyze your product concept using the Indian Patent guidelines and the Patent Process chart (Slides 8, 10, 11, 14)

- If it does not satisfy any criteria of patenting or design, pls rethink for PTP

Appropriability regimes for knowledge assets



Source: David Teece (2000), Managing Intellectual Capital

Innovation and Organization

	Type of Innovation	
	Autonomous	Systemic
Capabilities exist in-house	Silicon Valley Type (Startup)	Multi-product Integrated
Capabilities exist outside	Virtual	Alliances
Capabilities must be created	Alliances Silicon Valley Type (Startup)	Silicon Valley Type (Startup)

Source: David Teece (2000), Managing Intellectual Capital

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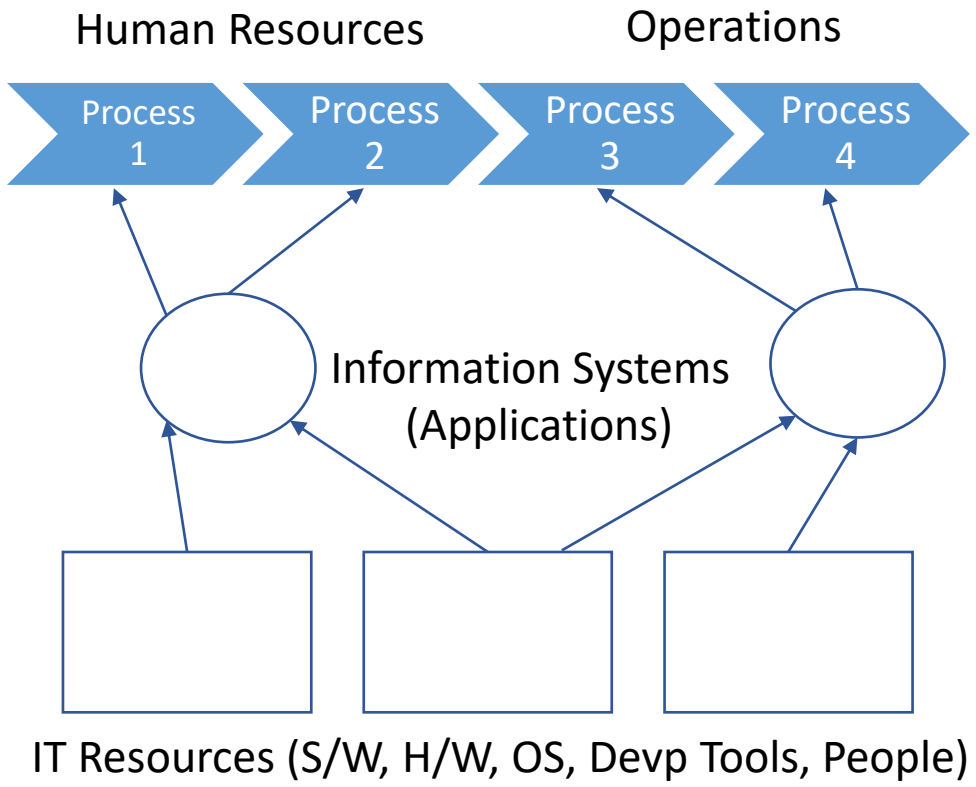
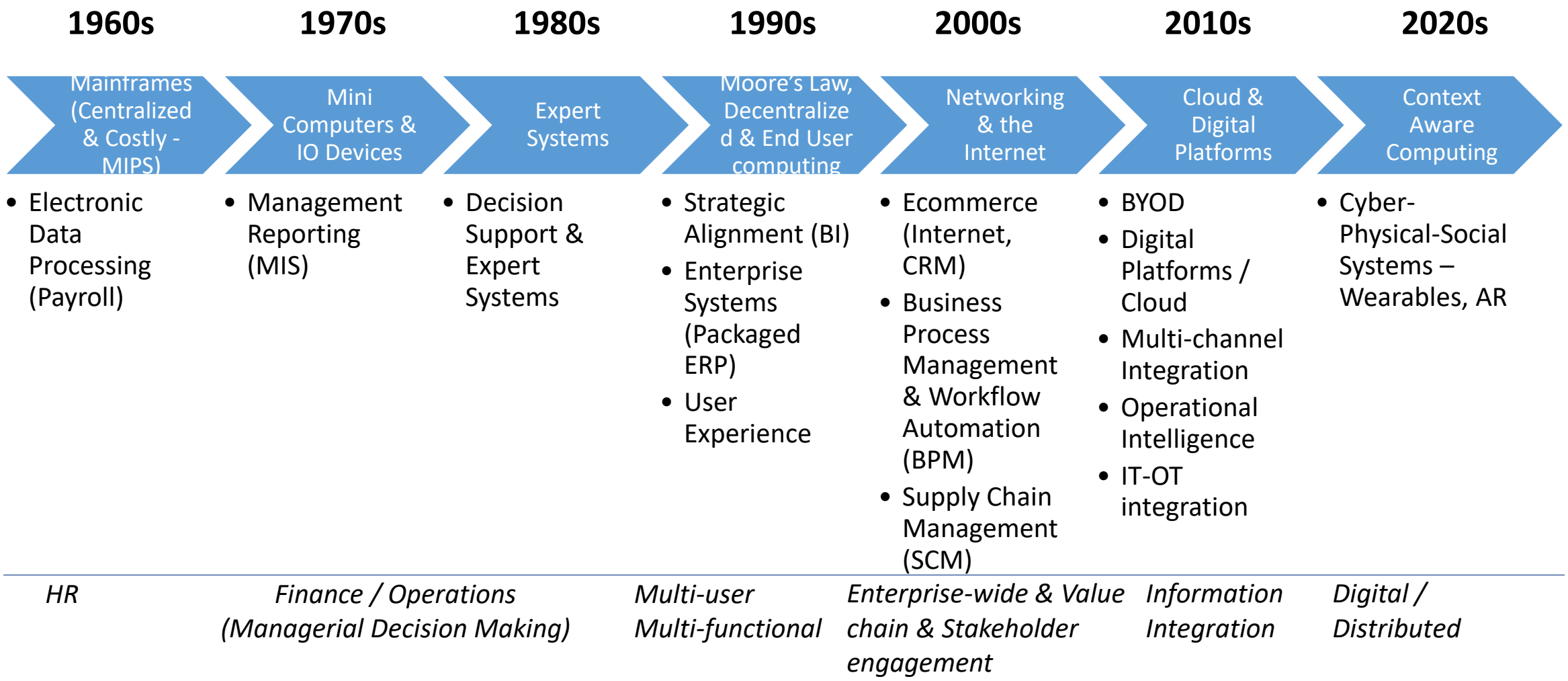
How do firms manage information?

Using Information Systems:

- An information system is a unique configuration of IT resources and organizational processes whereby the IT resources and the information they provide are applied to support specific business processes



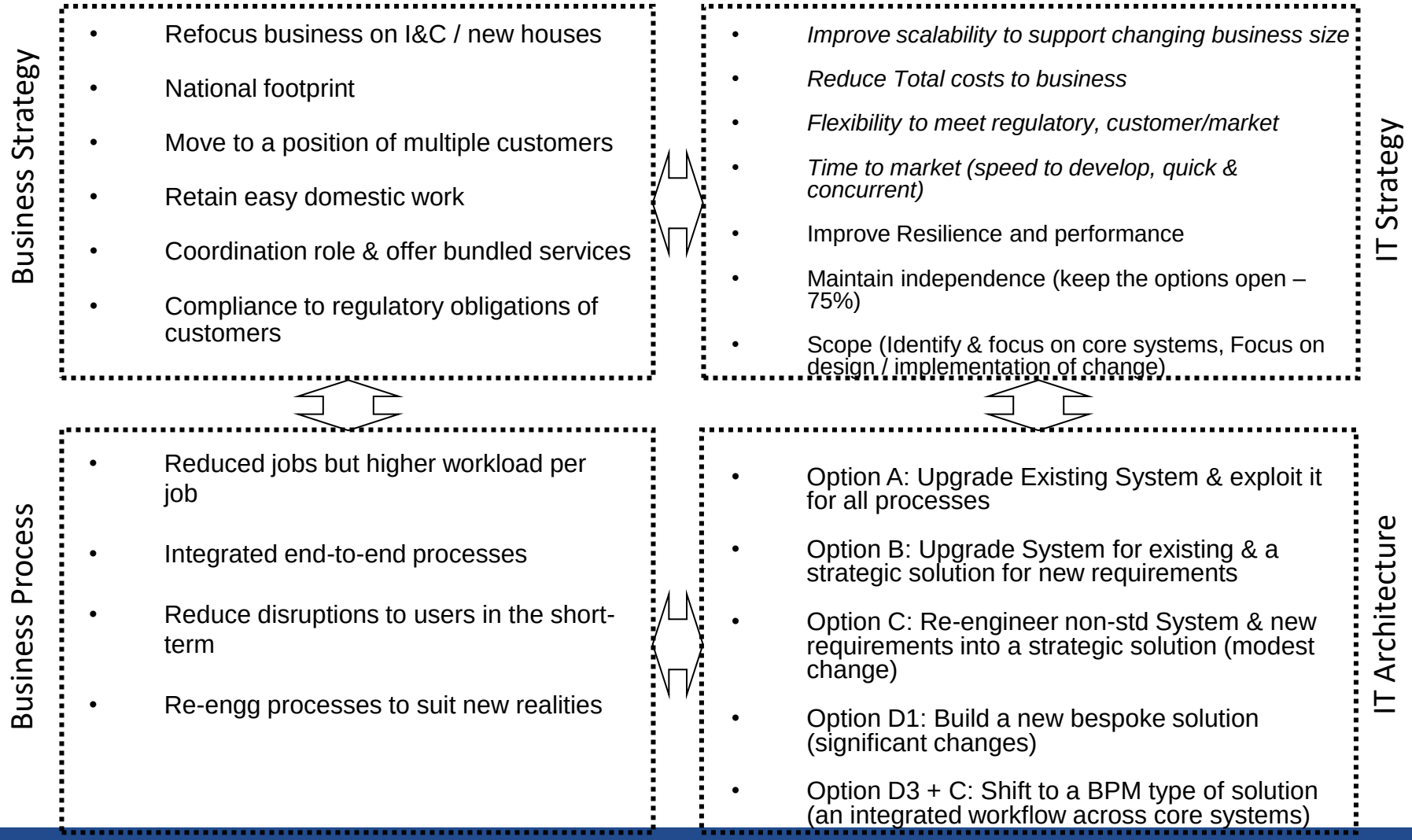
Advances in IT & Enterprise Information Systems



Align the IT Strategy with the Business Strategy

Strategic Alignment Framework

Illustrative



Define the IT sourcing strategy

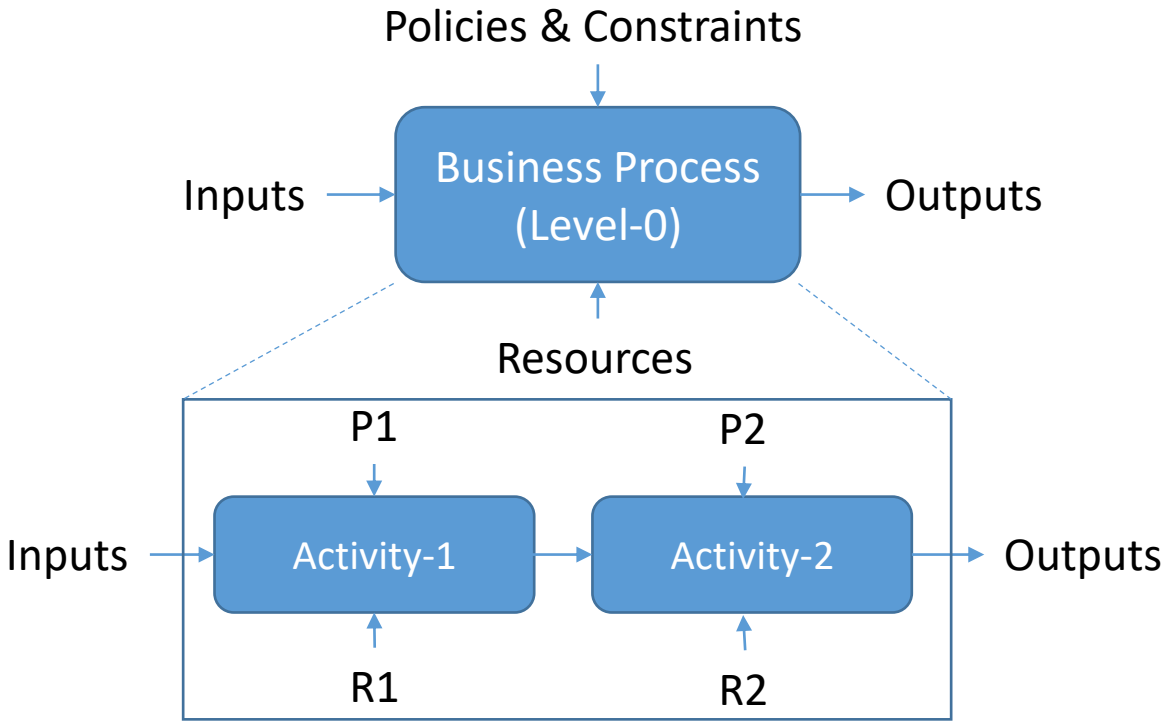
	Strategy	Change the Business (Development, Implementation & Testing)	Run the Business (Maintenance & Support)
In-House			
External (Outsourced)			
		Variable Cost Approx 35%	Fixed Cost Approx 65%

Define the business requirements

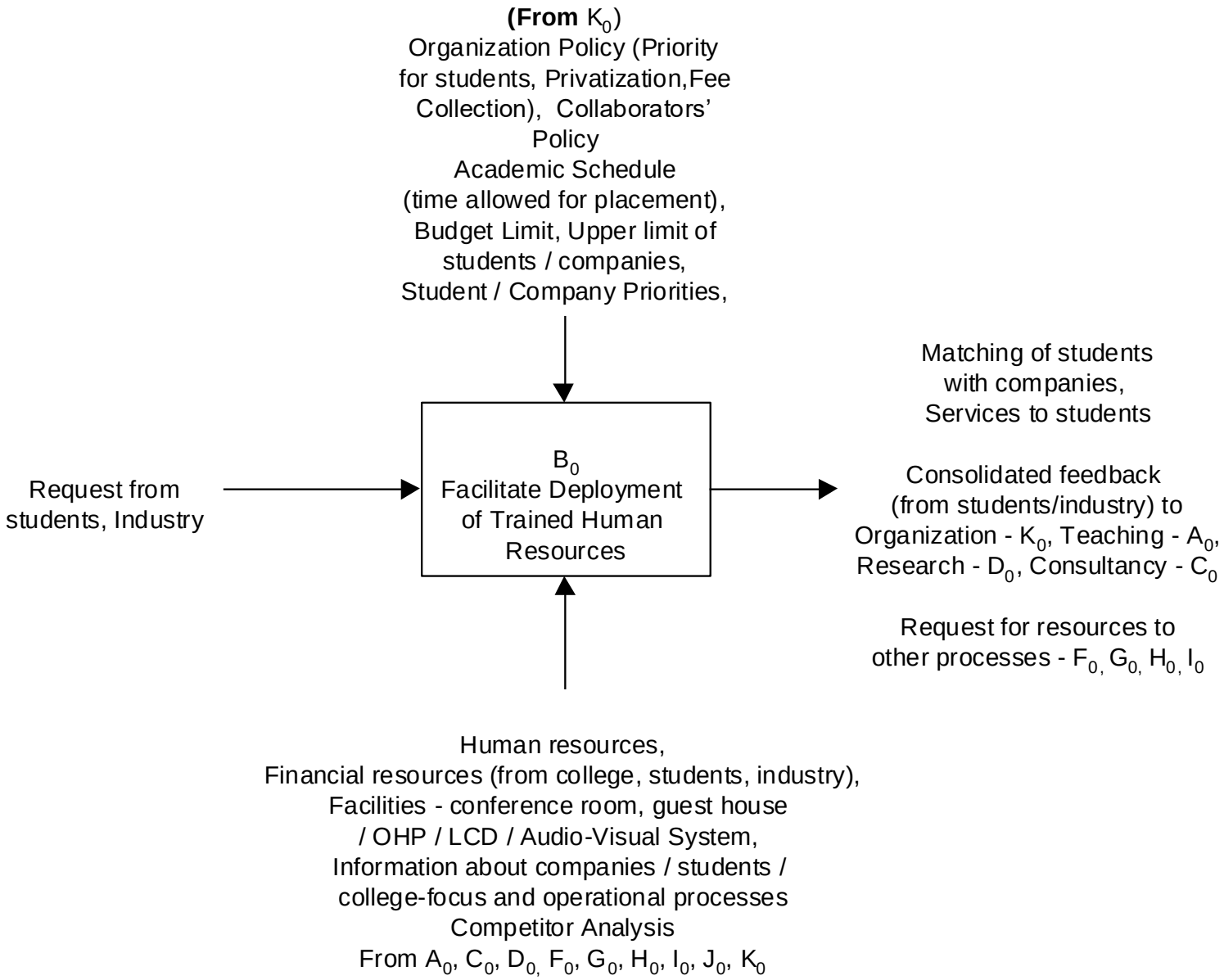
- Different methods used to model requirements at each level
- Initially dominated by software methods like SSADM. Example,
  - Entity-Relationship Diagrams, Data Flow Diagrams
- Later shifted to using management frameworks & organizational models. Example
  - Operations: Business Process Modeling / Enterprise Modeling using IDEF / Swim Lanes
  - Managerial Decision Making: Financial ratios, ABC, Business Process Metrics, OR Models
  - Strategy: Strategic Alignment Framework (Operations & Strategy integration), BSC

Modeling a business process

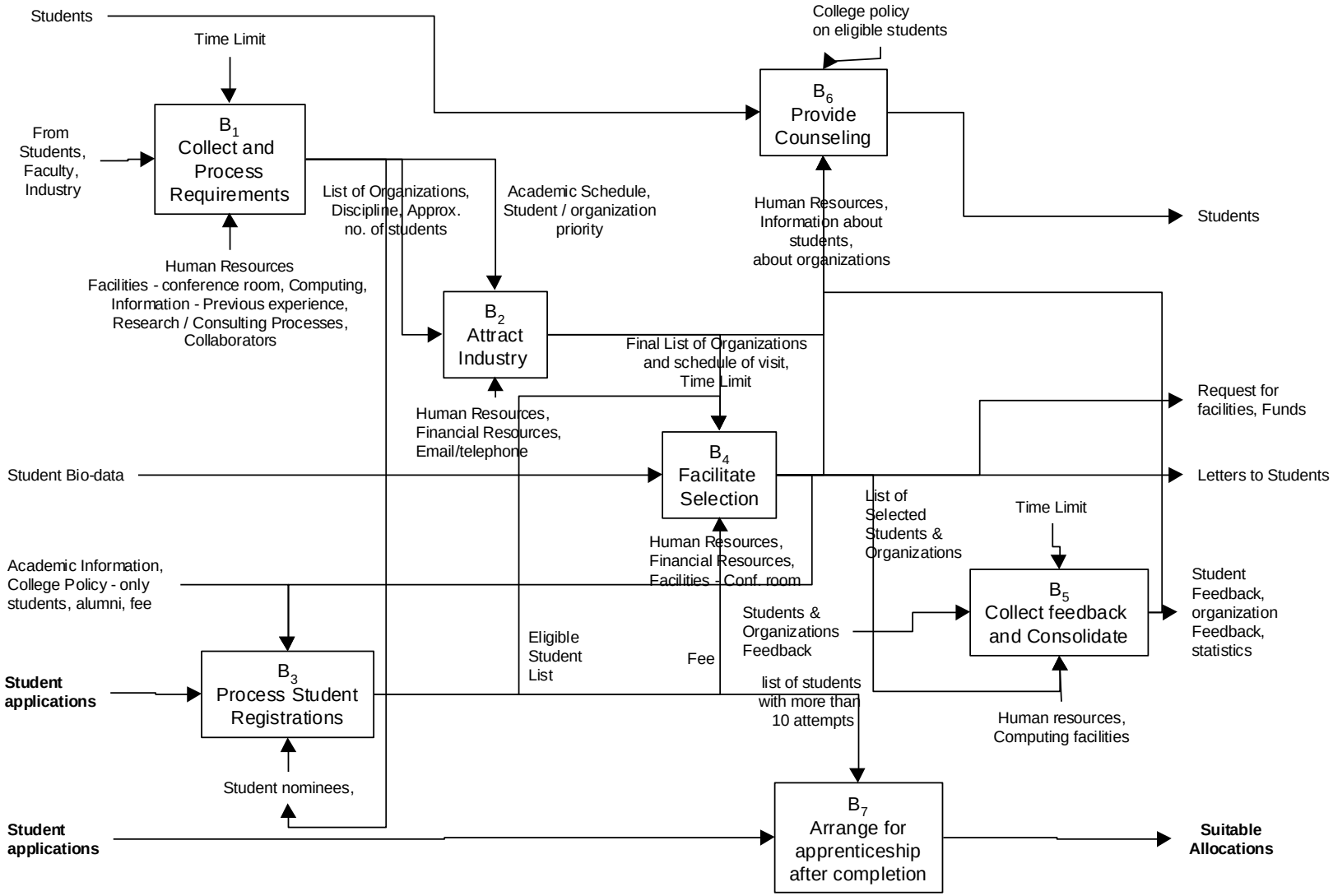
- A business process can be presented in a hierarchical way - (Level 0, level-1, level-2)
  - Process->Activity->Task
  - Level-3 models become inputs for information systems design
- Methodologies like IDEF and related tools can be used to model business processes
- Once you have defined the process, assign process measures and estimate resource requirements … Very similar to project management



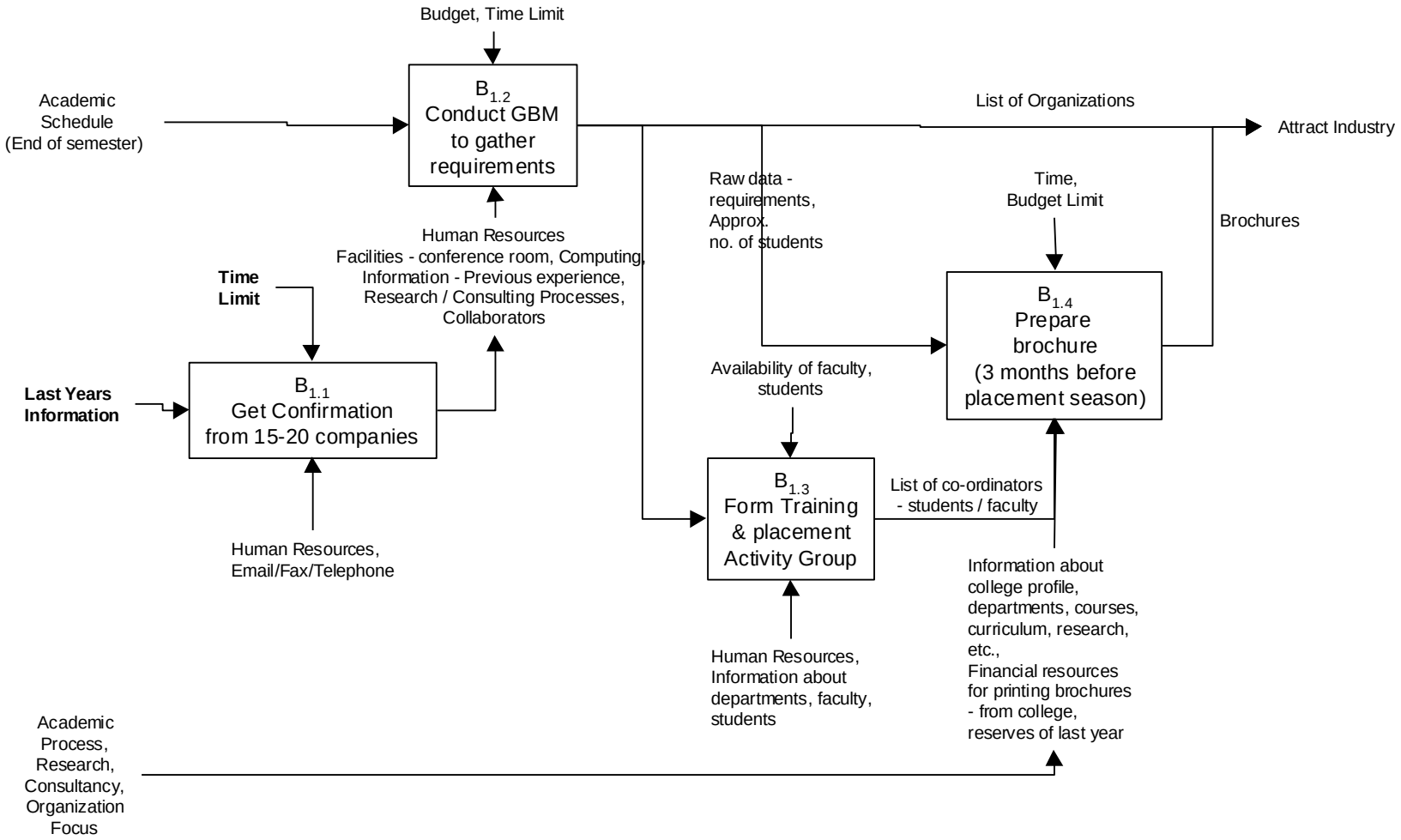
Example: Placement in a CFTI (level 0)

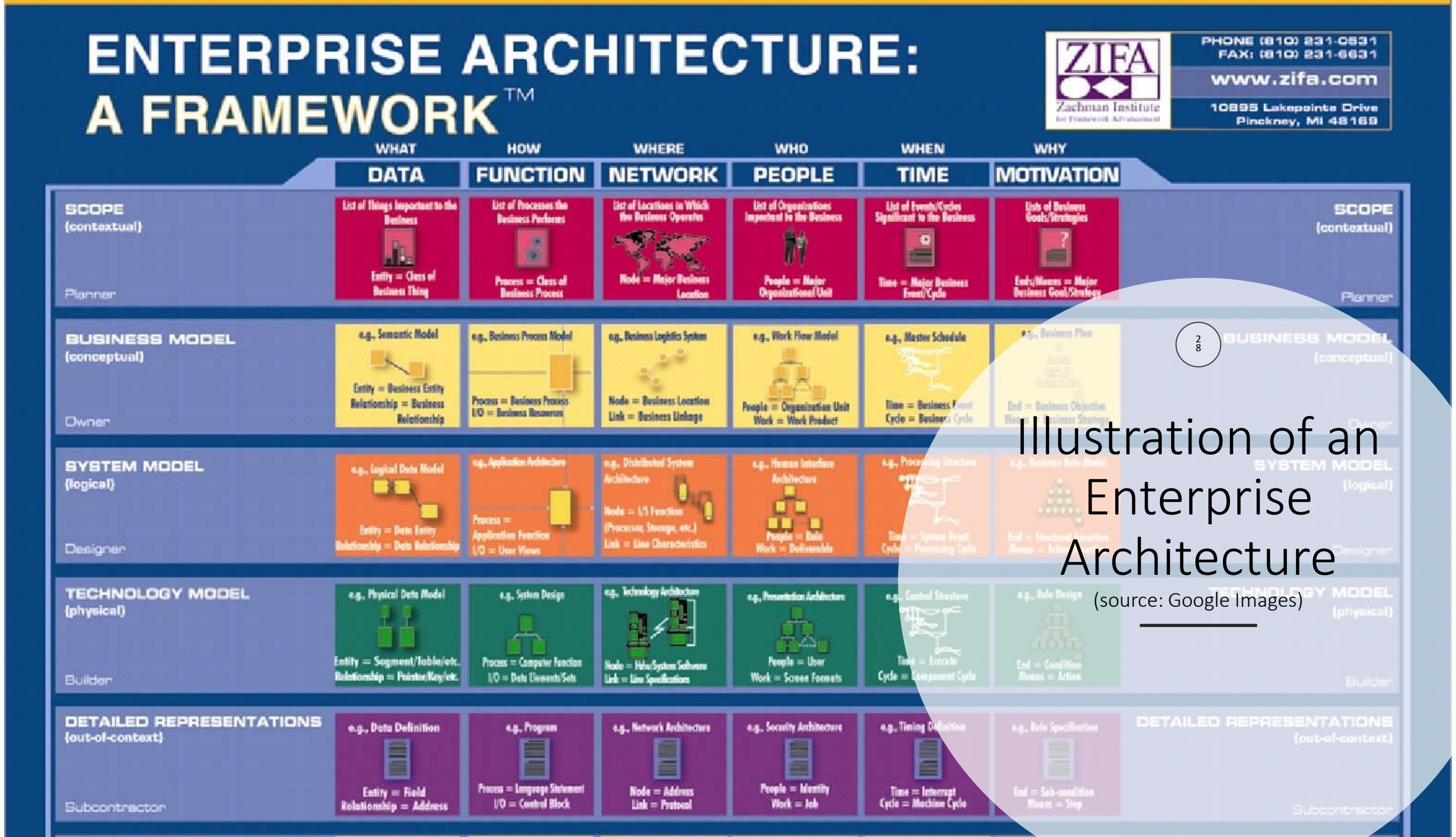


Example: Placement in a CFTI (level 1)



Example: Placement in a CFTI (level 2)

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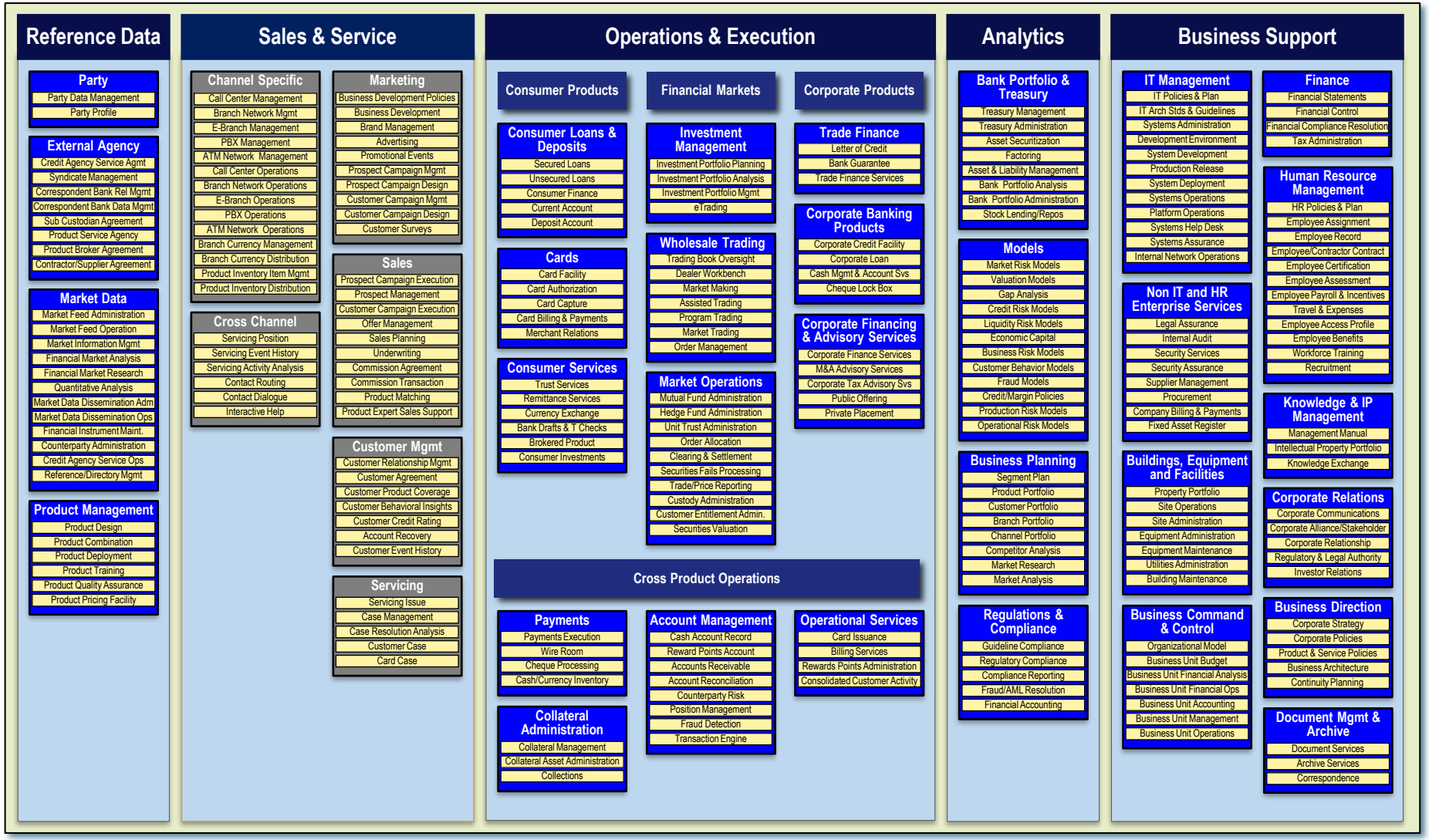
(conceptual)
Owner
SYSTEM MODEL
(logical)
Designer
TECHNOLOGY MODEL
(physical)
Builder
DETAILED REPRESENTATIONS
(out-of-context)
Subcontractor
28
Illustration of an Enterprise Architecture
(source: Google Images)

Banking Industry Architecture Network



https://bian.org/wp-content/uploads/2017/03/banking_without_channel_White-Paper_070413-2.compressed.pdf

Implementation and Change Management is extremely important for Enterprise Applications

A BIG CHALLENGE

TRAINING USERS AND ENSURING COMPLIANCE

MANAGERS MAKING IT A DISCIPLINE TO USE THE SYSTEM AND REDUCE DEVIATIONS

ENSURING DATA QUALITY (INTEGRITY, ACCURACY, TIMELINESS)

AVOIDING THE TRAP OF LEGACY SYSTEMS

The END

Source: Pinterest