

MAN301T: Entrepreneurship & Management functions

Session 11

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



INDIAN INSTITUTE OF INFORMATION TECHNOLOGY,
DESIGN AND MANUFACTURING,
KANCHEEPURAM

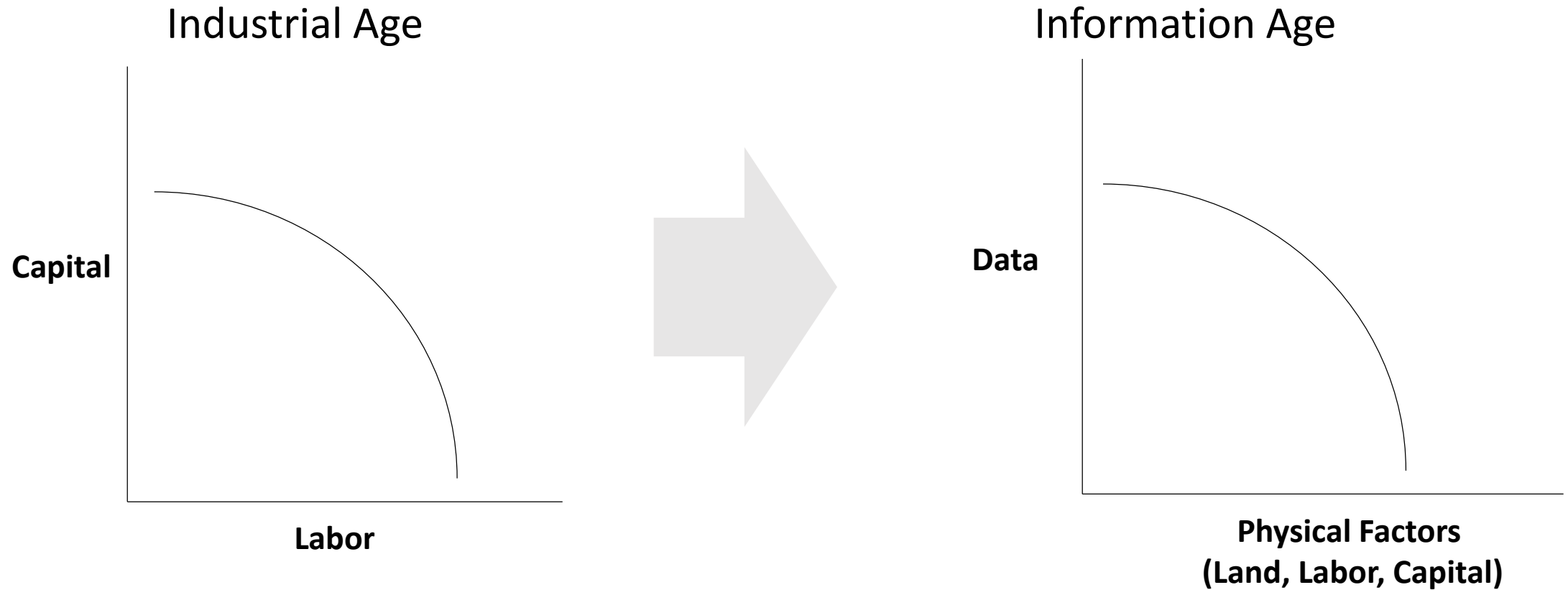
- Sudhir Varadarajan, PhD

Contents

Enterprise Information Systems

Designing Enterprise Information Systems

Growing importance of information in enterprises

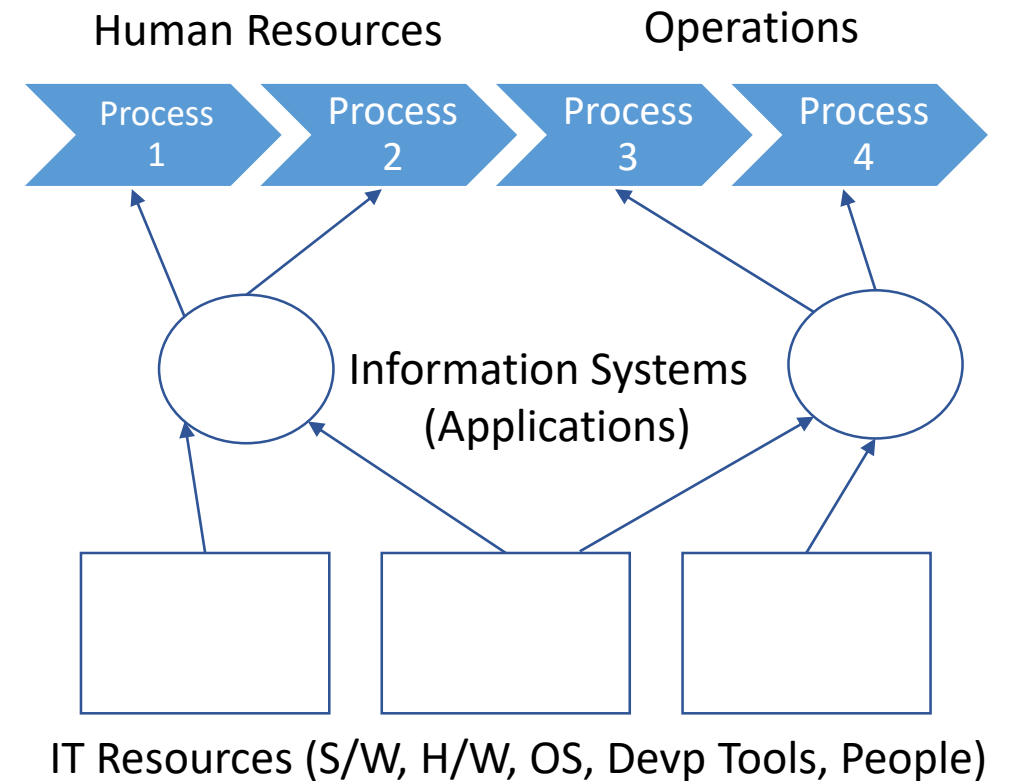


Labor-intensive -> Capital-intensive -> Information/Knowledge-intensive

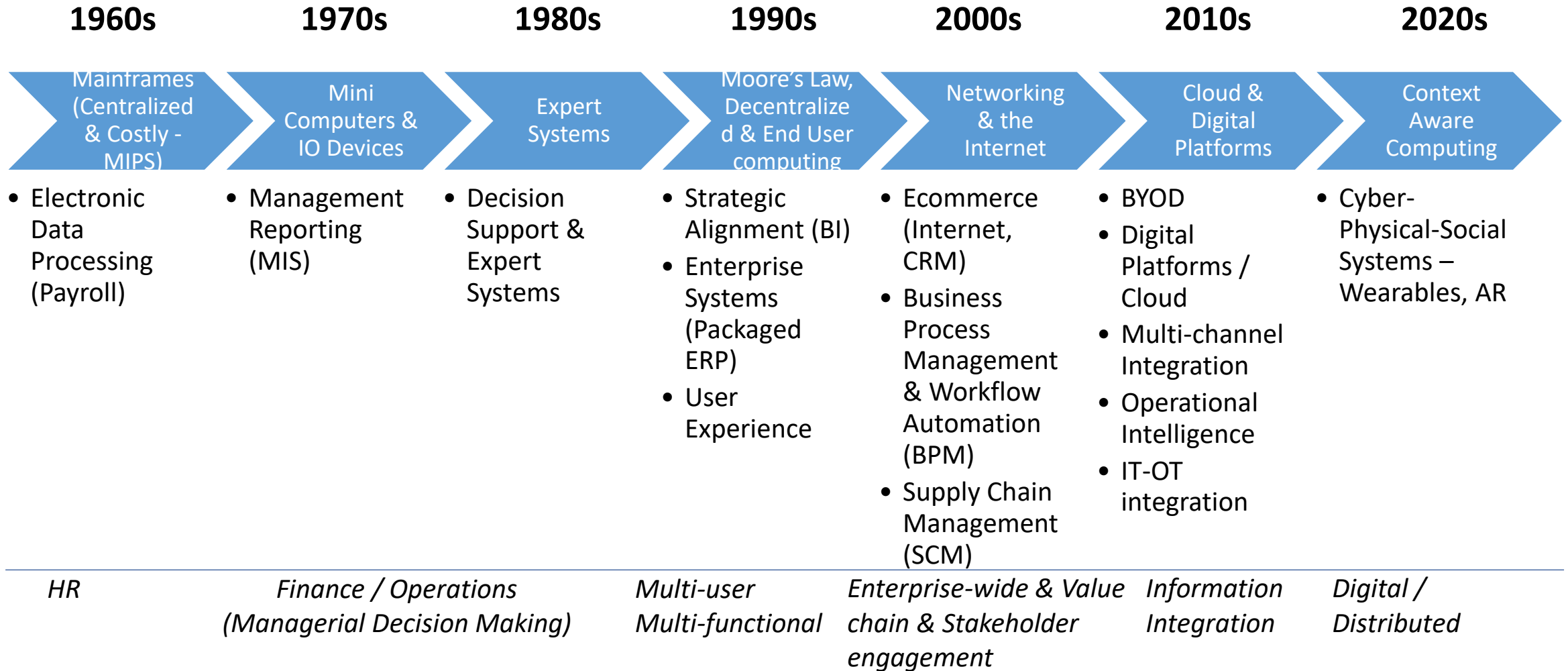
How do firms manage information?

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

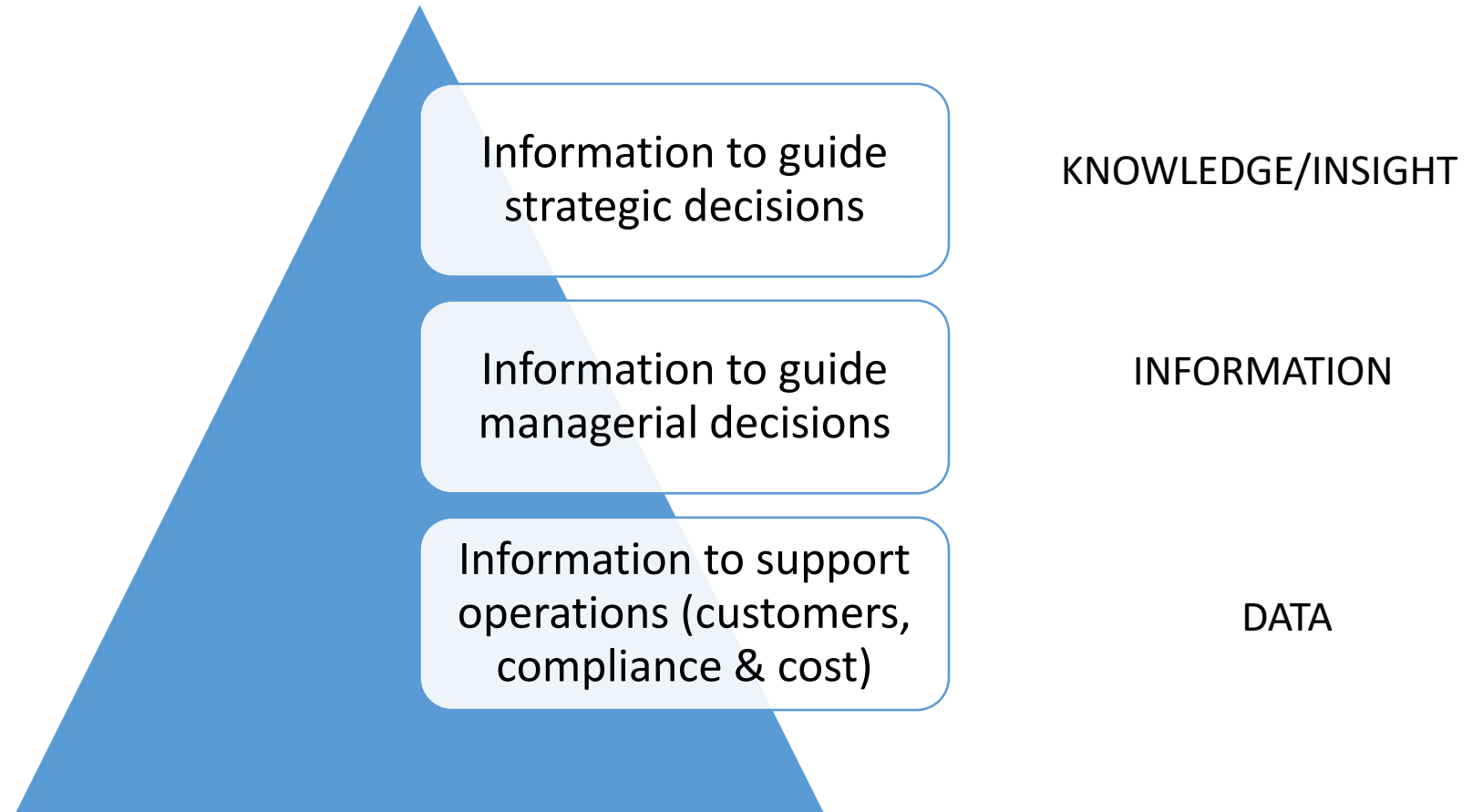


Contents

Enterprise Information Systems

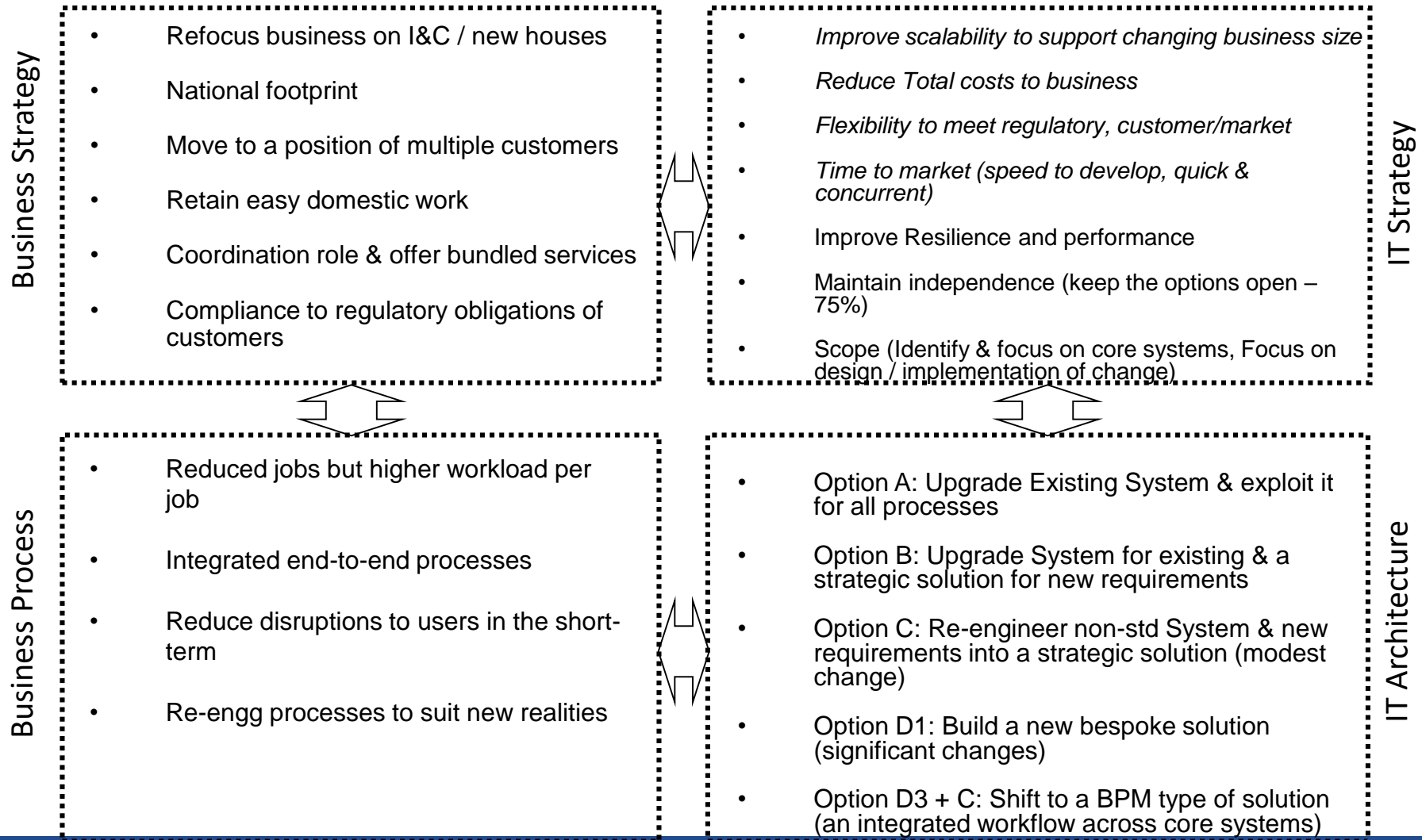
Designing Enterprise Information Systems

Understand information needs of the business and the implicit hierarchy



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%

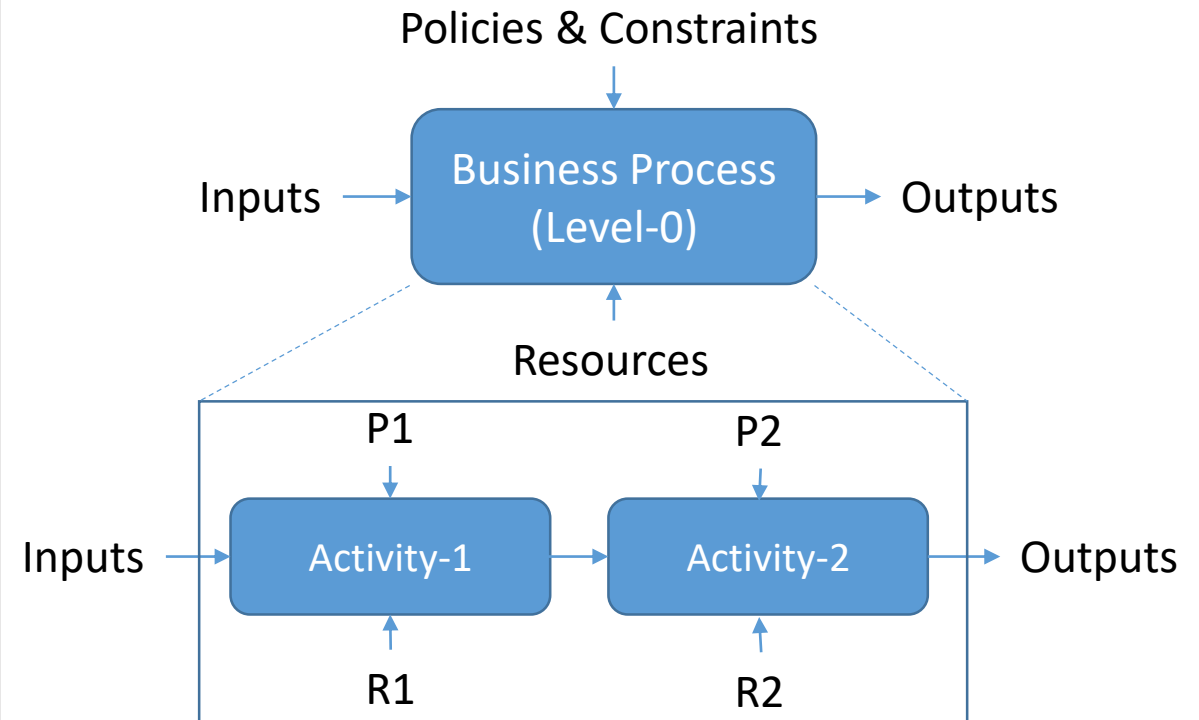
Fixed Cost
Approx 65%

Define the business requirements

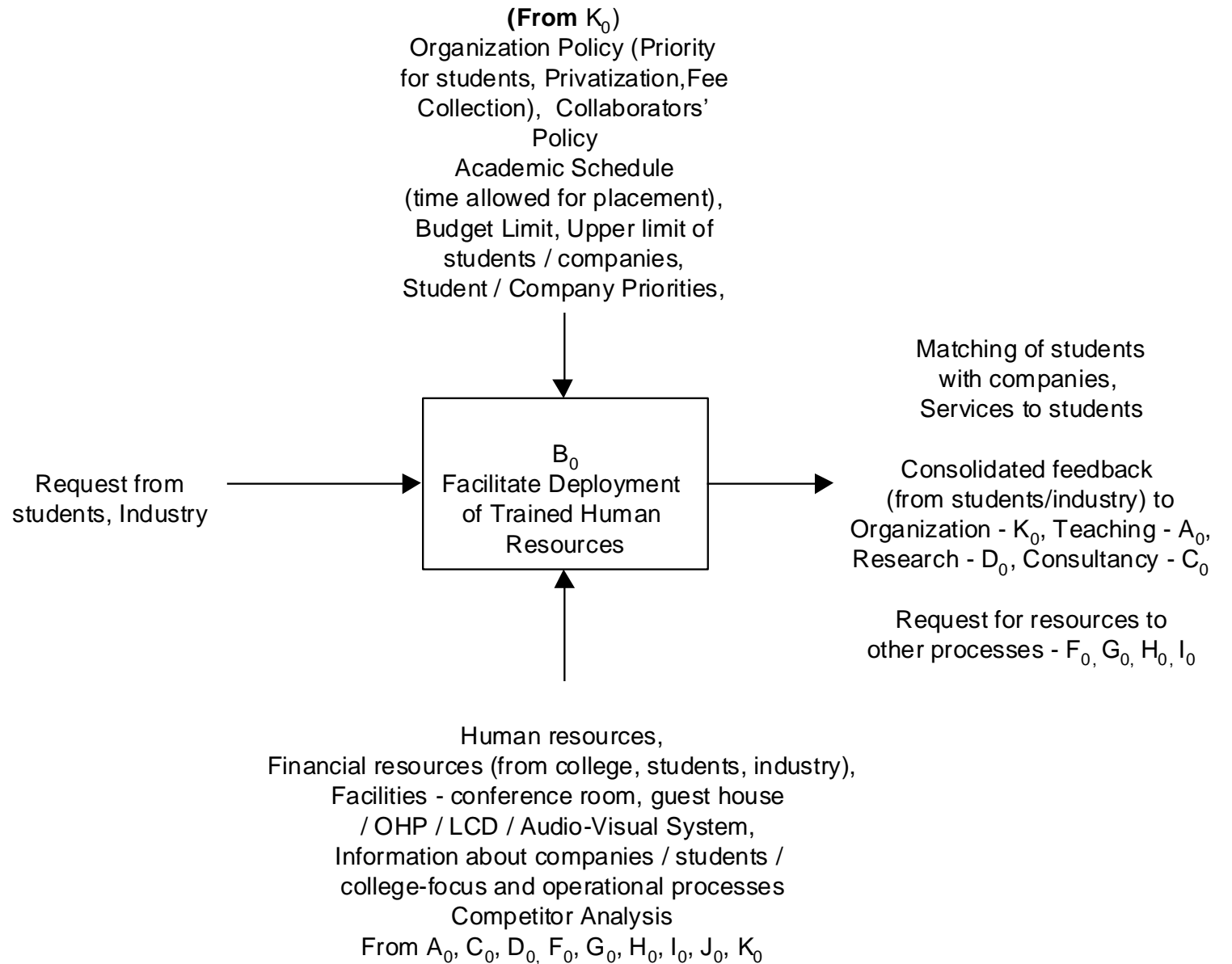
- Different methods used to model requirements at each level
- Initially dominated by software methods like SSADM. Example,
 - Entity-Relationship Diagrams, Data Flow Diagrams
- Later shifted to using management frameworks & organizational models. Example
 - Operations: Business Process Modeling / Enterprise 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

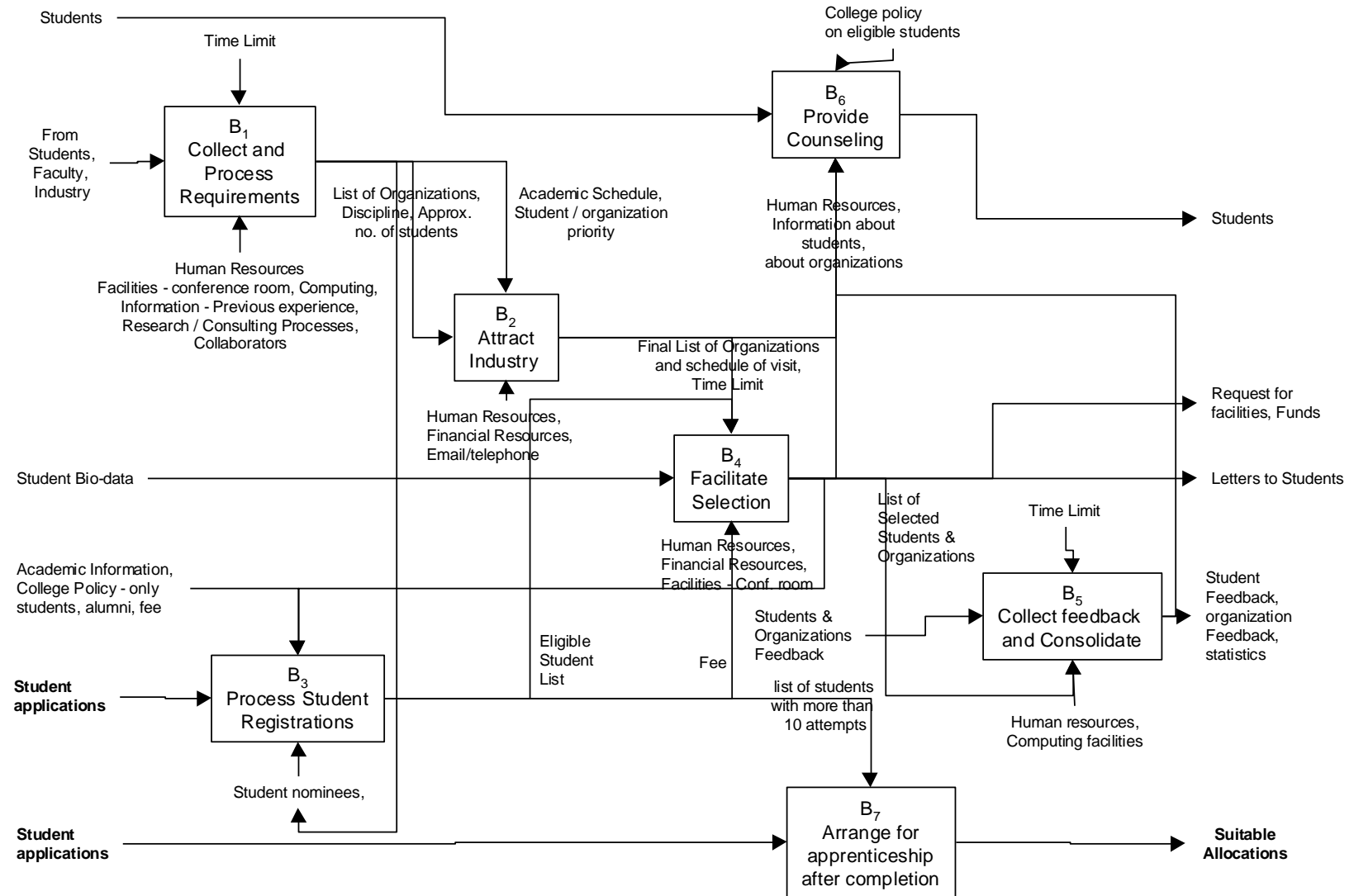
- A business process can be presented in a hierarchical way - (Level 0, level-1, level-2)
 - Process->Activity->Task
 - Level-3 models become inputs for information systems design
- Methodologies like IDEF and related tools can be used to model business processes
- Once you have defined the process,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



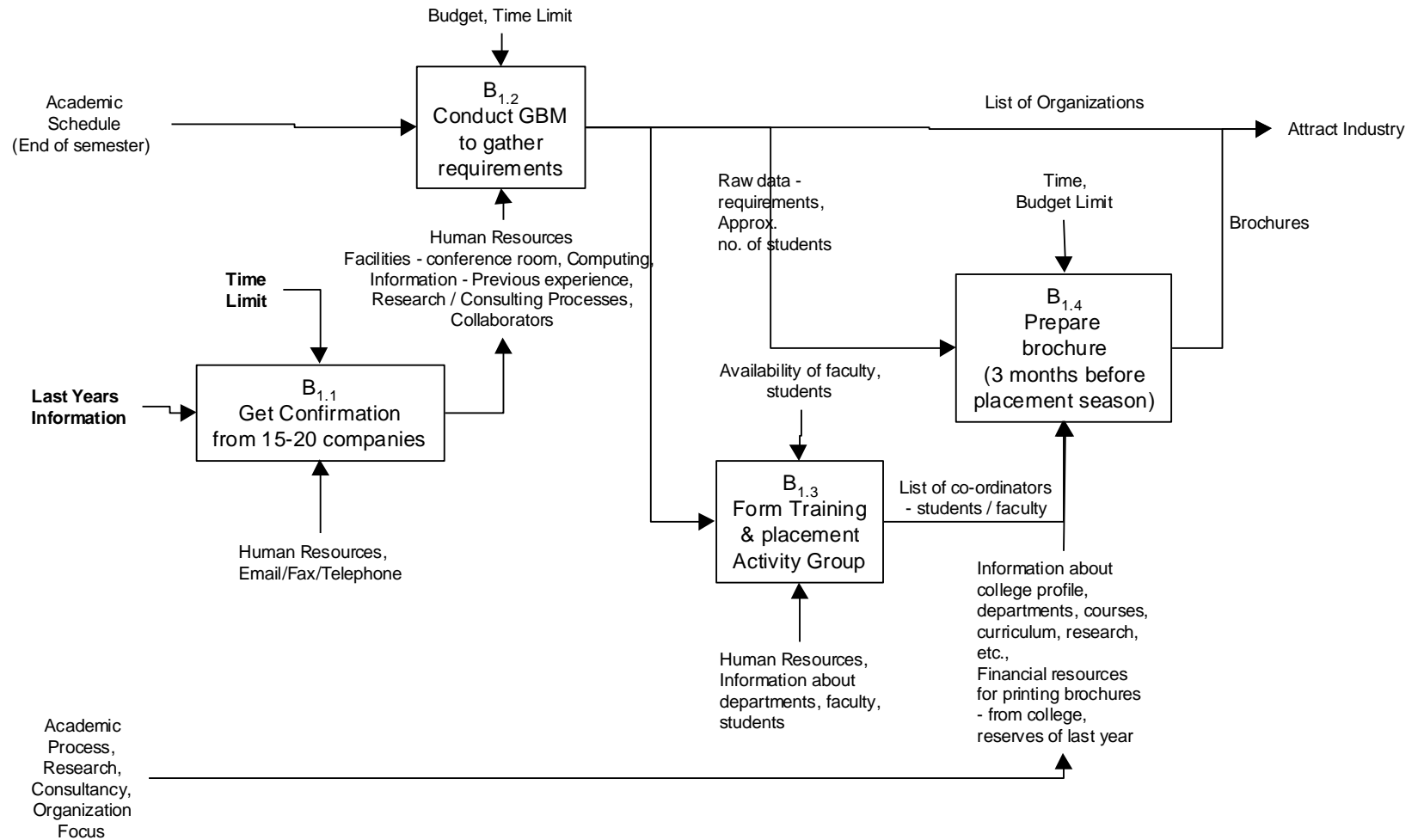
Example: Placement in a CFTI (level 0)



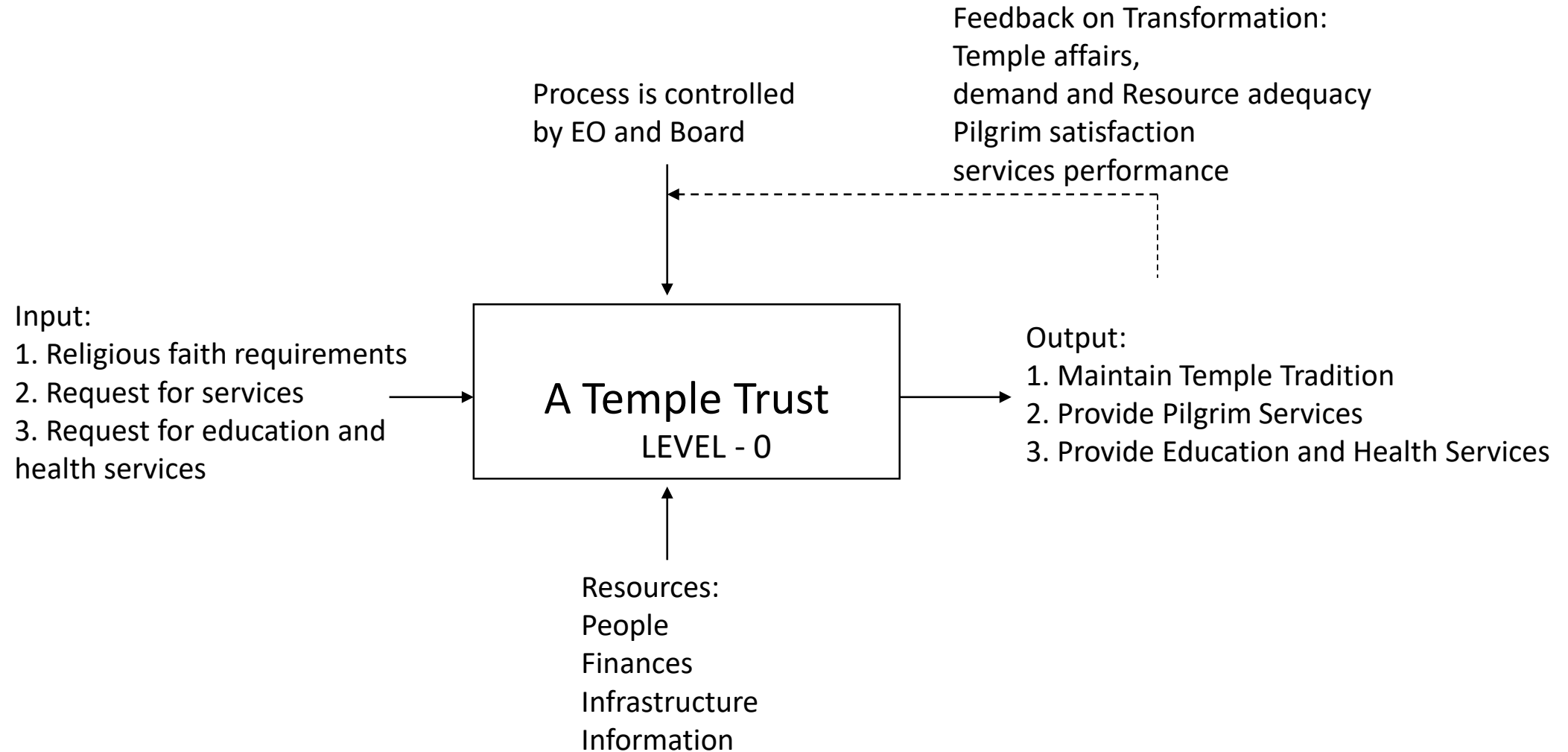
Example: Placement in a CFTI (level 1)



Example: Placement in a CFTI (level 2)



Example: ERP for one of the Richest Temples

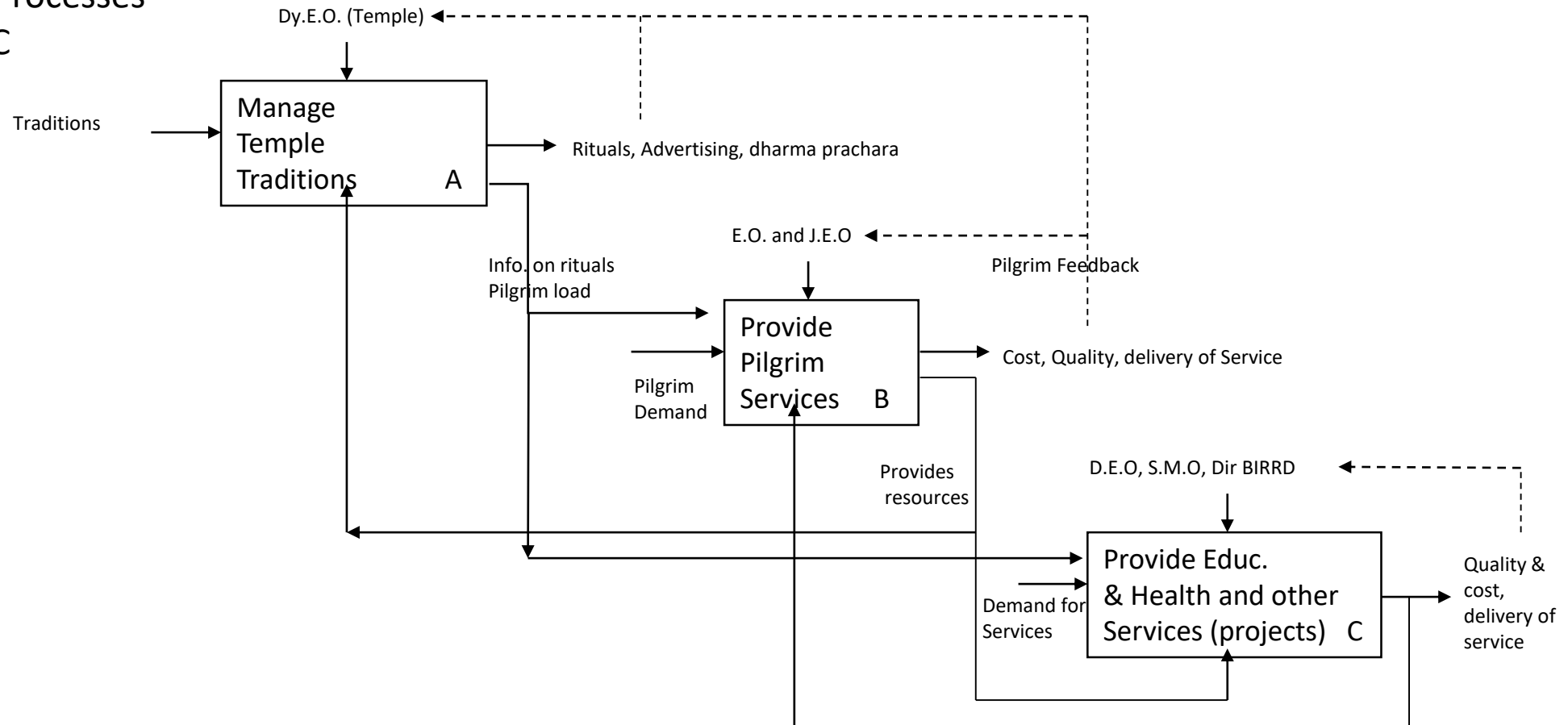


Example: ERP for one of the Richest Temples

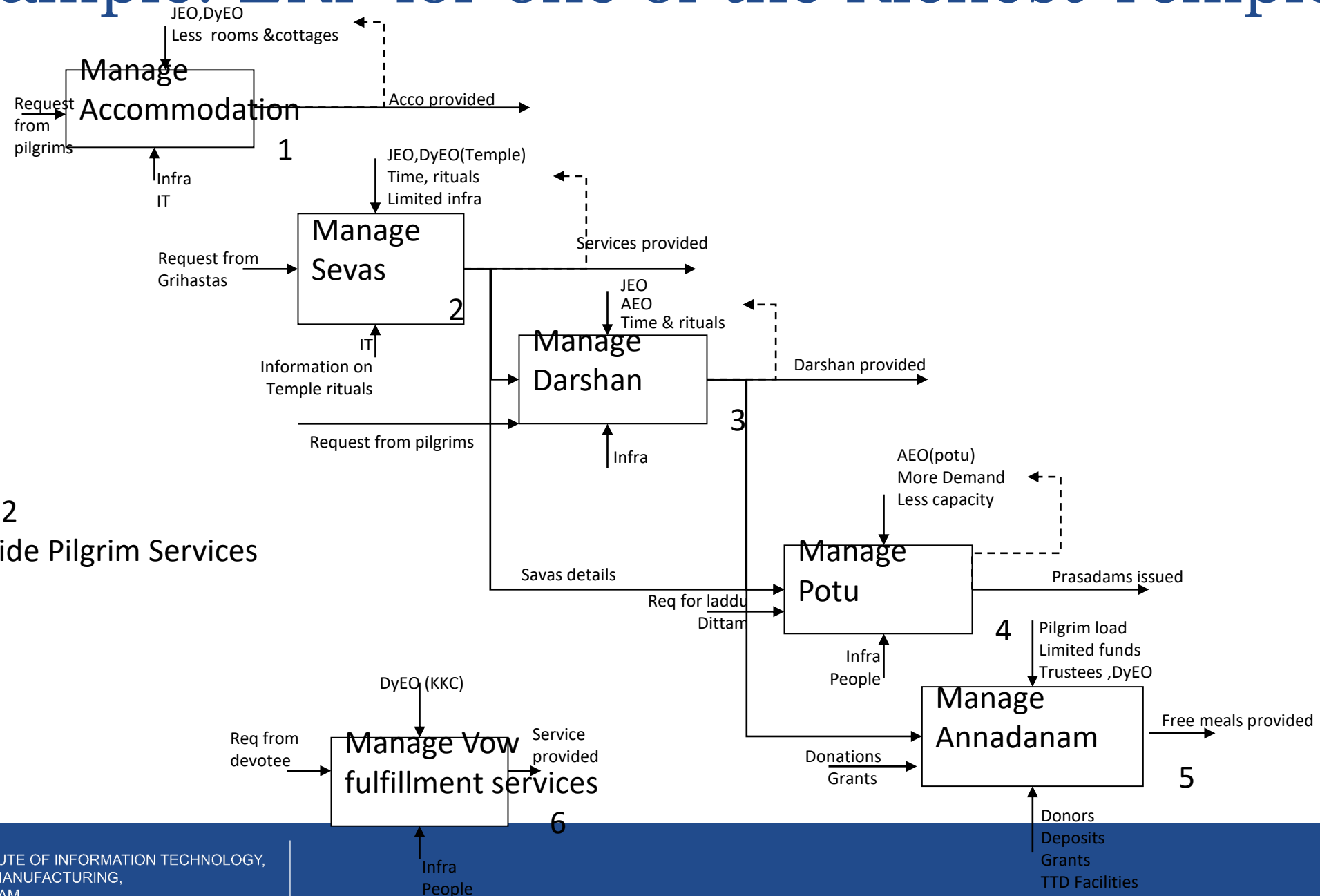
LEVEL - 1

Core Processes

A, B, C



Example: ERP for one of the Richest Temples



ENTERPRISE ARCHITECTURE: A FRAMEWORK™



PHONE: (810) 231-0531
FAX: (810) 231-6631
www.zifa.com
10895 Lakepointe Drive
Pinckney, MI 48169

| | WHAT DATA | HOW FUNCTION | WHERE NETWORK | WHO PEOPLE | WHEN TIME | WHY MOTIVATION | |
|---|---|--|--|---|--|--|---|
| SCOPE (contextual) | List of Things Important to the Business Entity = Class of Business Thing | List of Processes the Business Performs Process = Class of Business Process | List of Locations in Which the Business Operates Node = Major Business Location | List of Organizations Important to the Business People = Major Organizational Unit | List of Events/Cycles Significant to the Business Time = Major Business Event/Cycle | List of Business Goals/Strategies Ends/Means = Major Business Goal/Strategy | SCOPE (contextual) |
| Planner | | | | | | | Planner |
| BUSINESS MODEL (conceptual) | e.g., Semantic Model Entity = Business Entity Relationship = Business Relationship | e.g., Business Process Model Process = Business Process I/O = Business Resources | e.g., Business Logistics System Node = Business Location Link = Business Linkage | e.g., Work Flow Model People = Organization Unit Work = Work Product | e.g., Master Schedule Time = Business Event Cycle = Business Cycle | e.g., Business Plan End = Business Objective Means = Business Strategy | BUSINESS MODEL (conceptual) |
| Owner | | | | | | | Owner |
| SYSTEM MODEL (logical) | e.g., Logical Data Model Entity = Data Entity Relationship = Data Relationship | e.g., Application Architecture Process = Application Function I/O = User Views | e.g., Distributed System Architecture Node = I/S Function (Processes, Storage, etc.) Link = Line Characteristics | e.g., Human Interface Architecture People = Role Work = Deliverable | e.g., Processing Structure Time = System Event Cycle = Processing Cycle | e.g., Business Rule Model End = Structural Assertion Means = Action | SYSTEM MODEL (logical) |
| Designer | | | | | | | Designer |
| TECHNOLOGY MODEL (physical) | e.g., Physical Data Model Entity = Segment/Table/etc. Relationship = Pointer/Key/etc. | e.g., System Design Process = Computer Function I/O = Data Elements/Sets | e.g., Technology Architecture Node = Hardware/Software Link = Line Specifications | e.g., Presentation Architecture People = User Work = Screen Formats | e.g., Control Structure Time = Execute Cycle = Component Cycle | e.g., Role Design End = Condition Means = Action | TECHNOLOGY MODEL (physical) |
| Builder | | | | | | | Builder |
| DETAILED REPRESENTATIONS (out-of-context) | e.g., Data Definition Entity = Field Relationship = Address | e.g., Program Process = Language Statement I/O = Control Block | e.g., Network Architecture Node = Address Link = Protocol | e.g., Security Architecture People = Identity Work = Job | e.g., Timing Definition Time = Interrupt Cycle = Machine Cycle | e.g., Rule Specification End = Sub-condition Means = Step | DETAILED REPRESENTATIONS (out-of-context) |
| Subcontractor | | | | | | | Subcontractor |

1
8

Illustration of an
Enterprise
Architecture

(source: Google Images)

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