

Educating ICT Leaders Through ICT

An Innovative Approach to Use Best Practices

Amjad Umar, Ph.D.
Harrisburg University (eBusiness)
University of Pennsylvania (Telecom Engg)
NGE Solutions (Founder/CEO)
umar@amjadumar.com
(“Educating ICT Leaders”)

Quick Overview

- Objectives
 - Show how best practices can be used to make complex decisions
 - Illustrate through education of ICT leaders (university teachers, policy makers, ICT planners, integrators and administrators)
 - Suggest some possible application for the UN-GAID
- Drivers:
 - Consulting work on IT planning with small to medium businesses
 - Example: Healthcare org in New York (telco in NJ)
 - Used “best/successful practices” regularly to suggest solutions
 - Idea: Consulting practice is a good example of using best practices
 - Fulbright engagements with grad level educators (same conclusion)

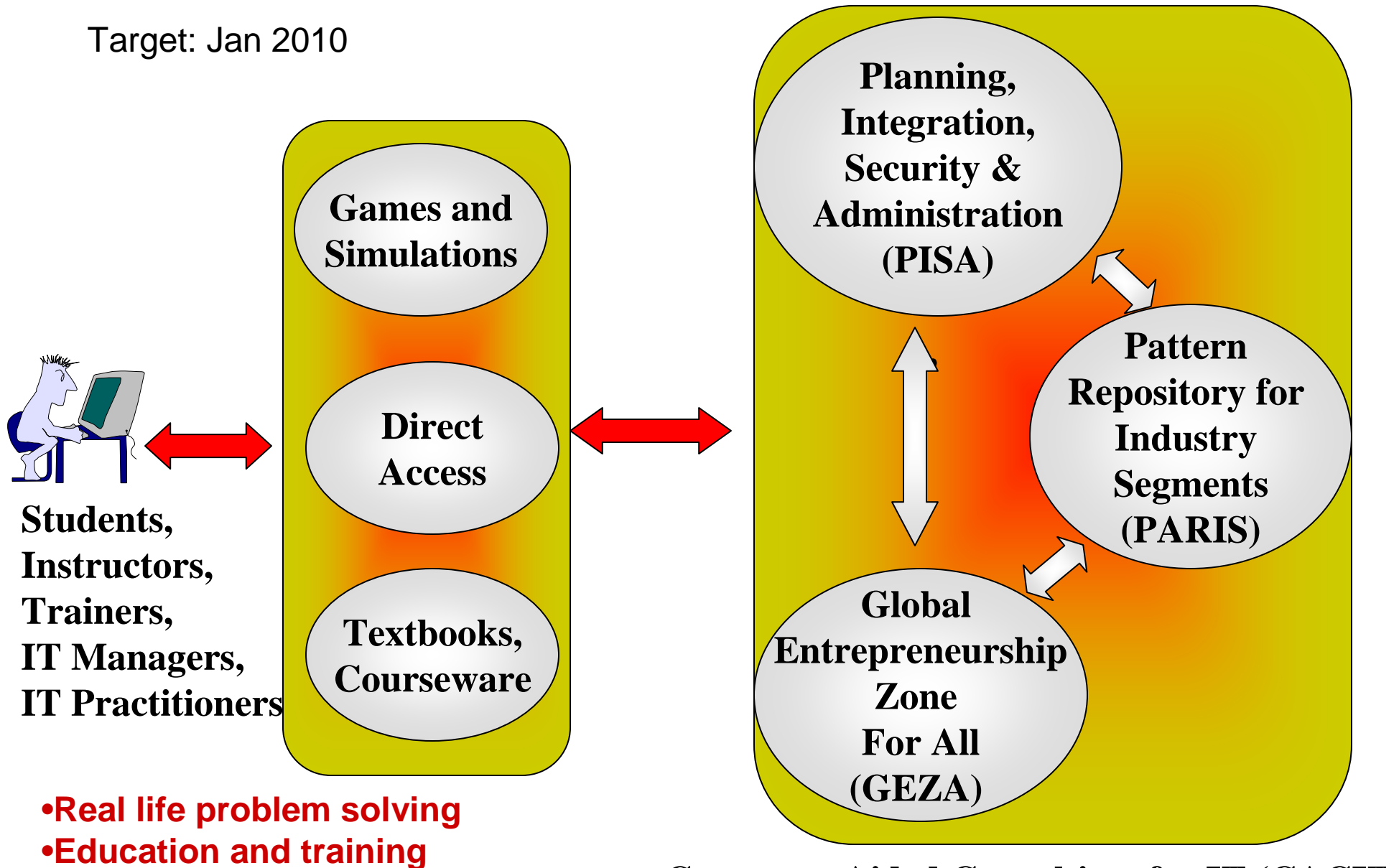
Quick Overview (cont)

- Possible Use of Research in Patterns
 - Solution to particular problem under certain conditions
 - Has a certain format:
 - Name
 - Condition
 - Solution (text, diagram)
 - Limitations
 - Patterns may be combined, may depend on each other (wireless network pattern leads to wireless security pattern)
- Result: computer aided consulting
 - Simple situations: one consultant
 - Complex/large problems: multiple consultants (hand offs)
- Suggestion:
 - UN-GAID should take the role of a "consultant" to solve problems
 - Employ computer aided consulting as a paradigm
- Acknowledgement: Mr. Sarbuland Khan, Serge Kapto

Possible Approach: Computer Aided Consulting

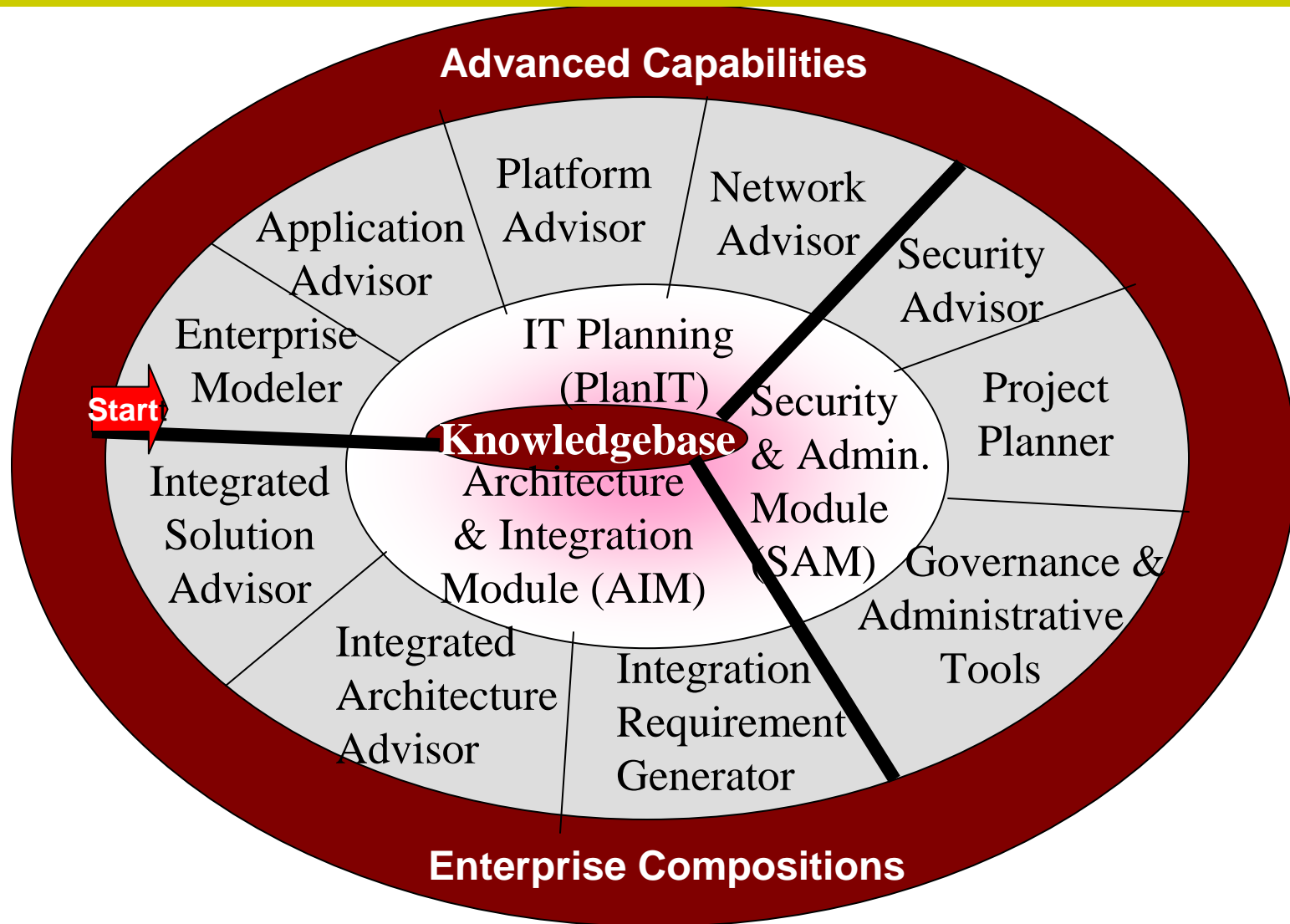
Education plus Teal Life Problem Solving

Target: Jan 2010



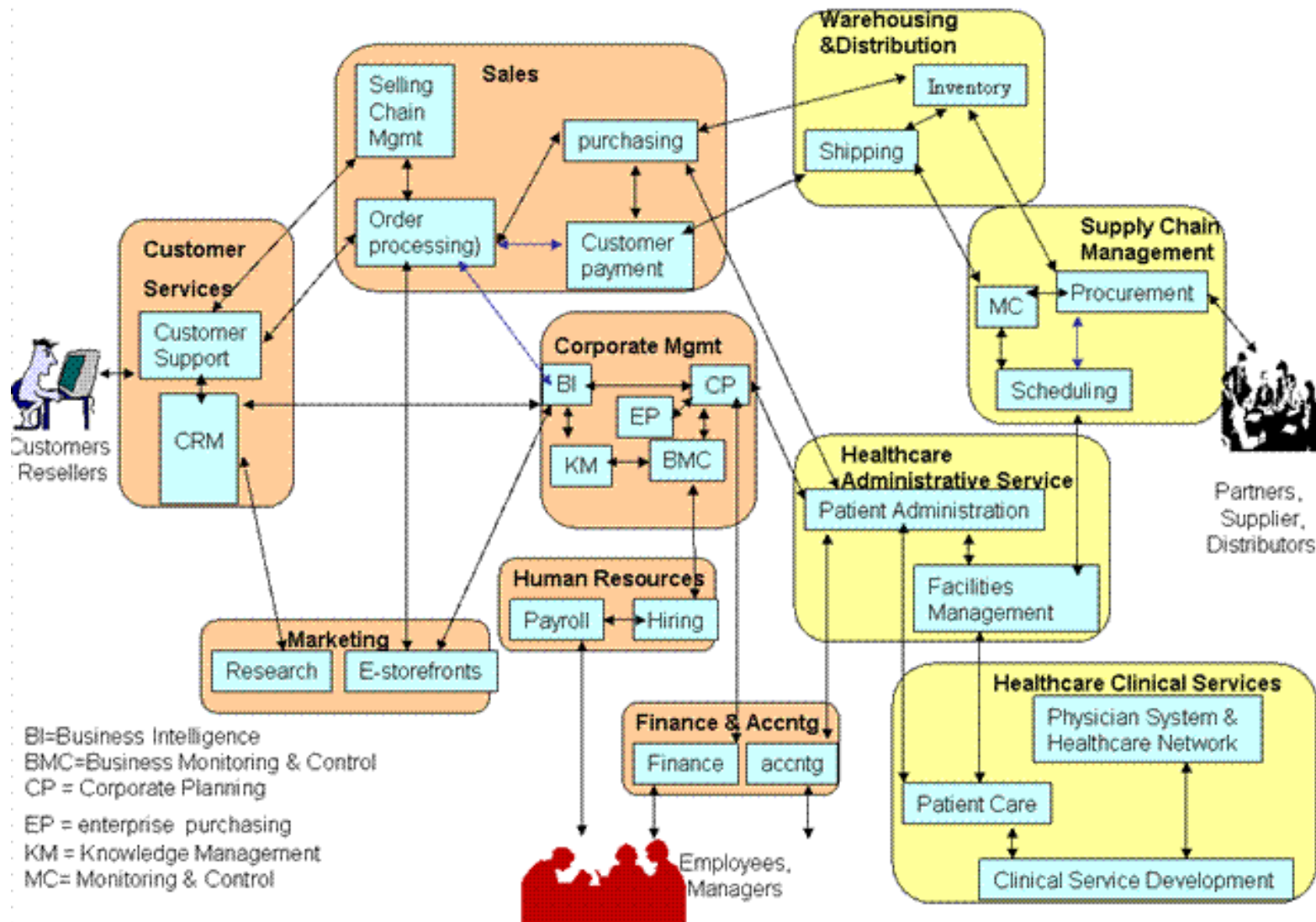
IT Planning, Integration, Security & Administration Environment

Pattern Oriented Decision Support

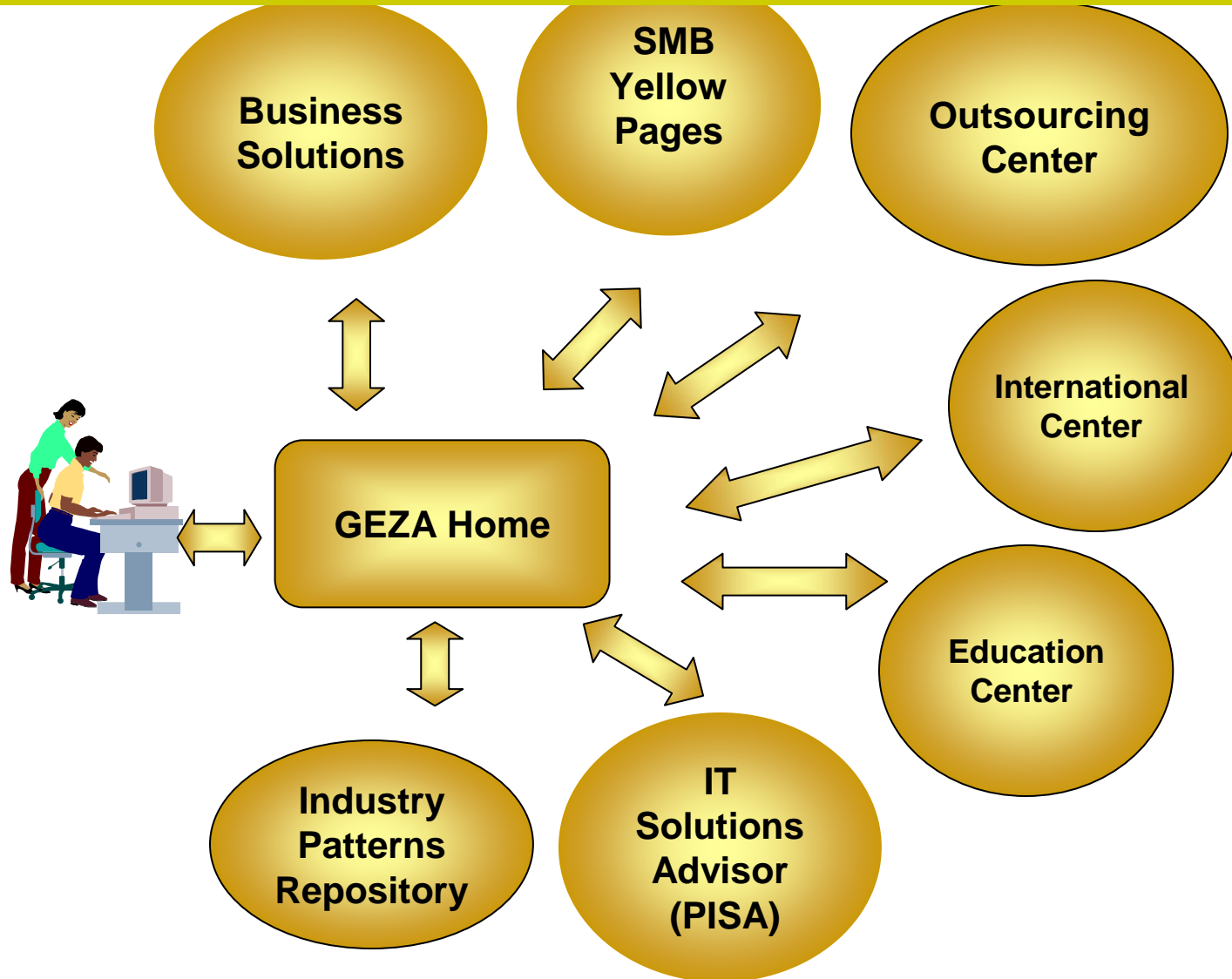


Sample Pattern

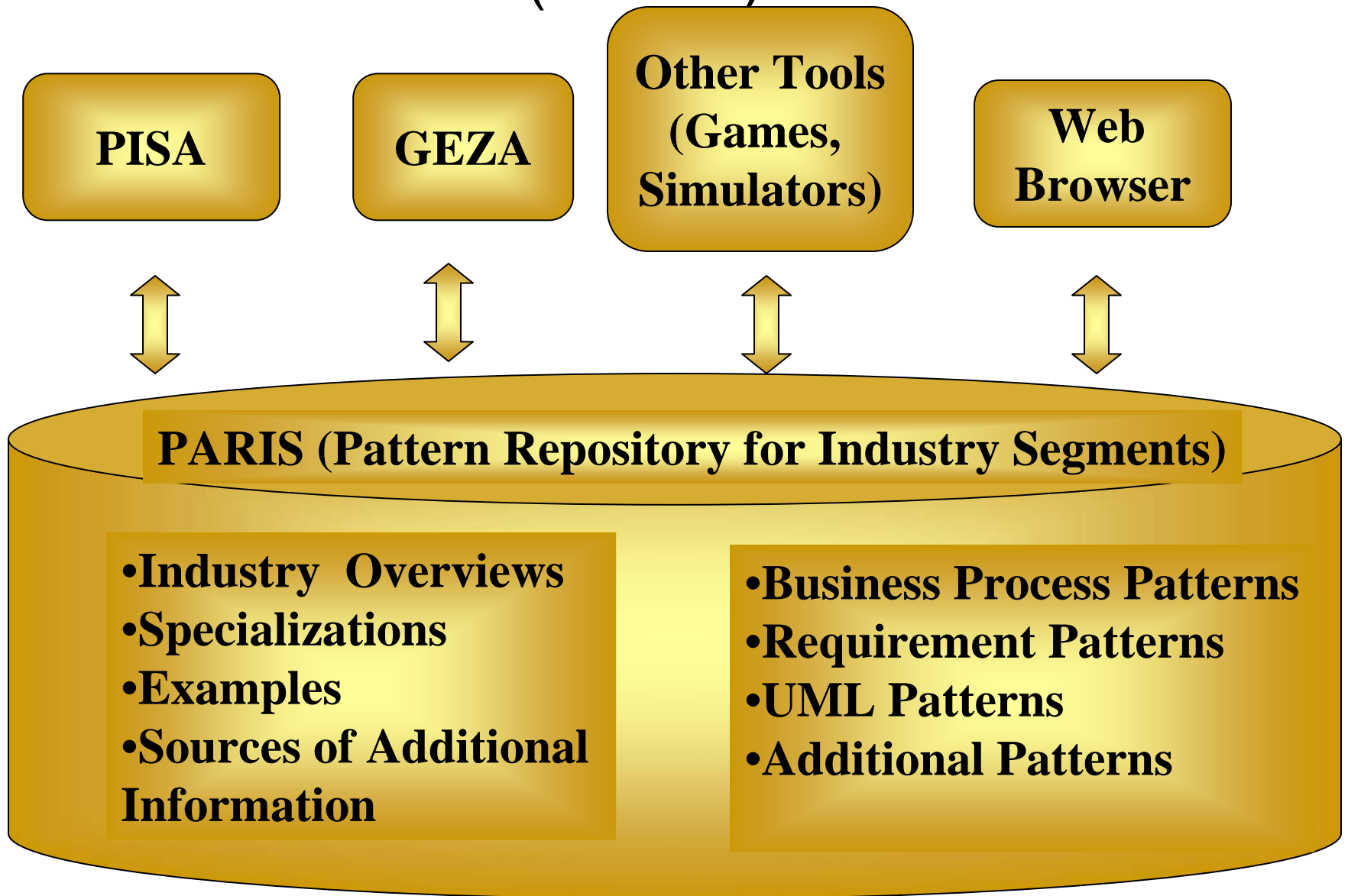
Enterprise Business Pattern (BP Level) – Healthcare Company (Hospitals)



Global Entrepreneurship Zone for All (GEZA) A Knowledge Portal

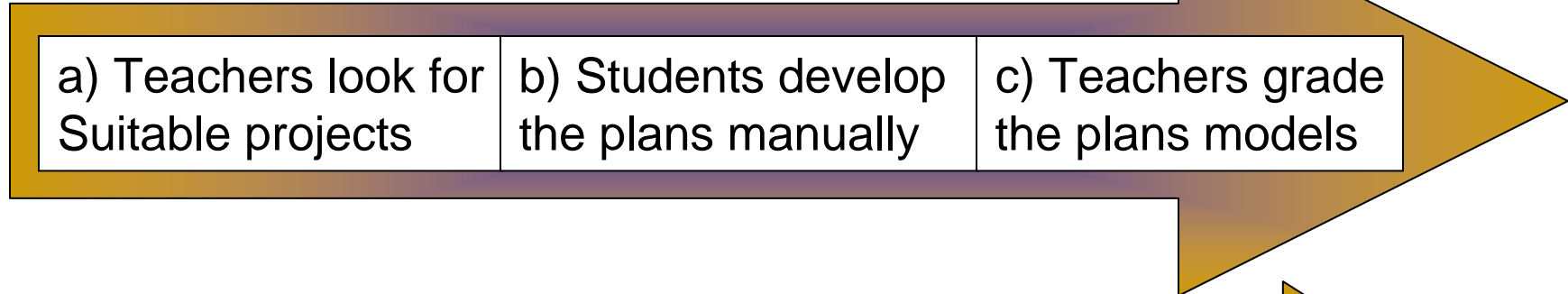


Pattern Repository for Industry Segments (PARIS)

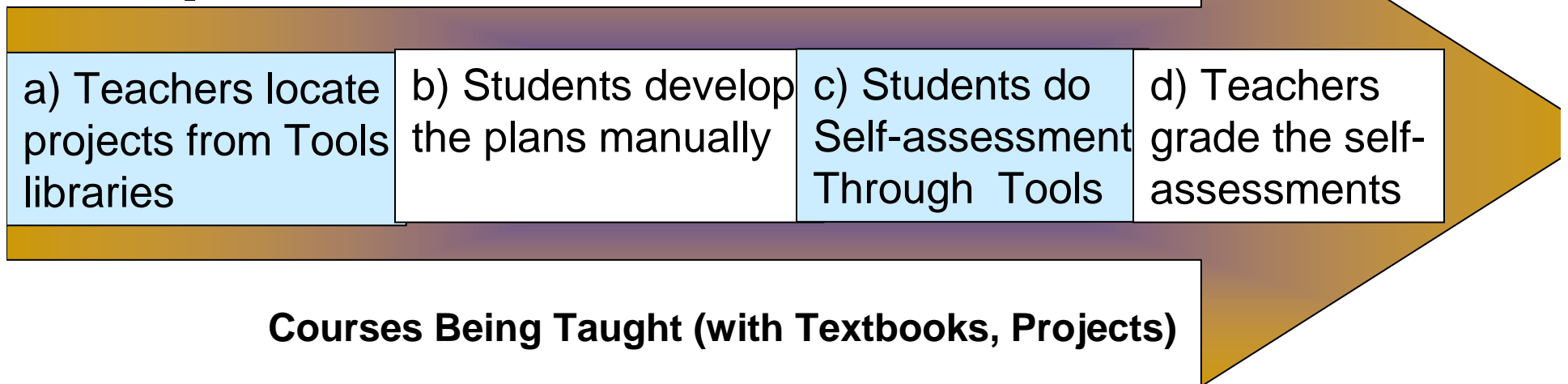


CACIT in Classroom

Current Scenario



Proposed Scenario



Courses Being Taught (with Textbooks, Projects)

Strategic IT Planning

Enterprise Architecture and Integration

Information Security and Governance

Entrepreneurship

Business Analysis and Design

Mobile Computing & Wireless Systems

Business Simulations and Games

- Use CACIT Toolset as a back-end to provide knowledge to games/simulations
- Examples:
 - Entrepreneurship simulation: life in the first 5 years of a startup
 - Virtual internships: students can take internships anywhere in the world
 - Others: making CACIT available as a back-end system for game developers

MS in *Information Systems Engineering and Management (ISEM)*

Core (5 required Courses, 15 credits)

ISEM 500: ISEM Principles (IS Planning, Engineering & Management)

Management Courses (2 required)

- ISEM 510: Business Strategy & Management Principles
- ISEM 520: Service Science, Management & Engineering

IS Courses (2 required)

- ISEM 530: Analysis & Design of Modern Information Systems
- ISEM 540: Architecture and Integration of Modern Enterprises

Electives (6 courses, 18 Credits) from any ISEM, LTMS or ITPM courses. One elective may be chosen from another department (e.g., Biology)

Management/
Business Courses

Technology (ICT)
Courses

IT Project
Management
(ITPM) Courses

Learning Technologies
and Multimedia Systems
(LTMS) Courses

Independent Study
(1 Course Credit)

Free Elective
(1 Course)

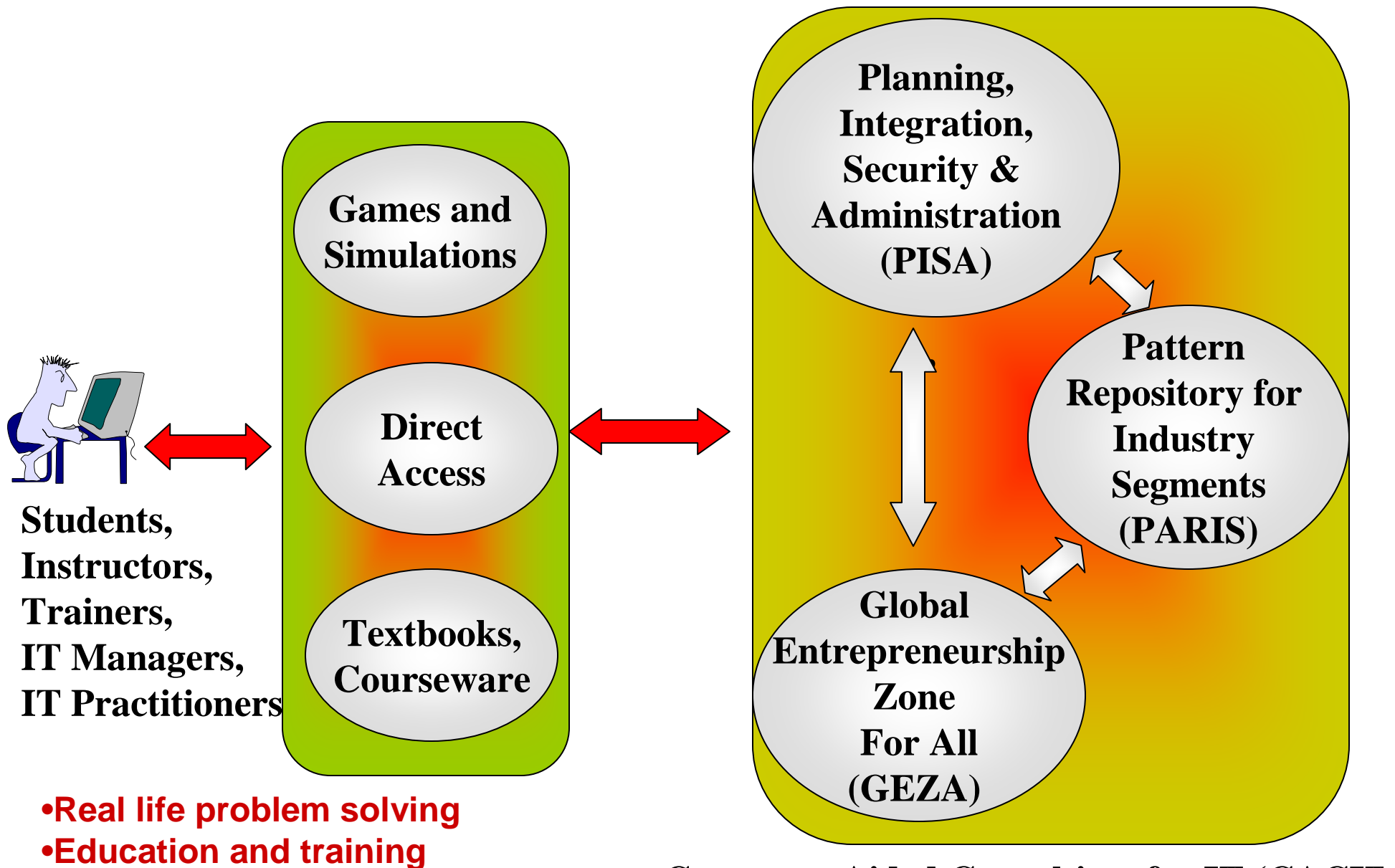
Cap stone (3 or 6 Credits)

MS Thesis
(6 Credits)

ISEM 570: Project
(3 Credits)

Computer Aided Consulting

Education plus Teal Life Problem Solving



Computer Aided Consulting for IT (CACIT)

Concluding Remarks

- Suggestion:
 - UN-GAID should take the role of a "consultant" to solve problems
 - Employ computer aided consulting as a paradigm (CACIT type)
- "Free" help for developing pattern repositories:
 - Students engaged in research projects, directed studies
 - Youth organizations
 - Faculty volunteers from overseas (Fulbright)
 - Organizations (NGE Solutions)
- Additional Information:
 - umar@amjadumar.com, ("Educating ICT Leaders")
 - Email: umar@amjadumar.com
- Acknowledgement:
 - UN-GAID: Mr. Sarbuland Khan, Serge Kapto
 - WITSA: Dr. James Poisant (Secretary General)

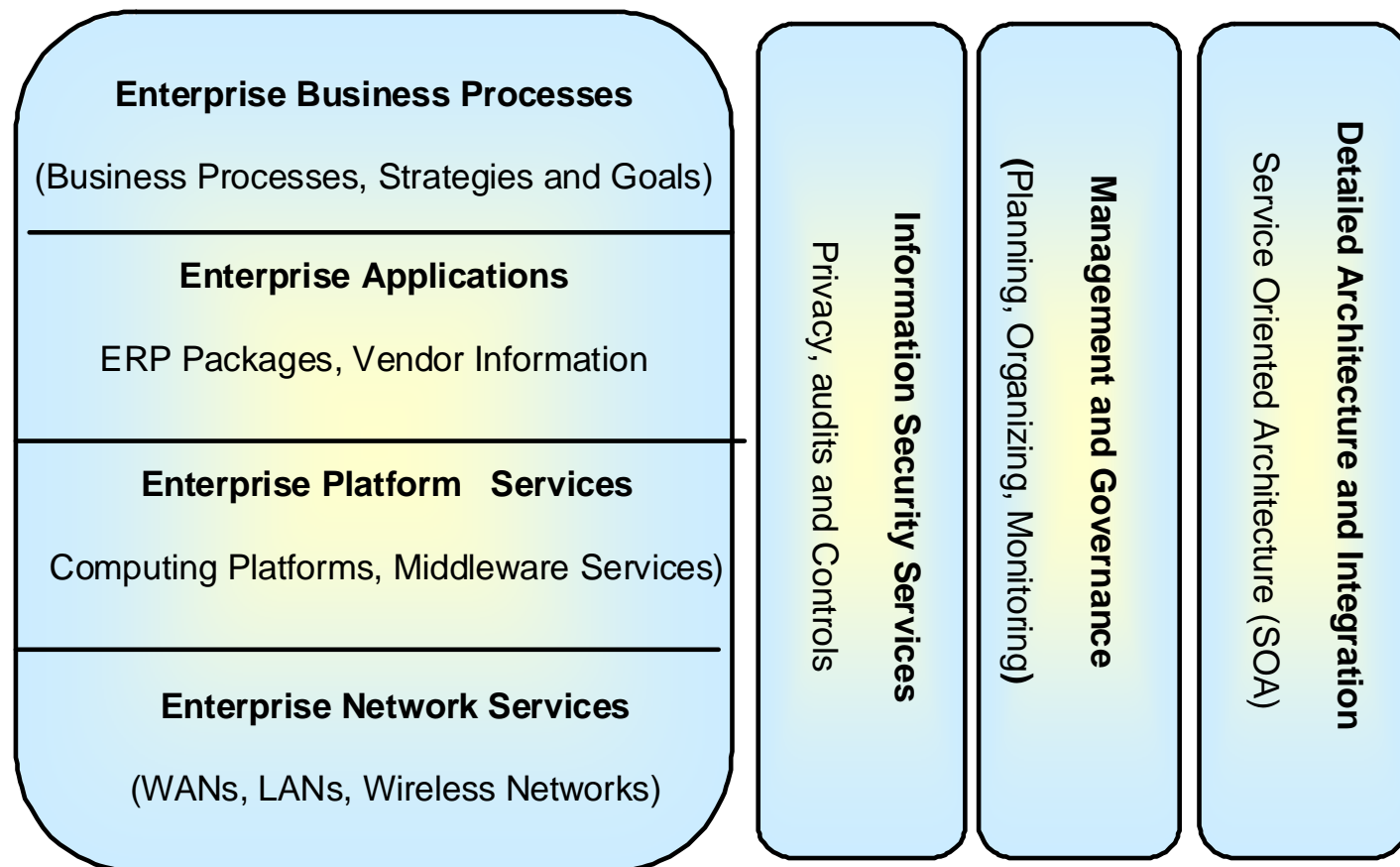
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ADDITIONAL INFORMATION

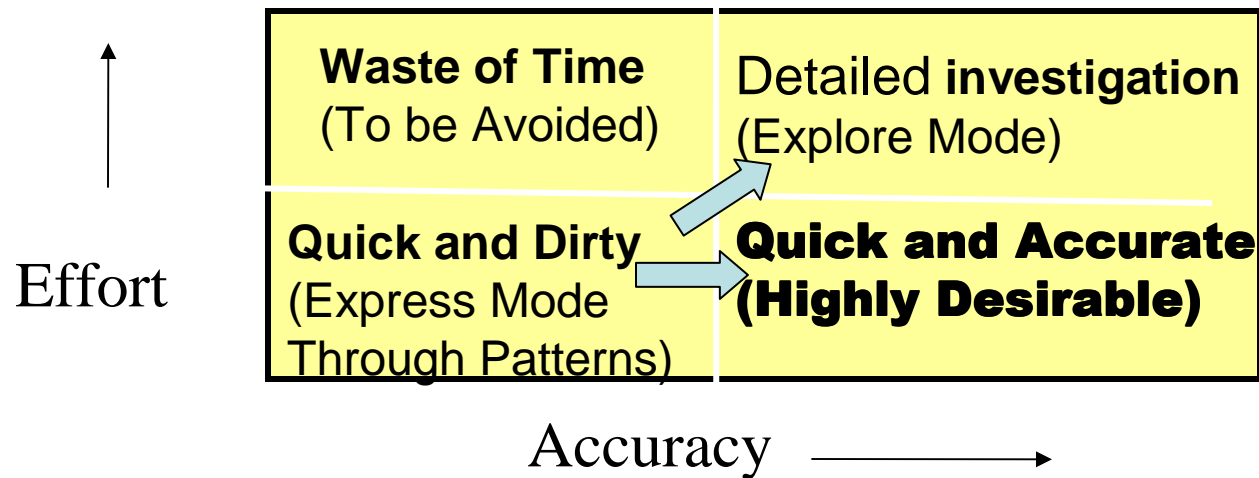
Challenges in Educating ICT Leaders

- Need to develop problem solving skills for complex real life situations
- Manage the intricate business and technology interdependencies in these situations.
- Need preparation in the following building blocks
 - Horizontal layers (business processes, applications, platforms, networks).
 - Vertical bars (planning, integration, security, administration)



Effort versus Accuracy Tradeoffs

- General thought: more information leads to better decisions
- Not always the case (Research from Behavioral Science)
- People do not want to spend a lot of time to get highly accurate results (quick and dirty answers are used frequently)
- We attempt to increase accuracy without increasing effort by increasing the accuracy of defaults and patterns



Reference: Todd, P. and Benbasat, I., "The Use of Information in Decision Making: An Experimental Investigation of the Impact of Computer-Based Decision Aids", *MIS Quarterly*, Vol. 16, No. 3 (Sep., 1992) , pp. 373-393

