

IT Career Routes Discussion Materials

Prepared for the
CRA IT Dean's Group Meeting

24 February 2004

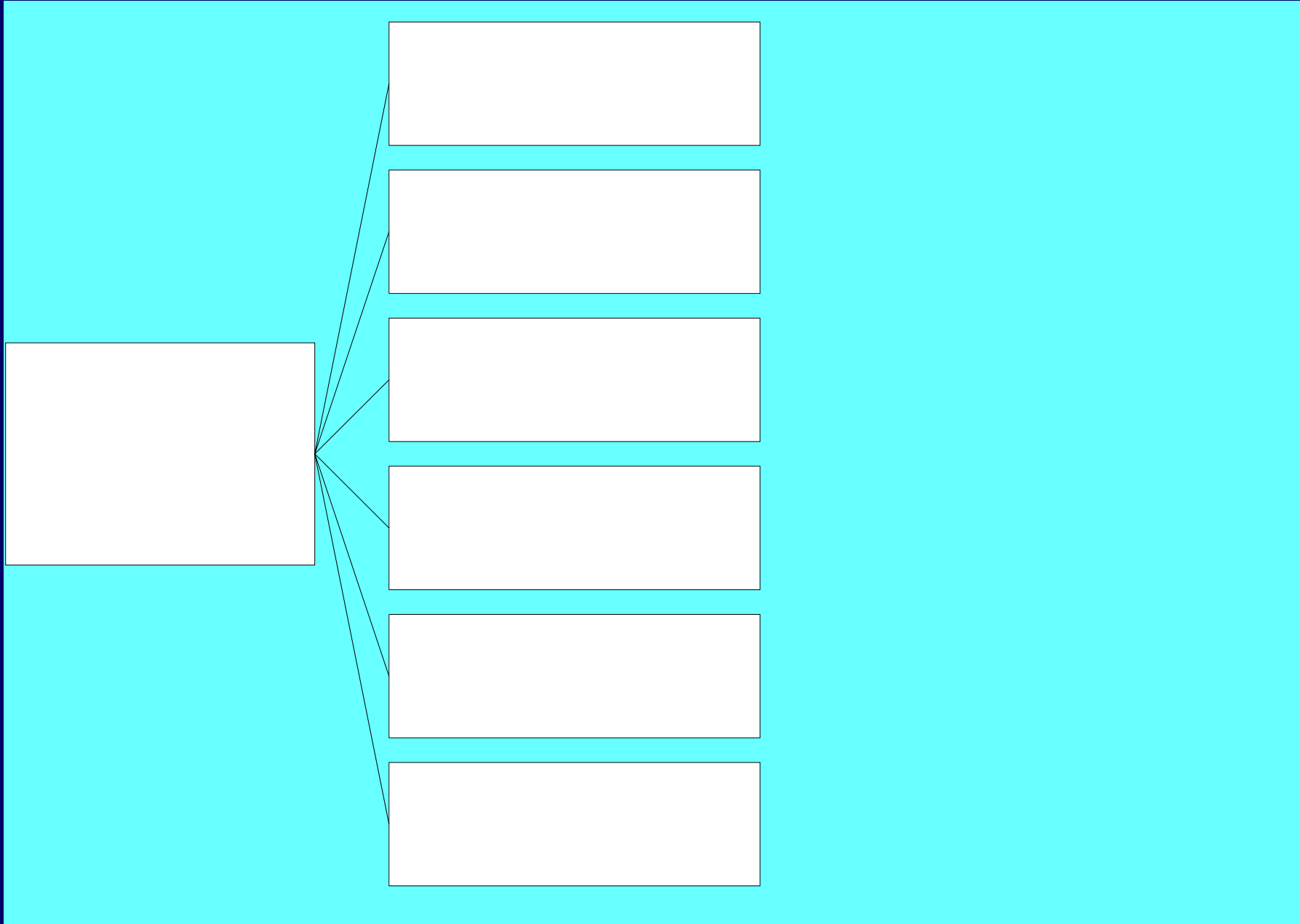
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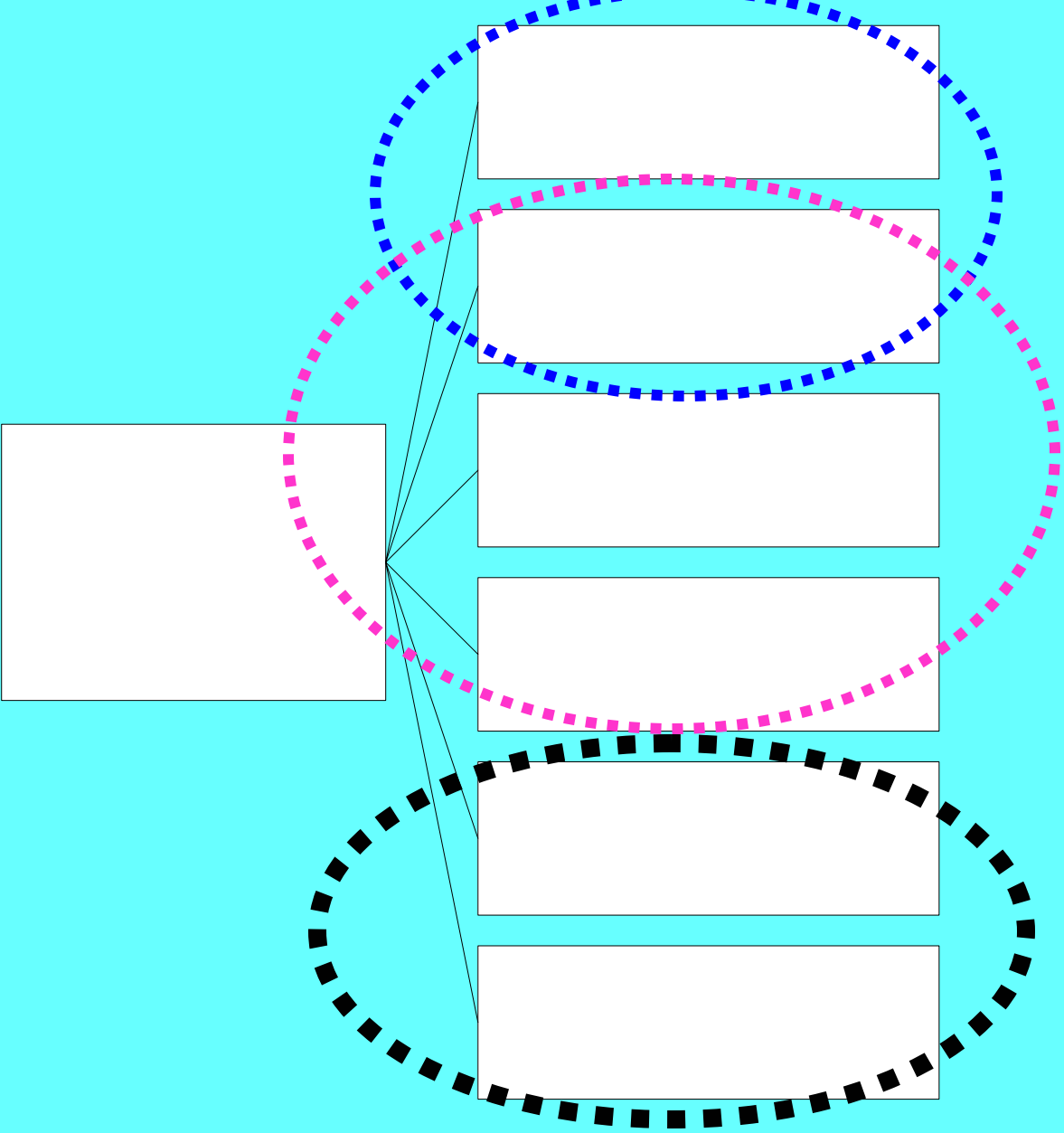
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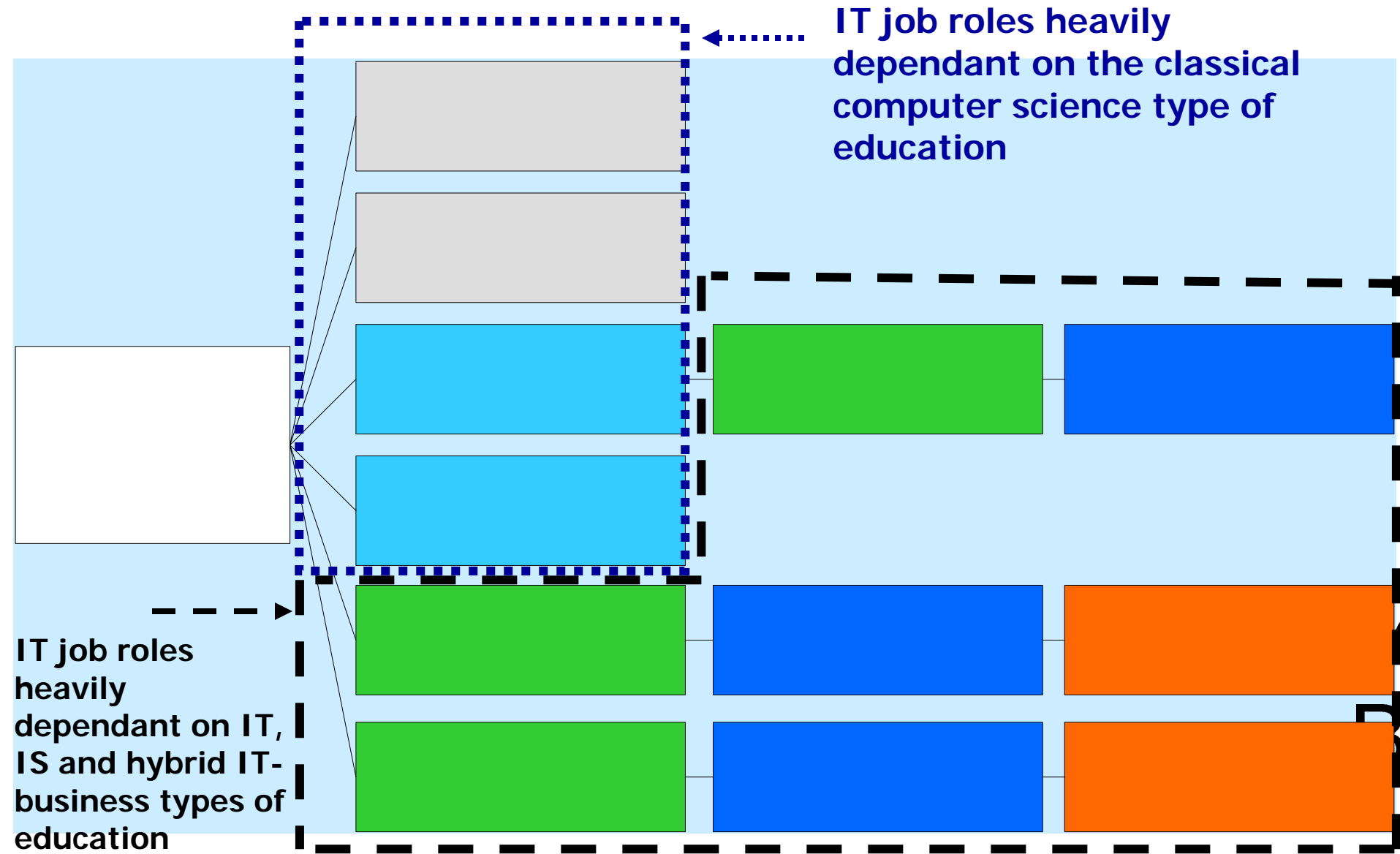
Major Types of IT Job Roles



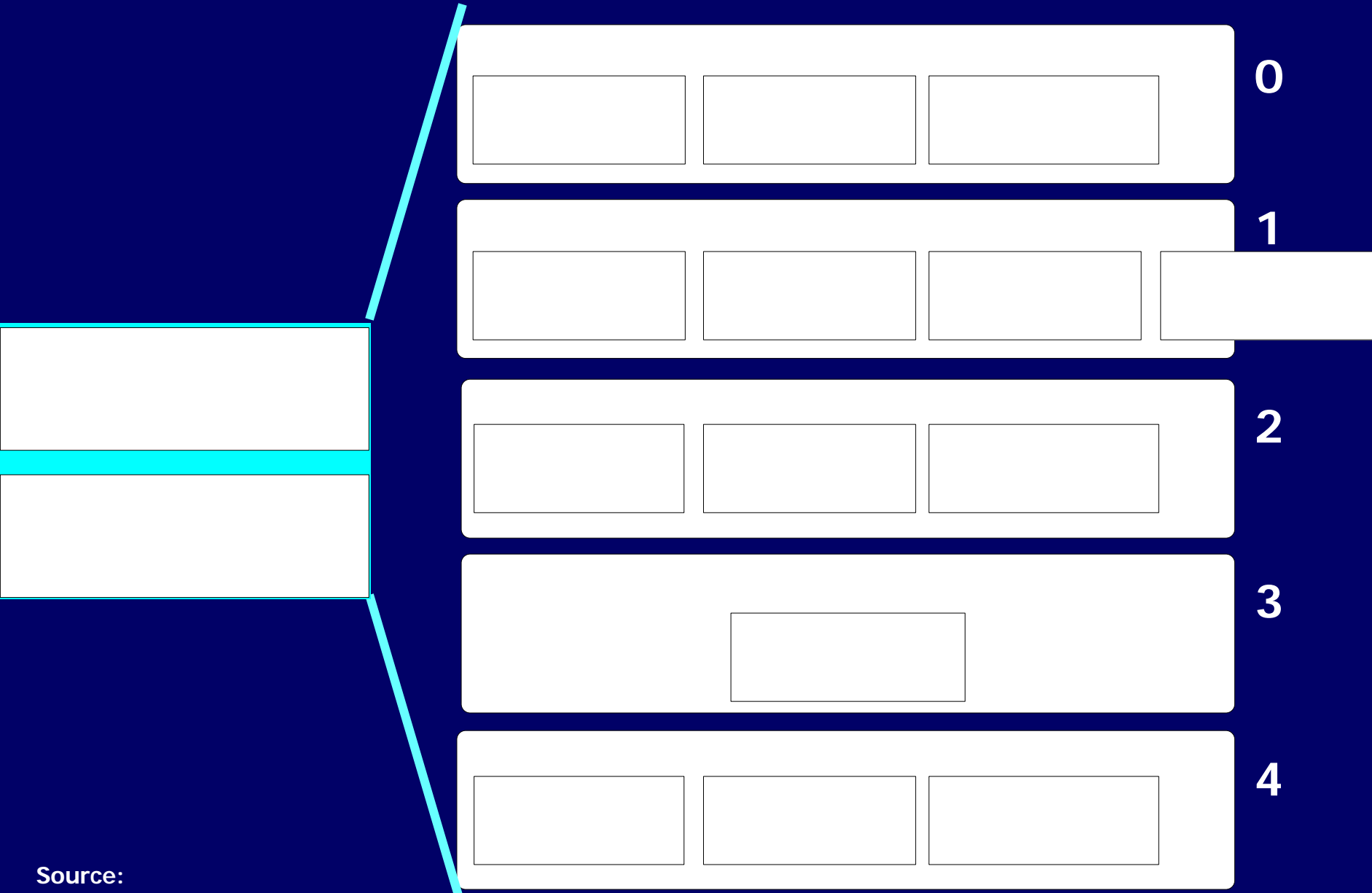
Major Types of IT Job Roles



Major types of IT job roles: More detailed view



Breakout of work in the service provider sector and business user sector



Source:

See http://www.sis.smu.edu.sg/news_events/news/CIOASIA_0312.pdf

Ways in which business user organizations across all industry sectors are changing their roles and efforts across the lifecycle phases

Phase #	Phase Name	Trends across business user organizations	Trends across specialized IT service providers
0	Enterprise level business & architecture definition	Maintaining strong ownership.	Consulting support.
1	Project level concept design & demonstration	Maintaining strong ownership.	Consulting support.
2	Technical design, construction & deployment	Moving to more outsourcing; → Verification, results management.	Increasing responsibilities for execution.
3	End-user deployment	Maintaining strong ownership.	Consulting support.
4	Post-deployment service delivery & support	Moving to more outsourcing; → Verification, results management.	Increasing responsibilities for execution.

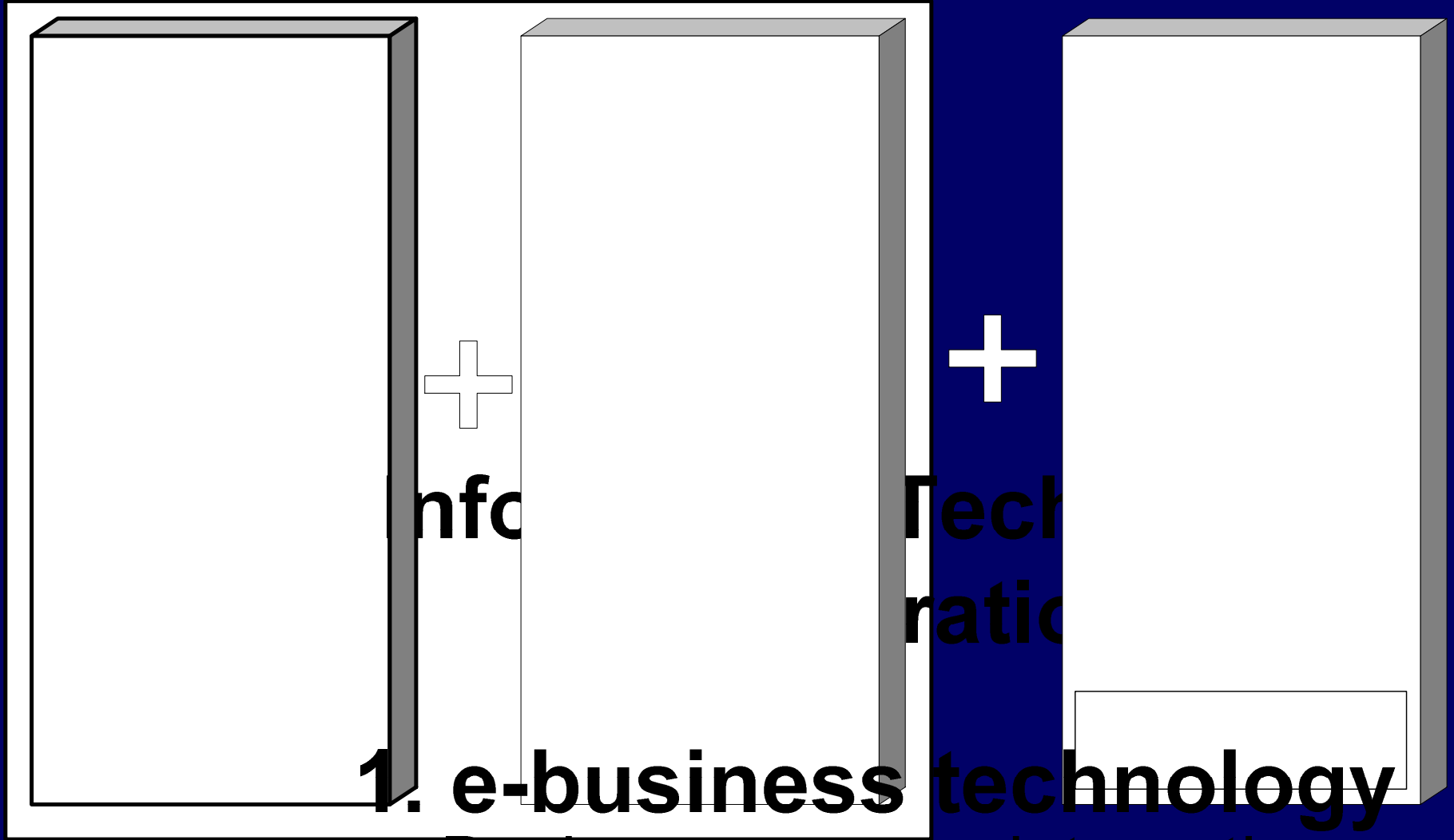
Outsourcing is not the only big issue in the world of business users and service providers



- 1. Out-tasking, outsourcing AND**
- 2. Required business accountability and ownership**
 - Importance of knowing domain-based business processes and practices → linkage of business process/performance needs with design choices and deployment results
 - Cost, value and risk based business case analysis for business owners → linkage of architecture and design with business process and LOB improvement targets
- 3. Reluctance to build from scratch whenever possible**
 - Increasing solution assembly and integration using COTS packages, middleware frameworks & tools, available components (commercial, open source), component frameworks, and evolutionary design/build methods
- 4. Overarching meta requirements**
 - Increasing integration needs (inter-firm, intra-firm)
 - Higher degrees of security AND trust needs
 - Non-functionals versus cost, value, risk and time considerations
- 5. Reluctance to lock-in options for future changes**

Hedging against Vendor lock-in, including outsourcing vendor;
Hedge against requirements lock-in → Open architectures, standards-based designs, modular implementations, evolutionary builds

Strategy for research and education concentrations at SMU's School of Information Systems

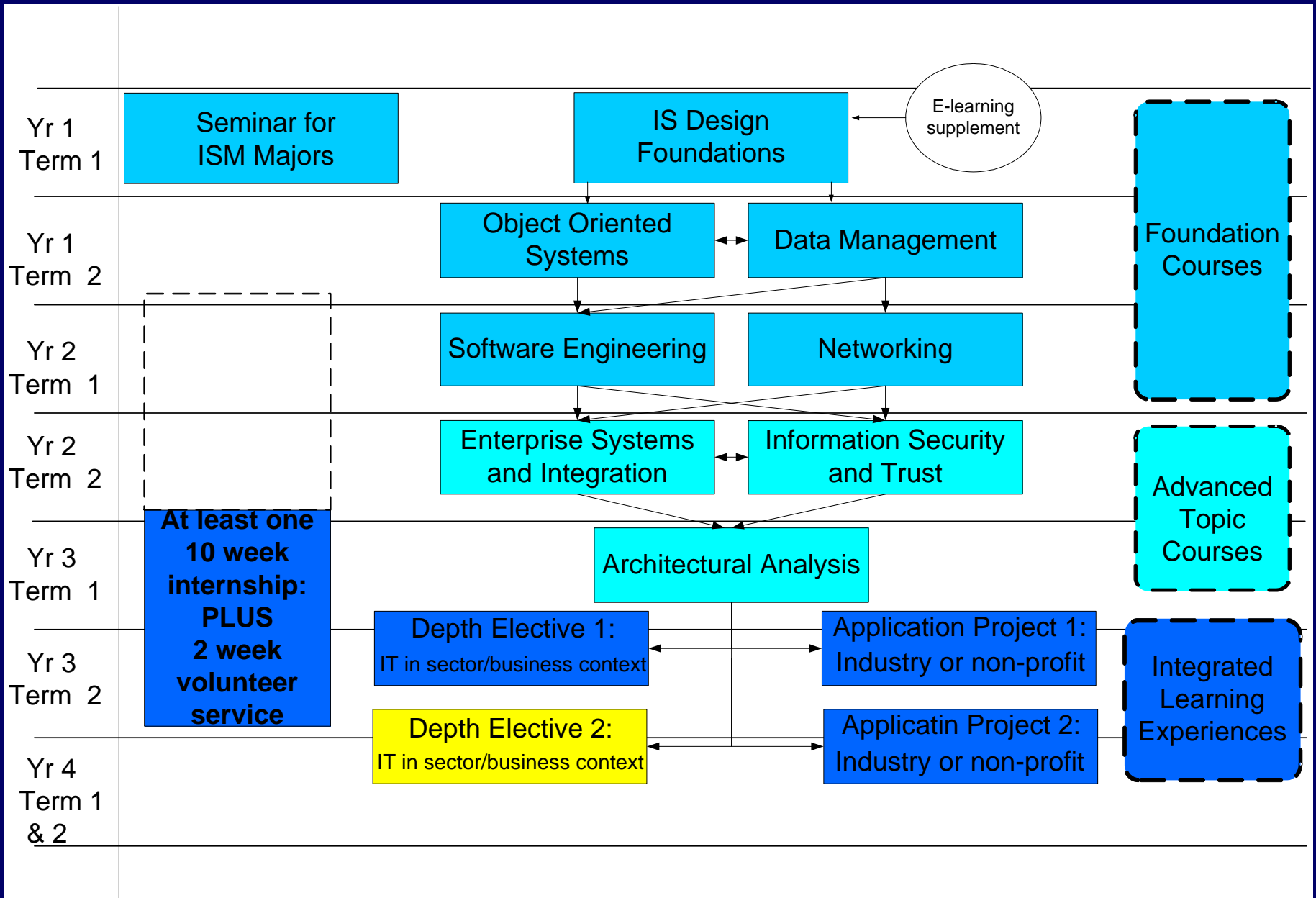


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SIS core curriculum for BSc (IS Management)



Job roles and career ladders for BSc (IS Management) graduates

Business focus
(with IS
background)

9. User organization business executives;
Project sponsors

8. (**) *User organization business staff
(process experts, function experts, managers)*

Combined
Business-IS
focus

7. Project director; Programme director

6. (**) *Project leader; Project manager*

5. (**) *Business solution architect; Information
architect; enterprise architect; e-Business solution
consultant*

4. (**) *Business analyst; Systems/Solutions analyst*

3. InfoComm managers and executives
(CIO and direct management reports)

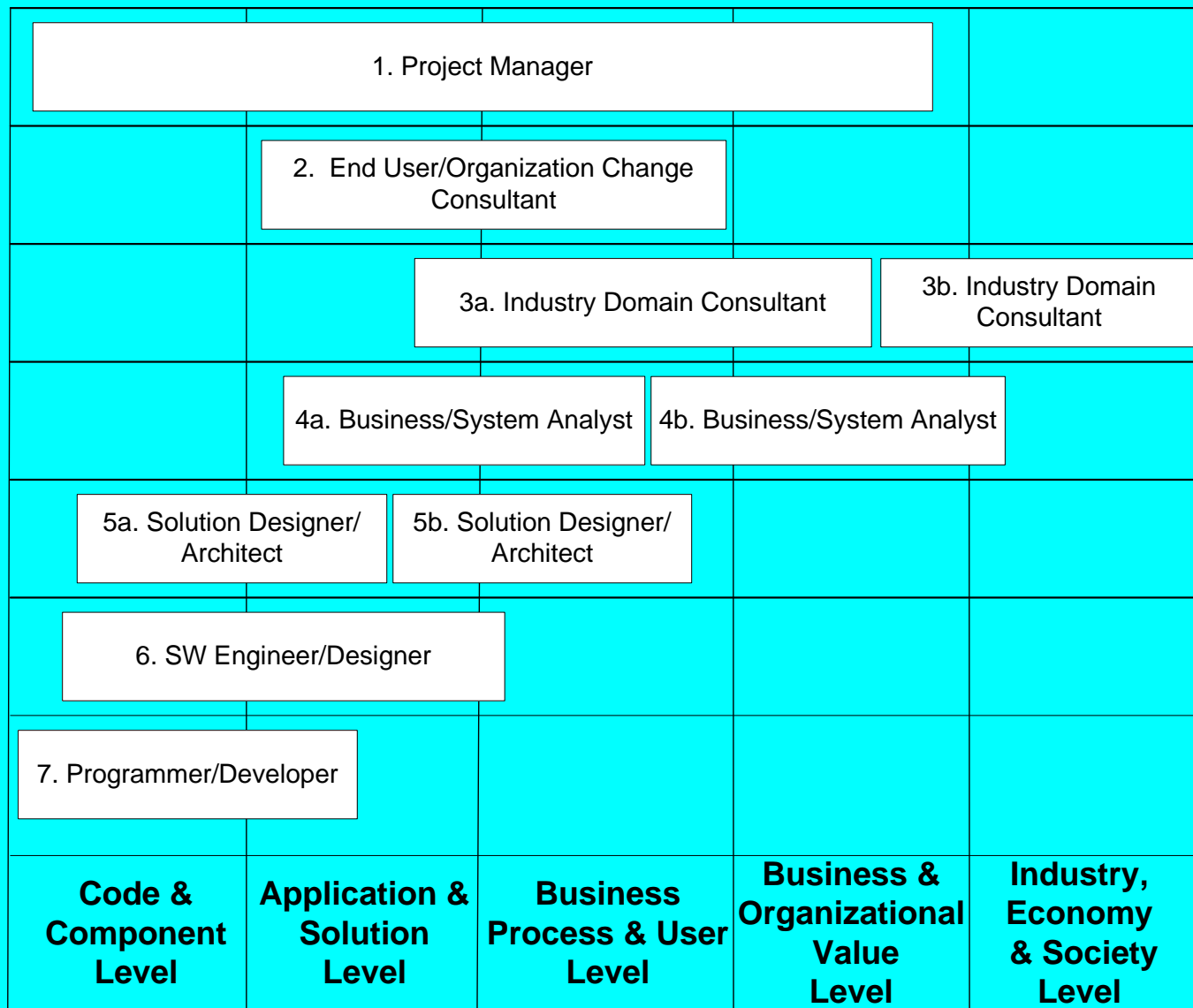
2. (*) *Technical solution architect/IT architect;
Lead designer;*

1. Programmer; Developer; IT specialist/engineer

(**) JC or Poly
target roles

(*) Poly
target
roles

IT/IS focus (with business background)



8a. Researcher-Software Level

8b. Researcher-Solutions Level

8c. Researcher-Mgt. Level

8c. Researcher-Mgt. Level

8d. Researcher-Economy & Policy Level

Job roles adapted from the Business Week, "Software: Will Outsourcing Hurt America's Supremacy" article (March 2004, pgs 84 – 95).

The Business Week article (pg 86) highlighted six job categories in "the software pyramid," and ordered the pyramid by salary. We have added two categories (#2 and #6) organized the placement of job categories by "level" of analysis.

A standard industry view of IT profession roles IT job roles. Categories taken from the Year 2002 Annual Singapore IT Salary Survey compiled by IT Managers Association and Nanyang Technological University Business School, Singapore.

Systems Development Job Roles

- Applications development manager
- Applications maintenance manager
- Project director
- Project manager
- Project leader/business analyst/consultant/architect
- Systems analyst/software engineer
- Programmer analyst
- Web designer/artist
- Quality Assurance analyst

Infrastructure Job Roles

- Director of Infrastructure
- IT architect/Infrastructure planner or designer
- Data centre manager
- Database administrator
- Network/Telecom manager
- Network/Telecom specialist
- IT security specialist
- IT service desk manager
- IT support officer
- Systems administrators/engineers
- Systems programmers
- Webmaster/Internet administrator
- Computer operator