COURSE PREVIEW

BUSINESS TECHNOLOGY REQUIREMENT ARCHITECTURE

Tuesday, 25 April 2023

10.00 am - 11.00 am (GMT + 8 HKT/MY/SGT)

Zoom Webinar

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Chief Business Architect
ATD Solution

Overview of Business Technology Requirement Architecture (BTRA)

Learning Advantages & Target Audience

Target Audience

Any professionals that need to align business with IT but not limited to the following:

- IT Projects Stakeholders (IT or Business teams)
- Digital Transformation Team
- IT & Business Consultants
- Project Management Office team member
- IT Architects – Enterprise/Business/Information/Infrastructure /Software/Information Architects
- Business/Data/System Analysts

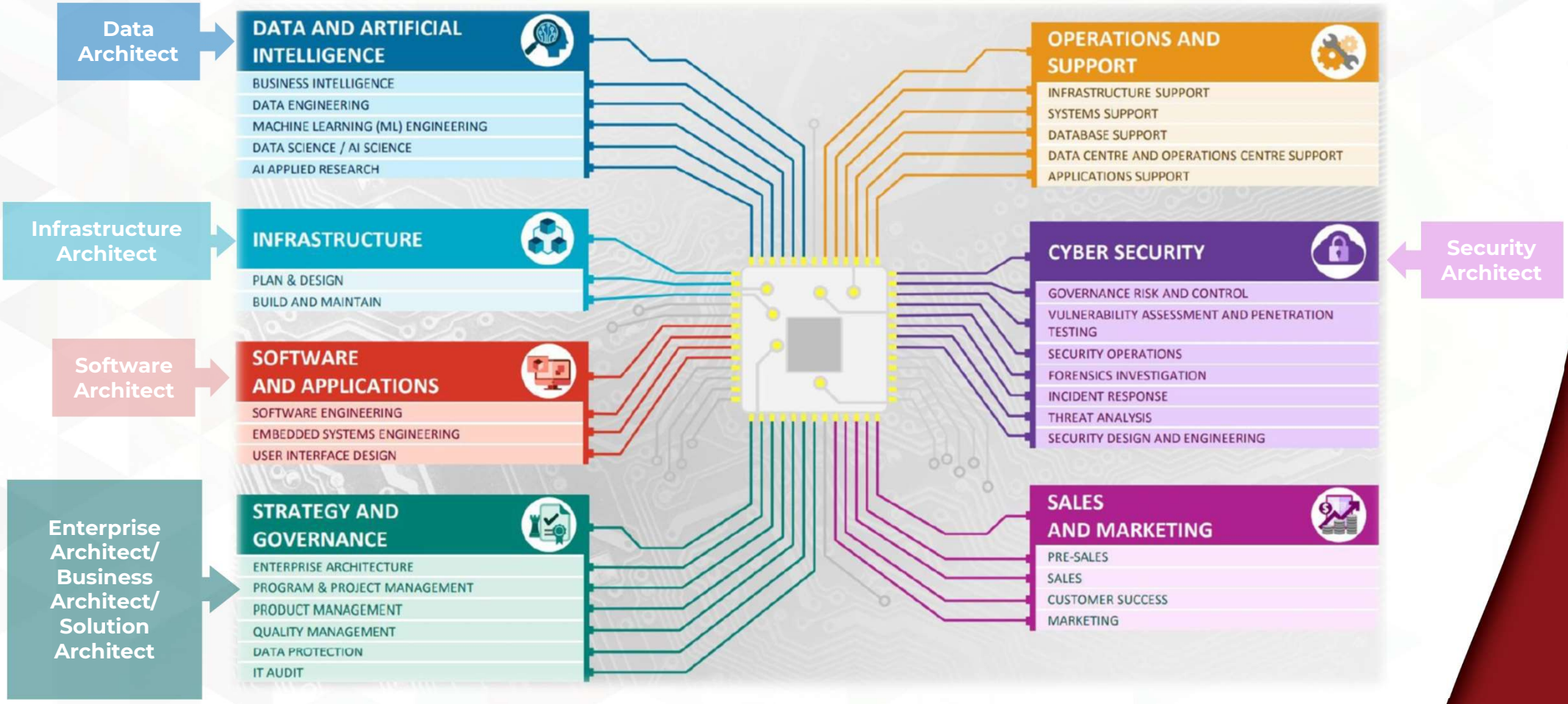
Skills Framework for Infocomm Technology (ICT)

Architect Roles

7 Architect Roles in Skills Framework

1. Enterprise Architect
2. Business Architect
3. Data Architect
4. Software Architect
5. Infrastructure Architect
6. Security Architect
7. Solutions Architect

Skills Framework (SFw) for Infocomm Technology (ICT)



Technical Skills & Competencies for BTRA

Business Needs Analysis

Identify and scope business requirements and priorities through rigorous information gathering and analysis as well as clarification of the solutions, initiatives and programmes to enable effective delivery. This also involves the development of a compelling and defensible business case and the articulation of the potential impact of the solution to the business.

Proficiency Level 2	Proficiency Level 3	Proficiency Level 4	Proficiency Level 5
Document business requirements and identify basic needs as well as potential solutions	Elicit and analyse business requirements from key stakeholders and assess relevant solutions and their potential impact	Investigate existing business processes, evaluate requirements and define the scope for recommended solutions and programmes	Lead comprehensive analysis to understand underlying drivers and present a compelling business case for proposed IT solutions

Business Technology Requirement Architecture (BTRA)

Day 1

The IT Solution Evaluation Techniques

1. Business IT Architecture Overview

Business & IT Architecture Landscape, Understanding Business & IT Challenges, Different IT Architect's Perspectives and their implications

2. Business-IT Value Overview

The Business Value of IT Architecture, Strategic IT Architecture Management

The Business Case for IT Solution

3. BTABoK Foundation Skillset Five-Pillars Overview

Business Technology Strategy, IT Environment, Quality Attributes, Human Dynamics, Design Foundational Skills

Day 2

4. IT Governance Overview

IT Governance in a Nutshell

5. IT Architecture Engagement Strategy Overview

Engagement Strategy, Roles & Specialisation

The Business Process and Priorities Analysis

6. Business Architecture Overview

Driving Force Initiative, 5 Components, Value Stream Integration

The End-to-End Requirement Elicitation Process

7. Business Technology Requirement Architecture

Use Cases Documentation, Business Technology Requirement Architecture Template (Walkthrough)

Day 3

8. Business Technology Requirement Architecture

Complete Use Case Building Blocks, Pitfalls in Use case Modelling, Business Requirement Patterns

Learning Unit 1:
The IT Solution Evaluation Techniques

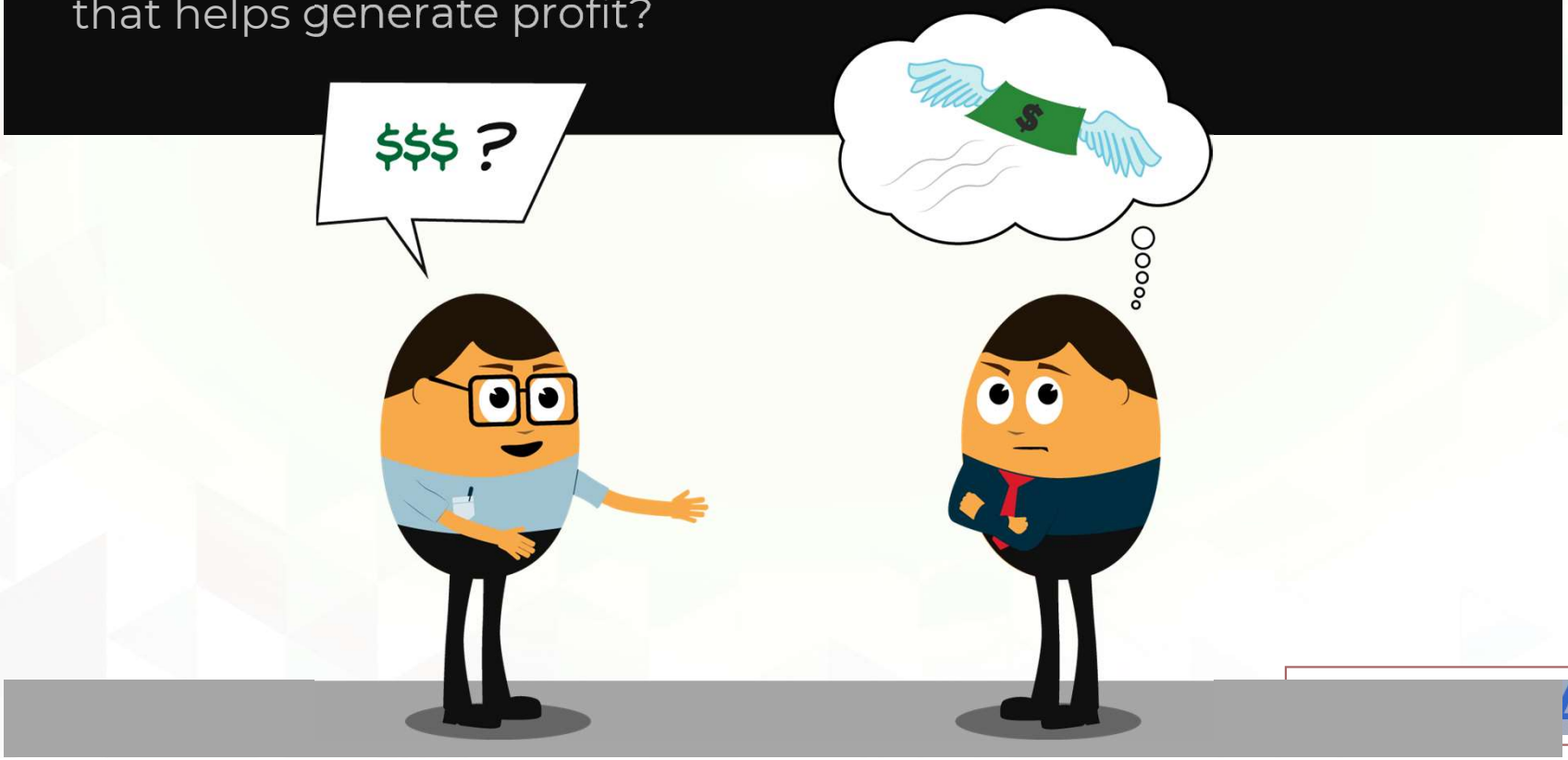
Business IT Architecture

Business – IT Value

MISTAKE

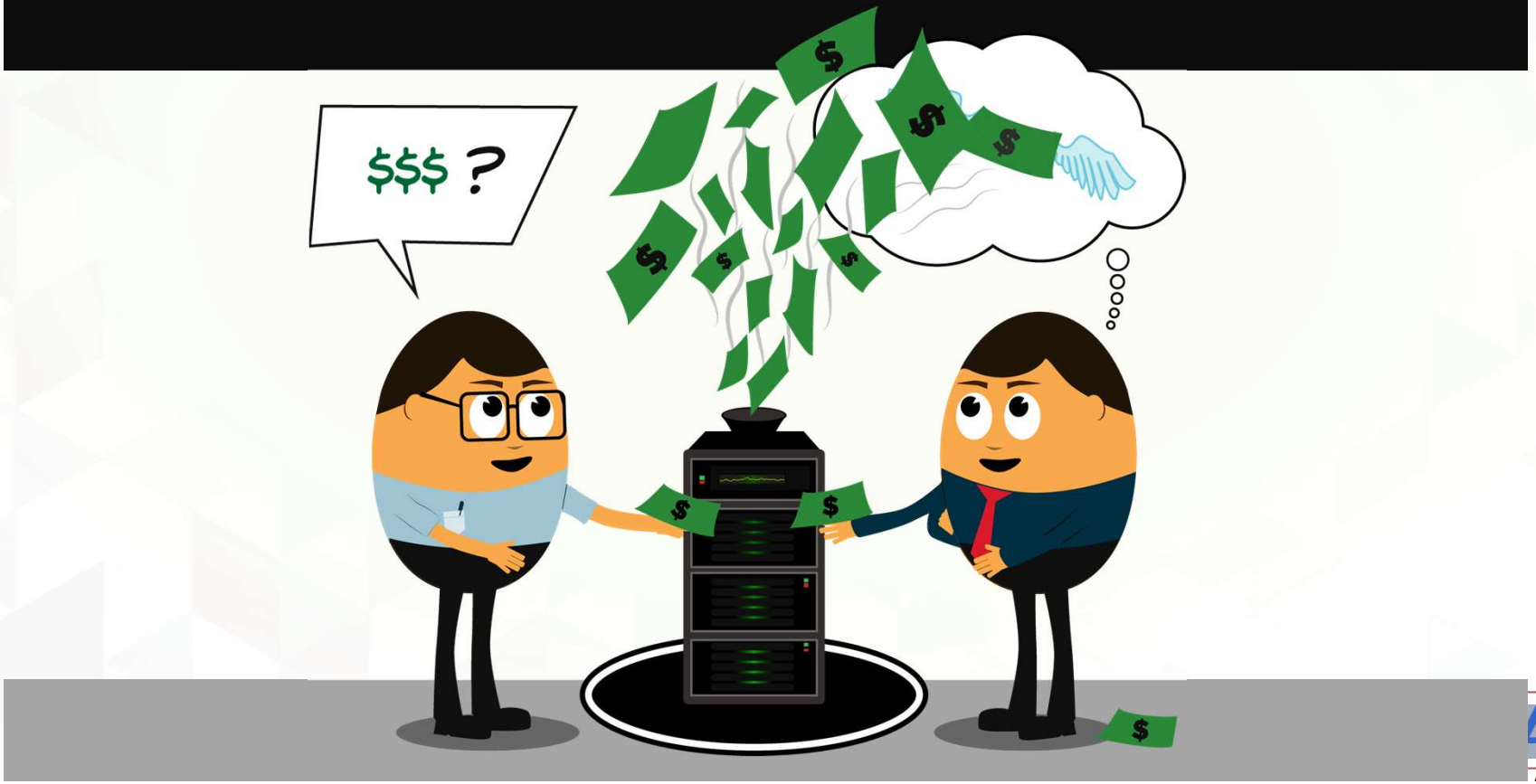
Treating IT projects as an expense, instead of as an investment with returns.

Would you want to reduce the budget of an IT department that helps generate profit?



~~MISTAKE~~

All IT projects deliver measurable ROI and business value.



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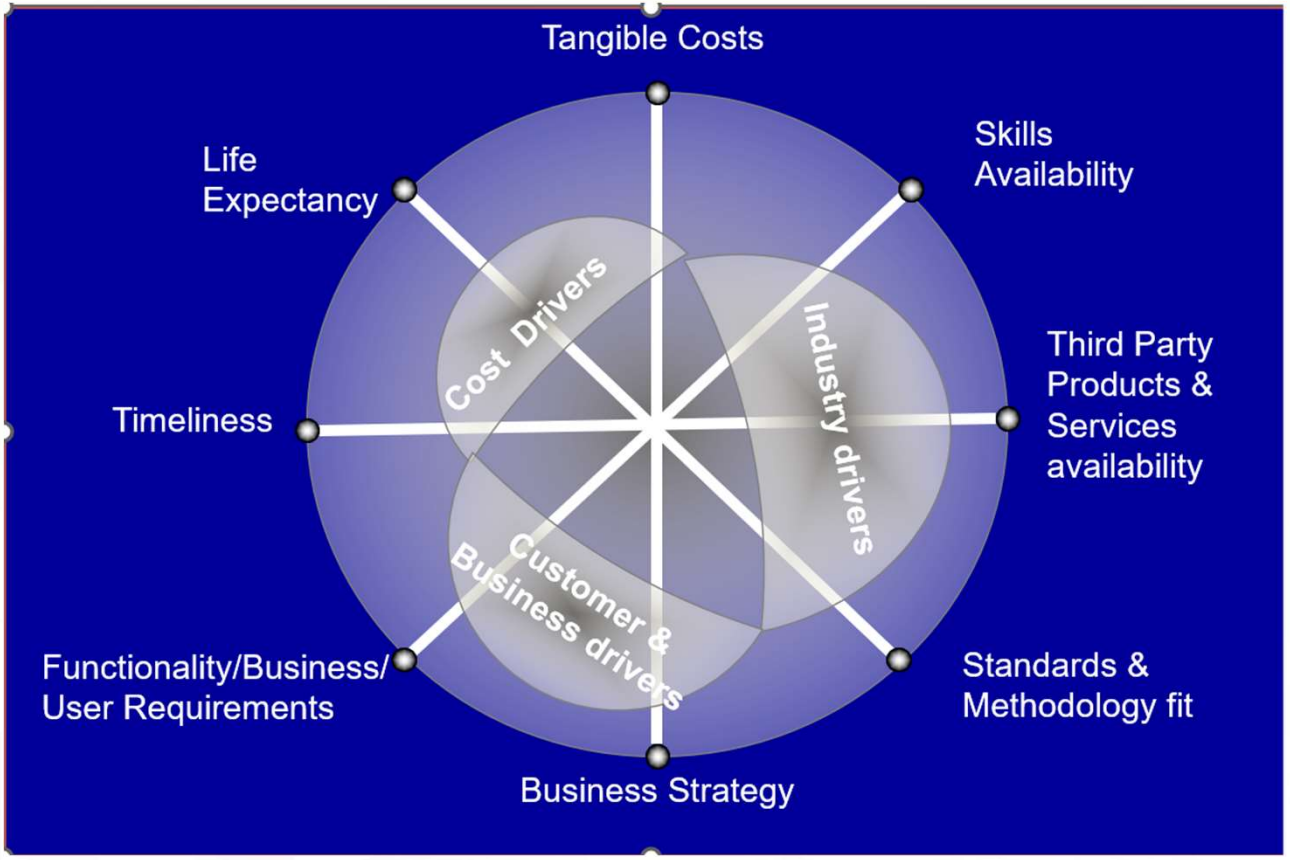
3 Key Drivers & 8 Factors for Related IT Architecture Decision Making Process (Should-be)



FIVE Business Values and Impacts in Measuring the IT Architecture Return Of Investment (ITA-ROI)

- Based on David F. Rico' 2006 (with '$' or '#' or '%' ROI)

1. Financial Improvement

- Making more Money
- Saving Money
- etc

2. Constituent Services Improvement

- Growth in Customers and Partner ecosystem
- Increase Stakeholder Values, etc

3. Reduced Complexity and Redundancy

- Eliminating unnecessary systems
- Focus on Quick Win result, etc

4. Economic Development

- Focus on Market growth and new opportunities
- Explore on new Initiatives
- etc

5. Fostering Democracy

- Promote Cultural Growth in Surrounding Community
- Provide Free-Market democracy, etc

Learning Unit 2:
The Business Case for IT Solution

BTABoK
IT Governance
IT Architecture Engagement Strategy

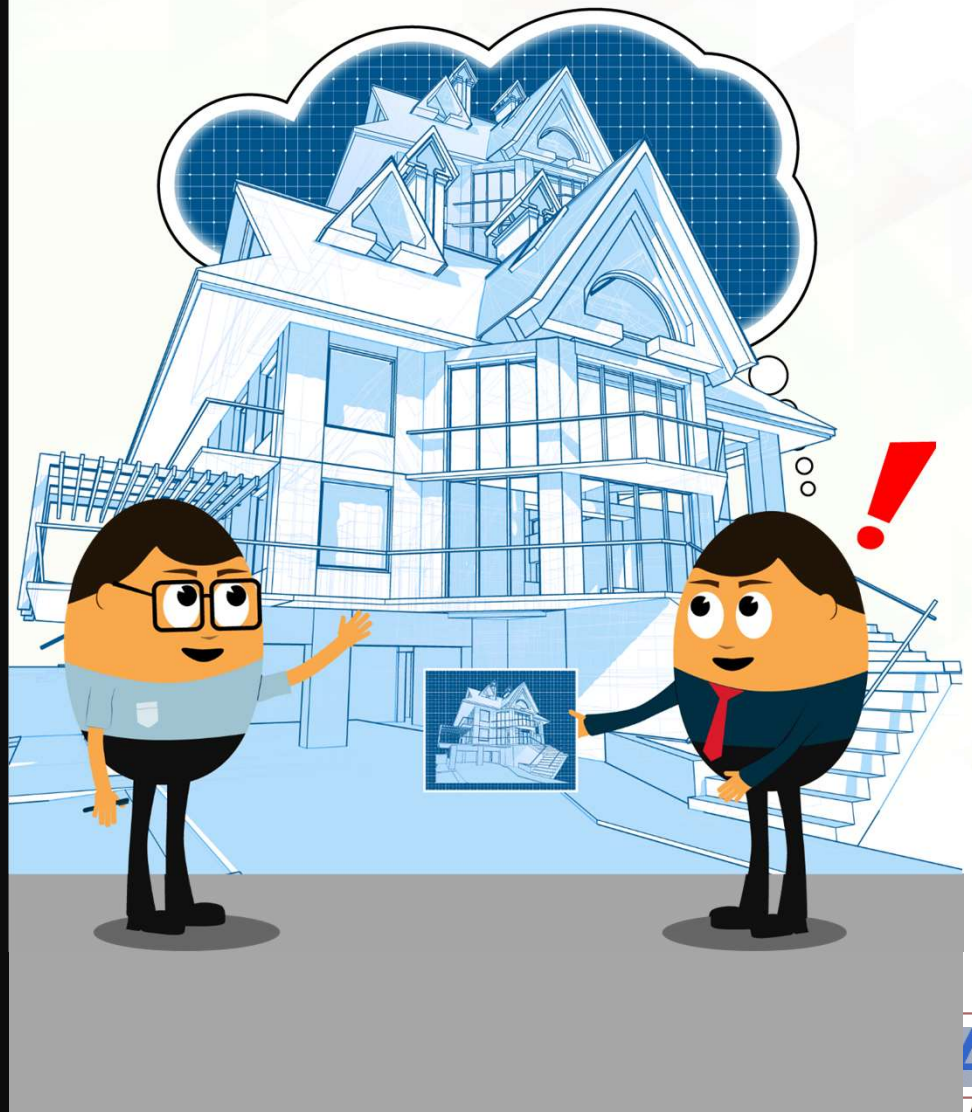
MISTAKE

IT & Business Strategy not Aligned

Designing IT system without aligning business

~~MISTAKE~~

A shared vision using standardised IT Architecture blueprints ensure that IT projects always meet business strategy and requirement.



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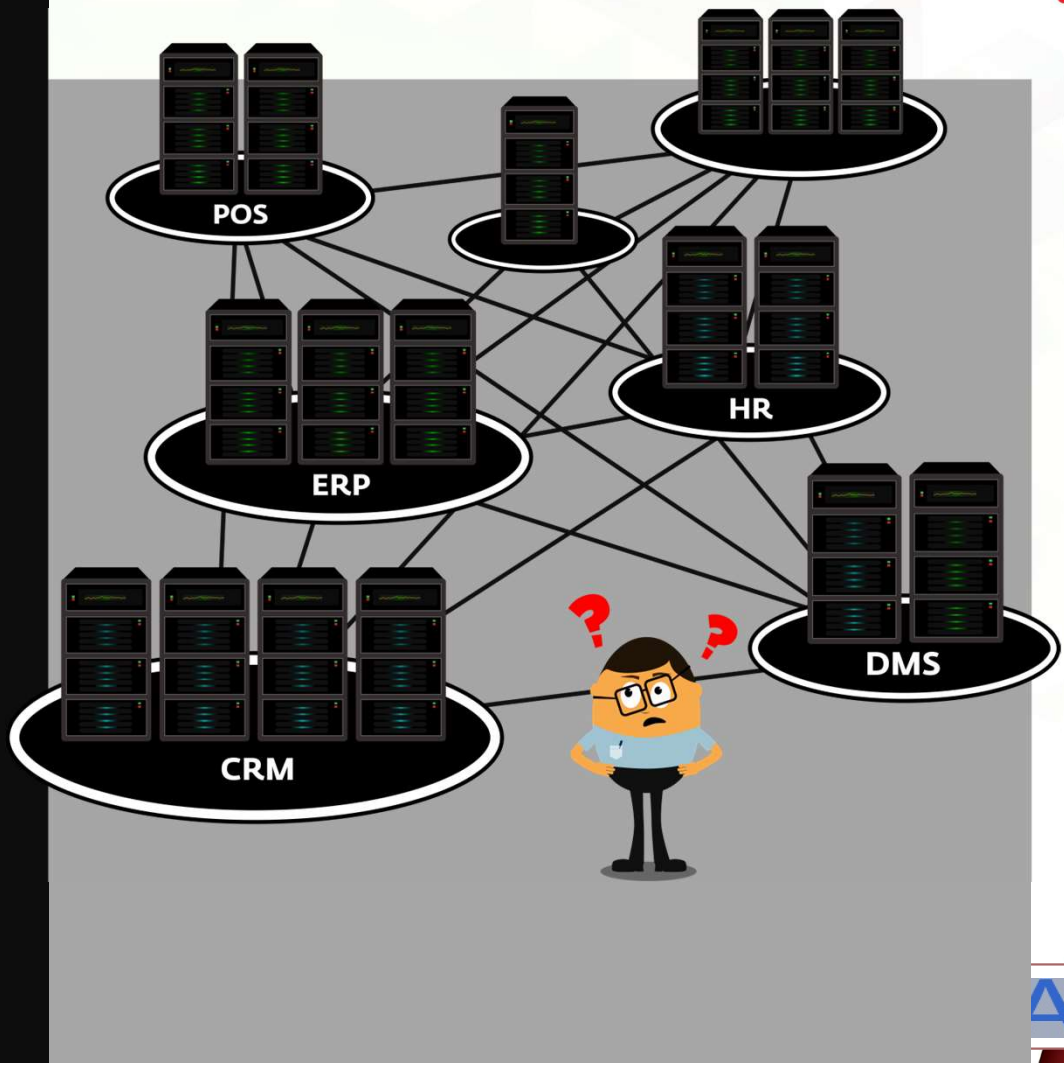
MISTAKE

Implementing IT projects as standalone systems.

Many companies implement IT projects as separate islands (silo) without complementing each other as a whole, thus increasing complexity and maintenance costs.

80% of IT budgets are spent on maintenance only.

 # Forrester Research



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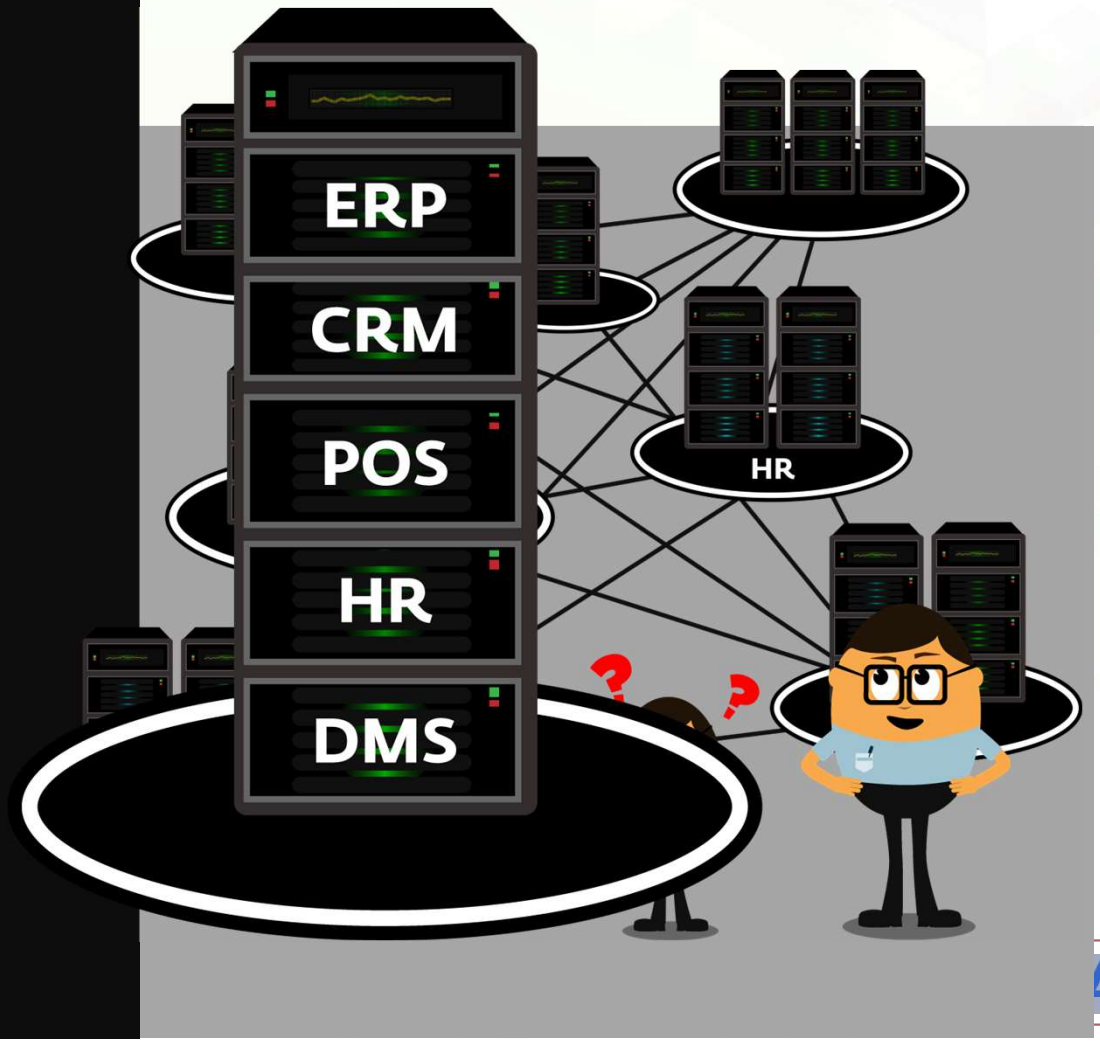
~~MISTAKE~~

IT systems exist on a standardise d platform - greatly reducing complexity and costs.



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IASA Business Technology Architecture Body of Knowledge (BTABoK)

Architect Skillsets

IASA Global – Association for ALL Technology Architects

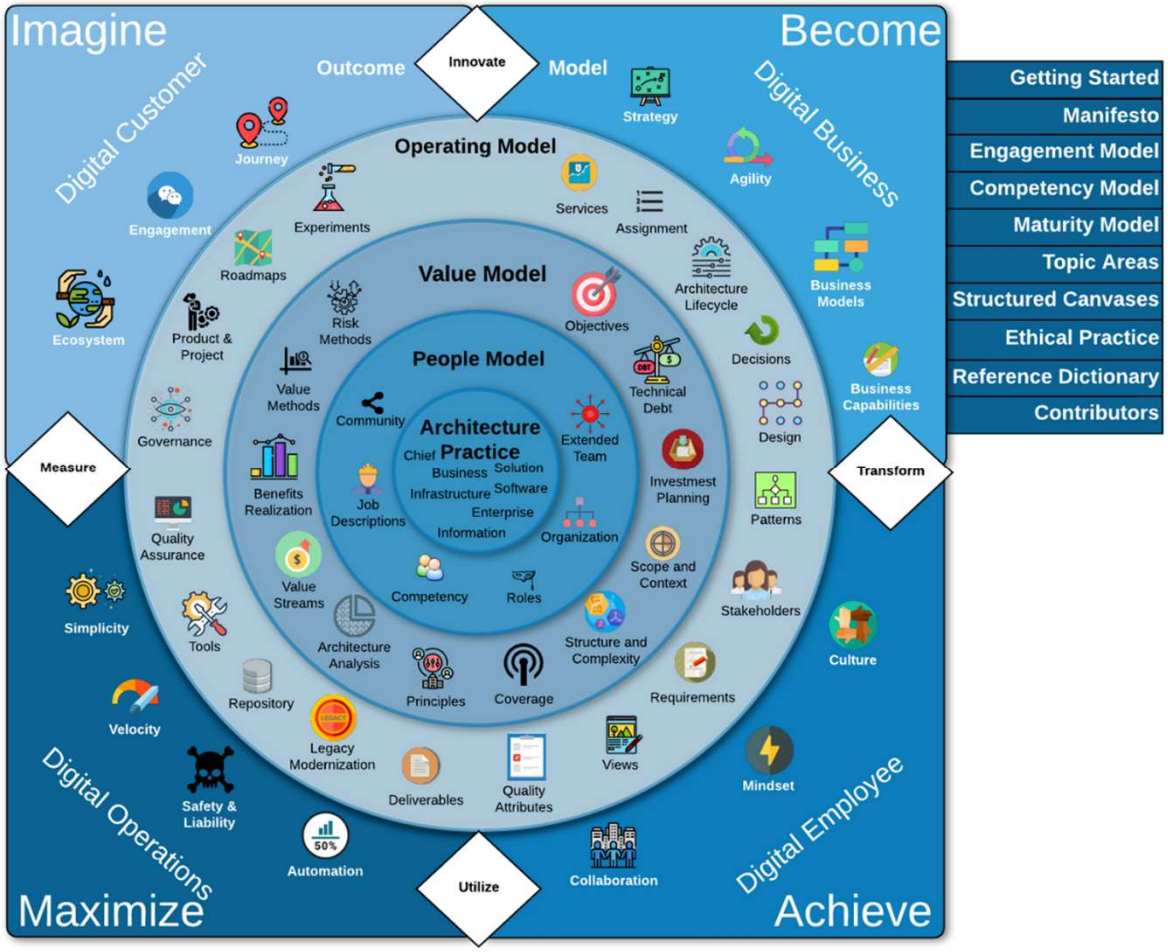
Independent Association of Software Architects (IASA)

- Founded in 2002, IASA is the preeminent knowledge-based association focused on the Business Technology Architecture profession
- Over 70,000 members in over 50 countries
- The IASA is run by architects
- The IASA is committed to improve the quality of Business Technology architecture – by developing and delivering standards, education programs and developing accreditation programs & services
- The IASA is for all Technology architects - Infrastructure, Enterprise, Application, Information, Business and Aspiring Architects
- The IASA is centrally governed and locally run
- The IASA is technology and vendor agnostic

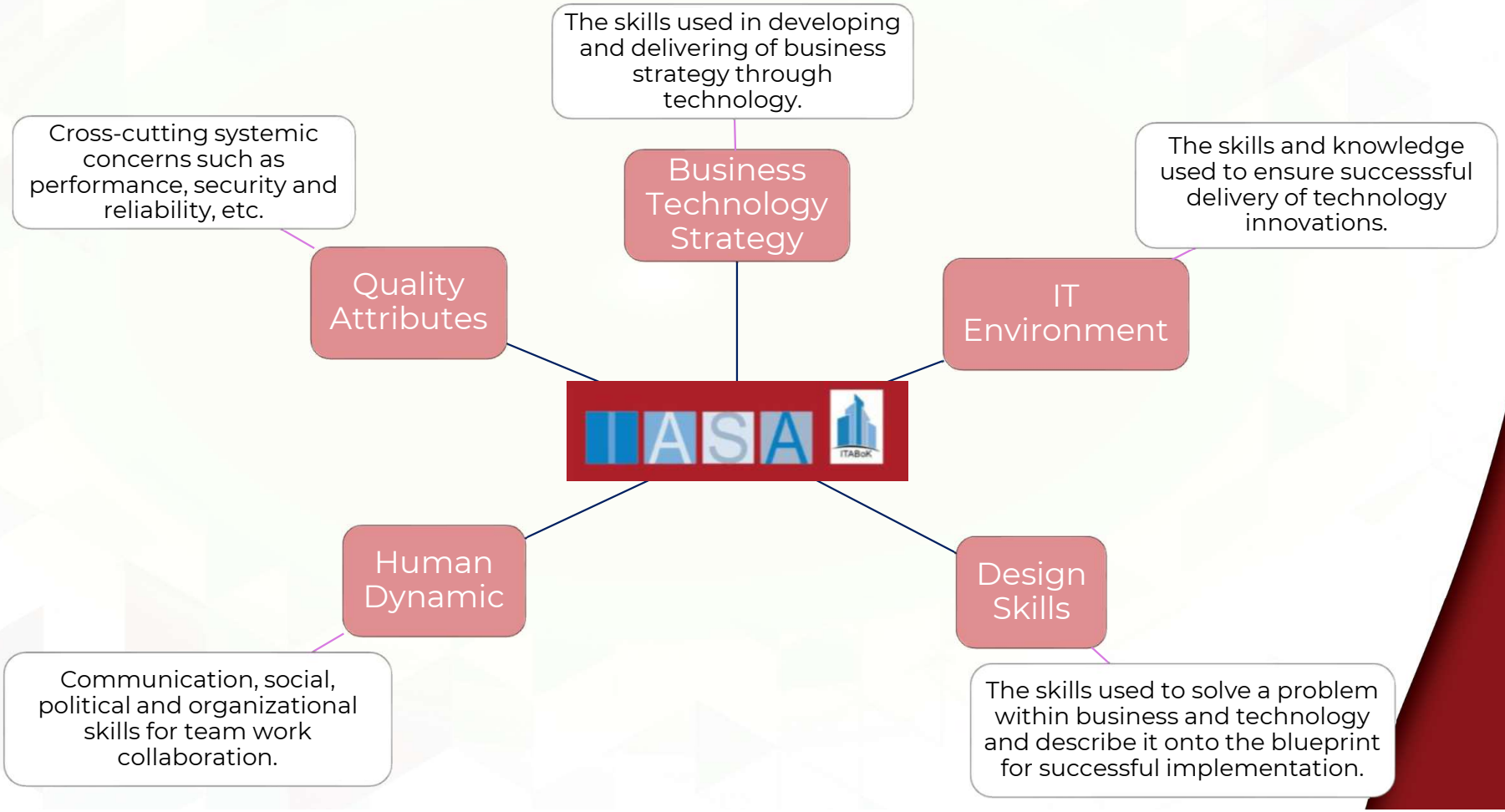
IASA – IASA's Motivation

- **Have seen too many large IT projects failed**
  Why?
  - Minimum IT architecture work
  - Leave the architecture work to the Junior staff
- **The IT Architect's work & role has been overlooked**
  - No career path as an IT Architect
  - IT Architects can't find their peers
  - Want to BECOME AN IT ARCHITECT but don't know how; no Universities offer Degree in IT Architecture although some EA subjects are being offered recently
- **Issues Finding Architecture Resources**
  - Mostly Vendor based and product/services related resources

Business Technology Architecture Body of Knowledge (BTABoK)



BTABoK– Competency Model 3.0
5 Foundation Pillars



BTABoK– Competency Model 3.0
5 Foundation Pillars

Business Technology Strategy (BTS)

- Business Fundamentals
- Strategy Development and Rationalization
- Industry Analysis
- Business Valuation
- Investment Prioritization and Planning
- Requirements Discovery and Constraints Analysis
- Compliance
- Architecture Methodologies & Frameworks
- Risk Management

Human Dynamics

- Managing the Culture
- Customer Relations
- Leadership and Management
- Peer Interaction
- Collaboration and Negotiation
- Presentation Skills
- Writing Skills

Design

- Requirements Modeling
- Architecture Description
- Decomposition and Reuse
- Design Methodologies and Processes
- Design Patterns and Styles
- Design Analysis and Testing
- Traceability Throughout the Lifecycle
- Views & Viewpoints
- The Whole Systems Design

BTABoK– Competency Model 3.0
5 Foundation Pillars

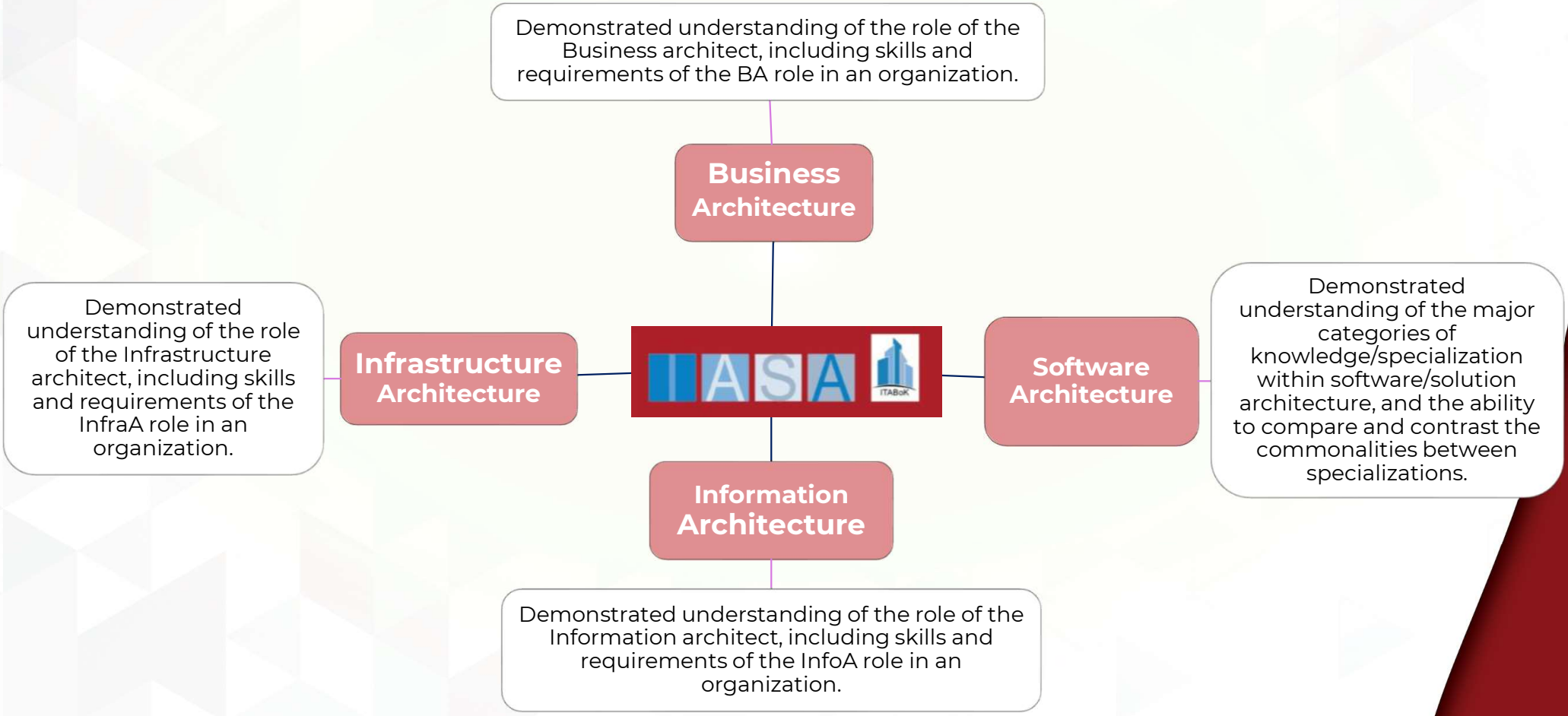
Quality Attributes

- Balancing and Optimizing Quality Attributes
- Manageability, Maintainability, Supportability, Extensibility, and Flexibility
- Monitoring and Management
- Performance, Reliability, Availability, Scalability
- Security
- Usability, Localization, Accessibility, Personalization/Customizability
- Packaging, Delivery, Post Deployment

IT Environment

- Technical Project Management
- Asset Management
- Change Management
- Infrastructure
- Application Development
- Governance
- Testing Methods, Tools, and Techniques
- Knowledge Management
- Decision Support
- Platforms and Frameworks

BTABoK – Competency Model 3.0 Architect Specialisations Skillsets



BTABoK – Competency Model 3.0 Architect Specialisations Skillsets

Business Architecture

- Business Management
- Business Strategy
- Portfolio and Program Management
- Financial Methods
- Technology Investment
- Technology Strategy and Innovation
- Governance, Risk and Compliance
- Business Views and Models
- Leading Organizational Change

Information Architecture

- Data Integration
- Information Management
- Information Modeling
- Information Usage
- Business Intelligence and Data Warehousing
- Information Operations
- Information Governance and Management
- Information Value

BTABoK – Competency Model 3.0
Architect Specialisations Skillsets

Infrastructure Architecture

- Access and Identity Management
- Capacity Planning
- Common Application Services
- Device Management
- Infrastructure RAS
- Network Design
- Operations
- System Management and Services
- Data Center Design
- Provisioning
- Disaster Recovery and Backup
- High Availability Computing Environment

Software Architecture

- Development, Methodologies and Processes
- Software Architecture Tools
- Software Engineering for Architects
- Services, Workflow and Messaging
- Advanced Quality Attributes
- Advanced Stakeholder Management
- Software Architecture Patterns
- Technology Platforms and Frameworks
- Data/Information/Knowledge Management

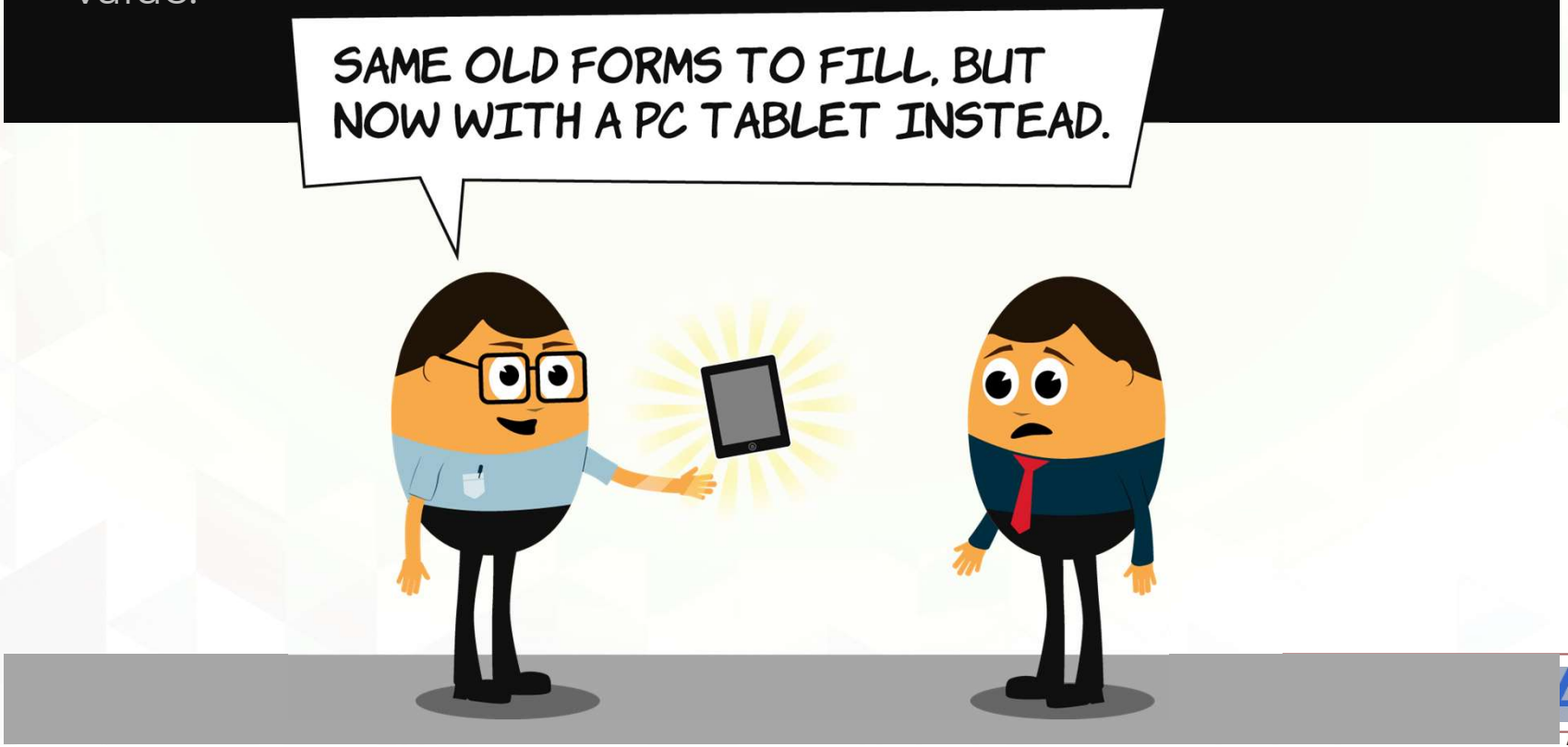
Learning Unit 3: The Business Process and Priorities Analysis

Business Architecture Overview

MISTAKE

Limiting IT to just an automation role.

Some companies assume IT is useful only to digitise existing business processes, when IT can help create much more business value.



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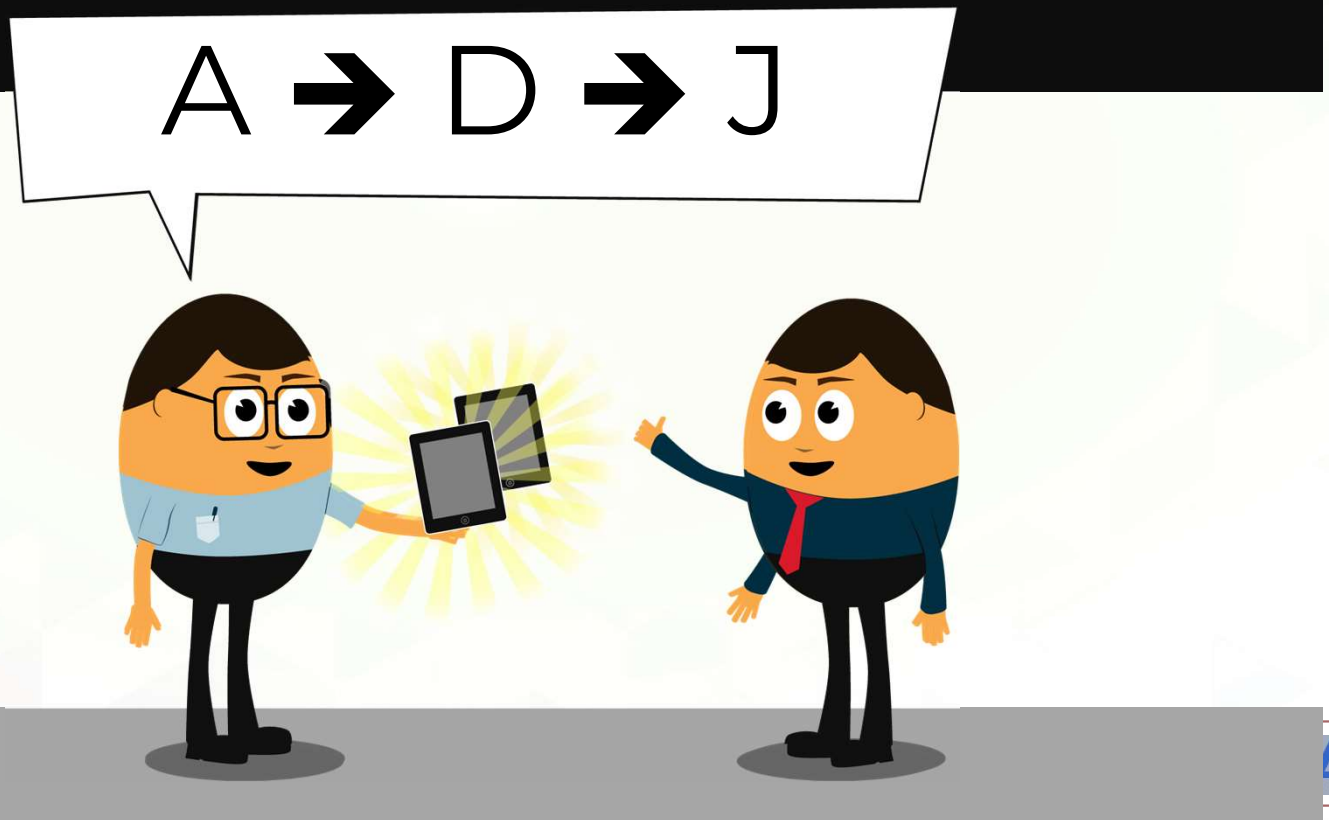
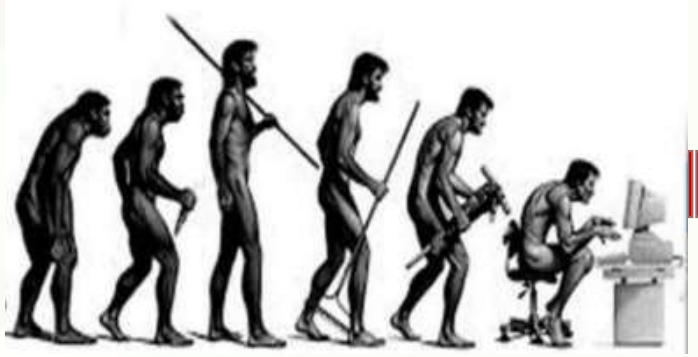
In addition to automation, IT helps streamline business processes.



The Transformation Era From Automation to Digitalization

- From 1980 to 2010

The Era of Automation

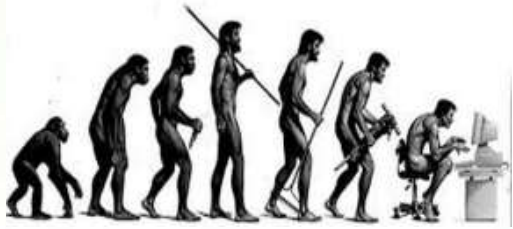


The Era of Digitalization

From 2010 onwards

The Automation (Computerization) Era

- **Technology Focused:** new software & hardware for each IT project and IT driven efforts
- **Project Management Focused:** time, resources and budget are fixed before the Business Requirements are Captured
- **Challenges:**
  - More than 60% of IT projects failed
  - High Cost of IT Maintenance i.e. up to 90% of IT budget
  - It lacks of Business Values for IT Investment
  - IT becomes Stopper to the Business progression

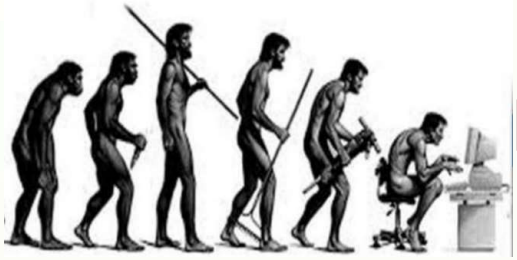


The Digitalization Era

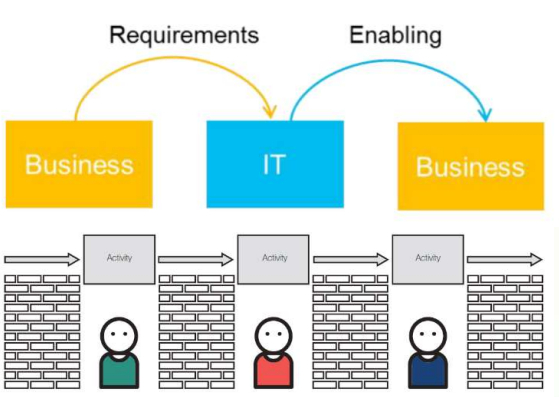
- **Business Focused:** Enterprise Architecture creates a cultural platform for Business & IT Integration
- **Architecture Focused:** Enterprise Architecture Development before Project Management activities
- **Benefits:**
  - IT Projects success
  - Business & IT Agility
  - IT shows ROI as Business Investments
  - IT supports the Business Evolution

Moving from computerisation to digitalisation

The Era of Computerisation

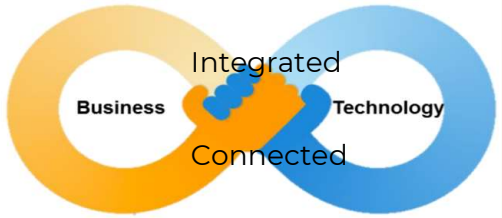


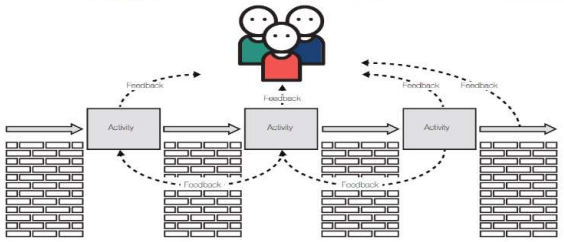
From 1980 to 2010



The Era of Digitalisation

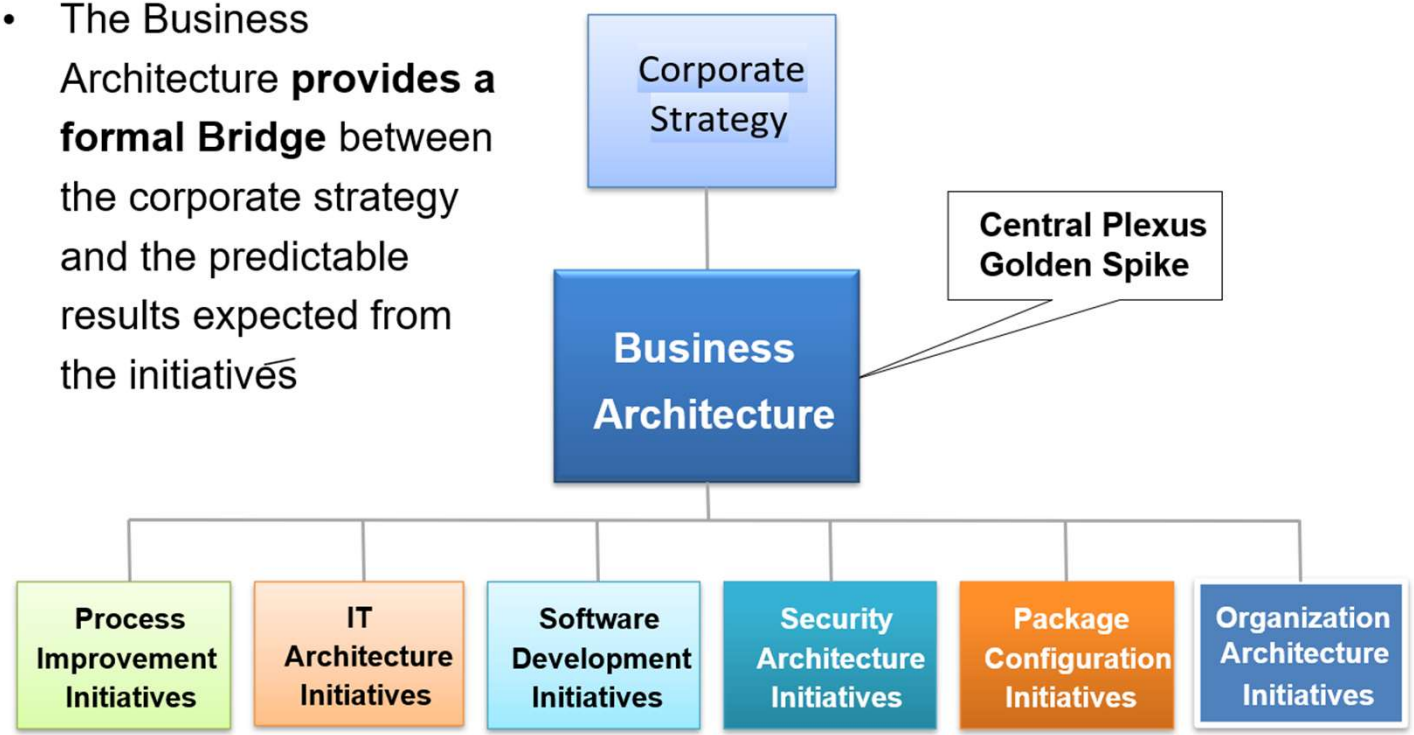
From 2010 onwards



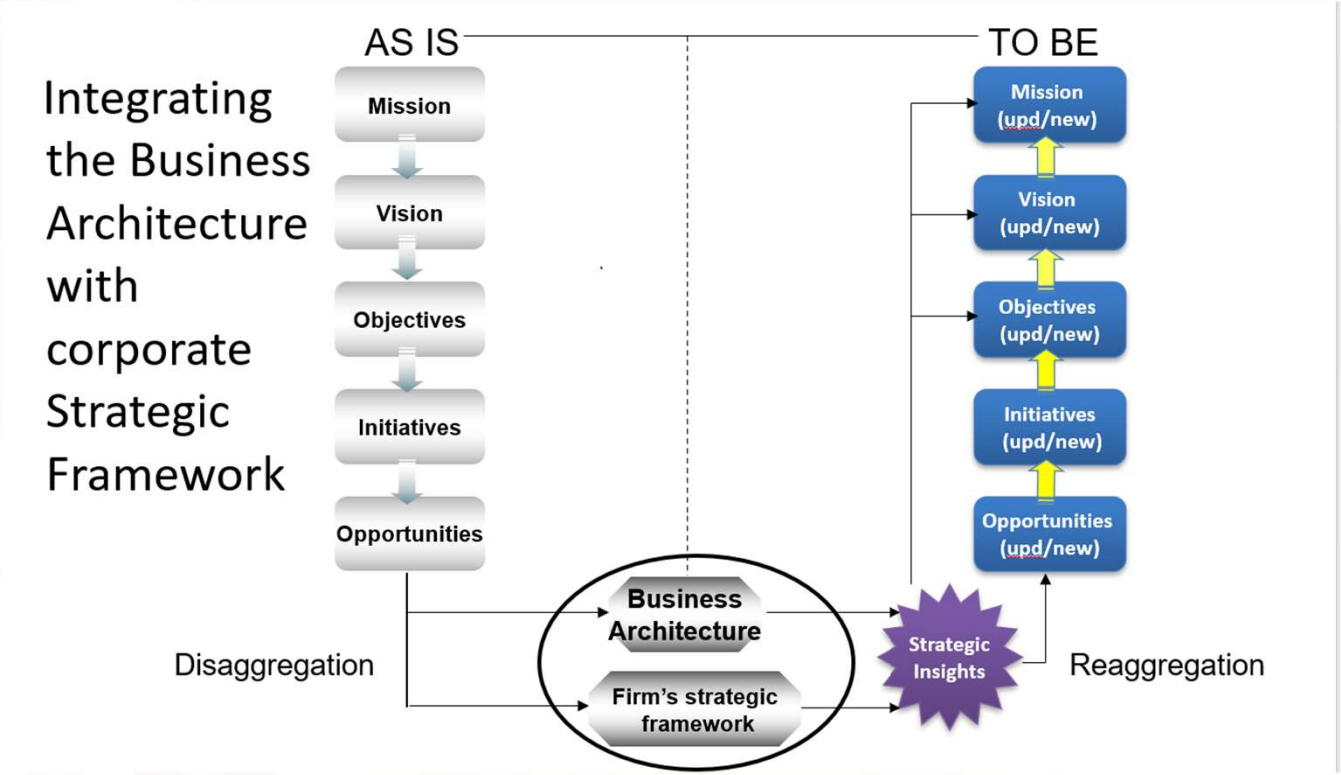


The Golden Spike

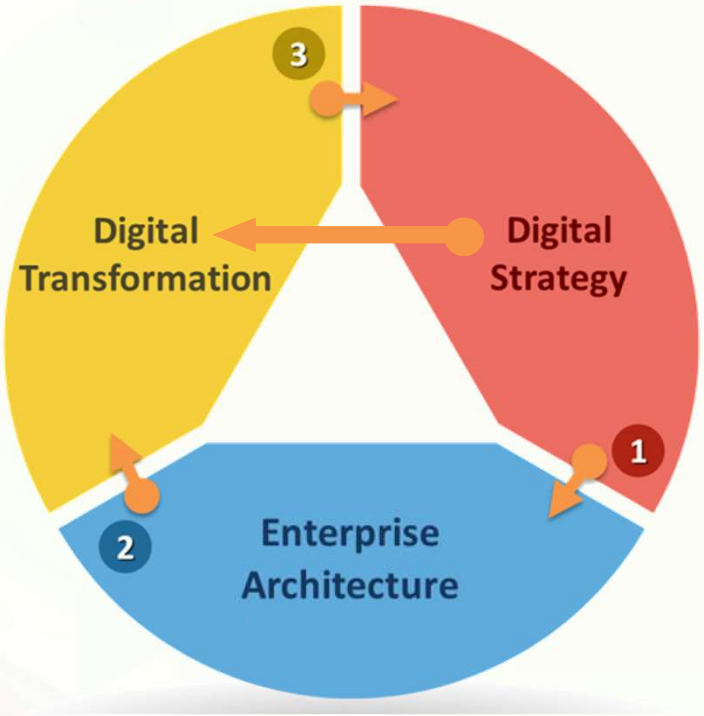
- The Business Architecture **provides a formal Bridge** between the corporate strategy and the predictable results expected from the initiatives



BA and Corporate Strategic



EA in driving Digital Transformation



1. The **Outcome Statement** about organization's Digital Positioning in terms of **Goals, Capability** and **Drivers** in the context of the technology adoption

2. The **Digital Enterprise Map** of connected **Business, Data, Application** and **Technology** domain to support **Digital Transformation**

3. The **continuous transformation** of the **existing business** through **technology innovations** and **exploitations**

Learning Unit 4: The End-to-End Requirement Elicitation Process

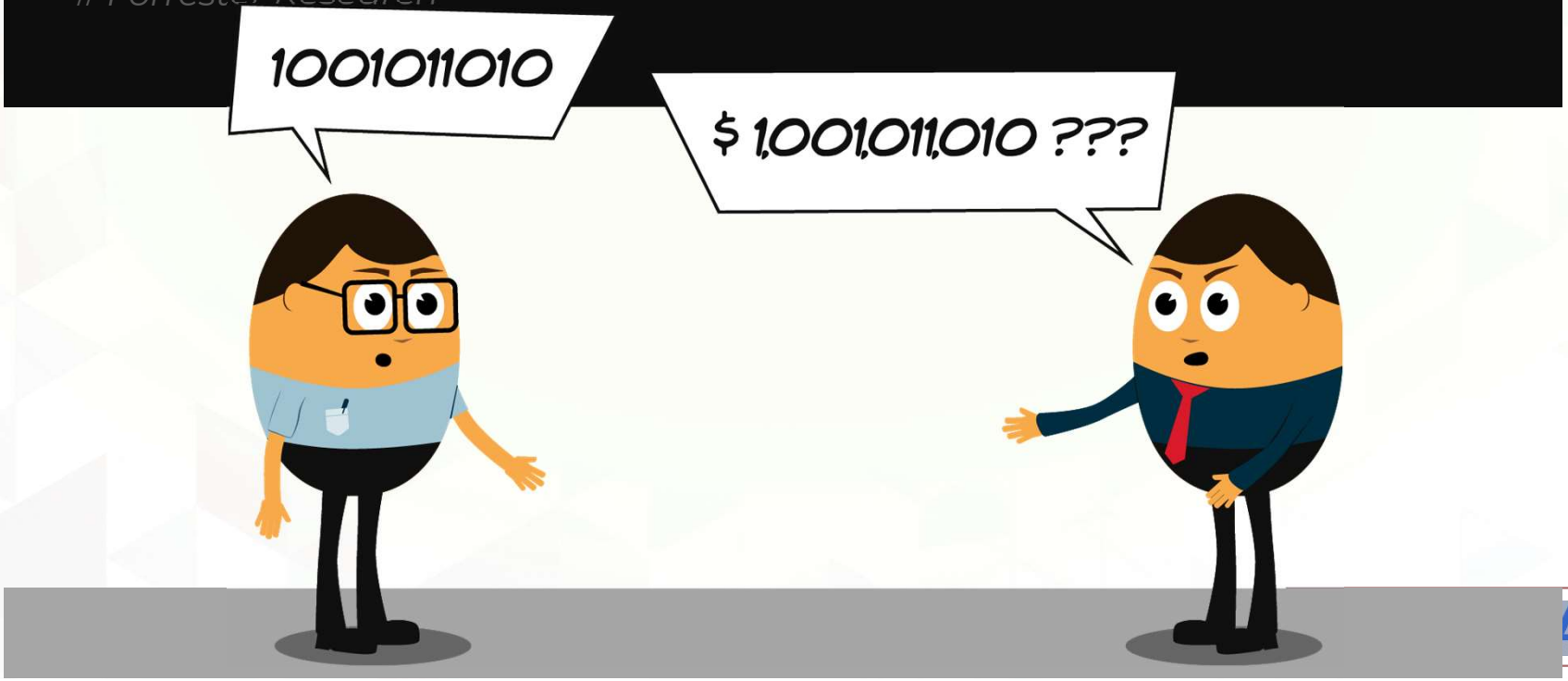
Business Technology Requirement Architecture

MISTAKE

Ignoring the miscommunication between IT and business people.

66% of IT projects fail due to miscommunication, costing businesses in the US a yearly loss of US$ 30 billion.

 # Forrester Research



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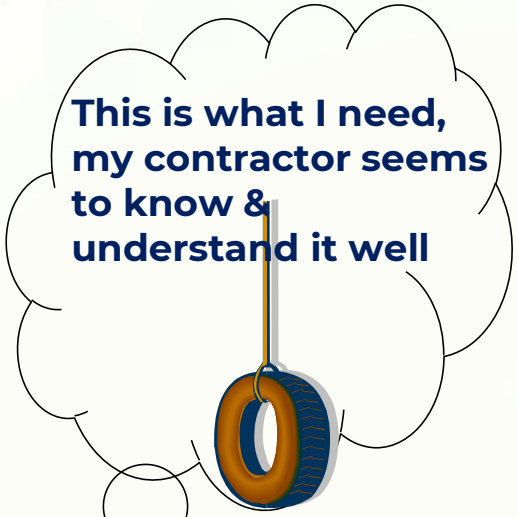
~~MISTAKE~~

Business and IT speak the same language.

Do we really understand our Customer well?



Business User
The Customer

IT Vendor
The Contractor

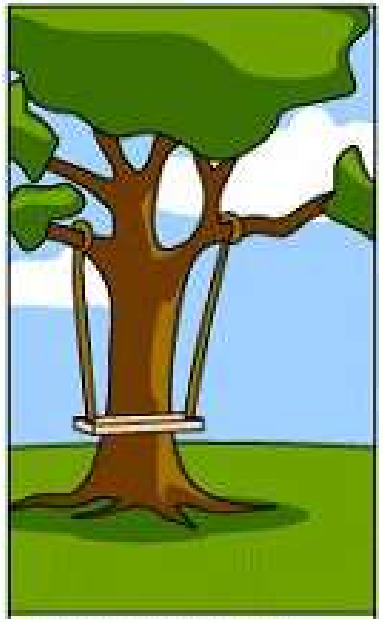
*"Sometimes what the Business User's **Needs** and **Wants** are different"*

Why do most of IT projects fail today?

How the Customer explained it

How the Business Analyst captures it

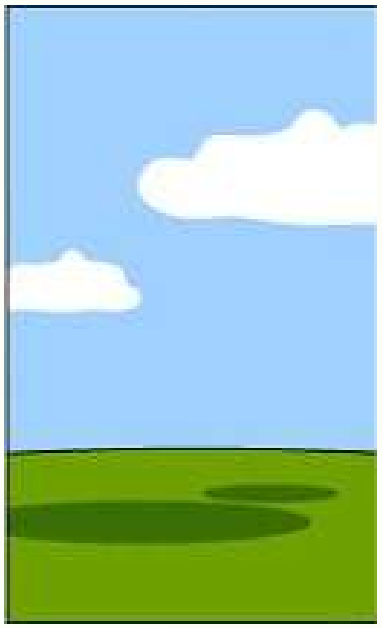
How the Systems Analyst designed it



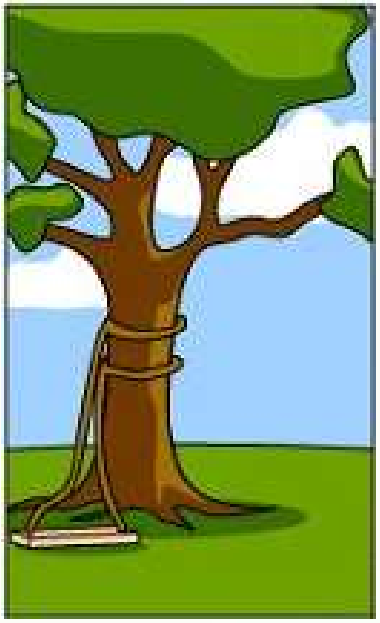
How the Project Leader understood it

Why do most of IT projects fail today? Cont...

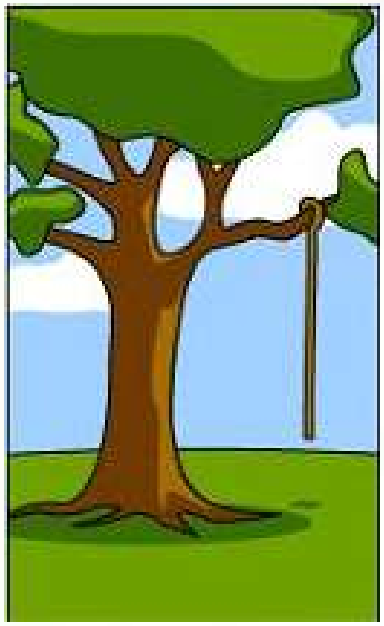
How the Customer explained it



How the Project was documented



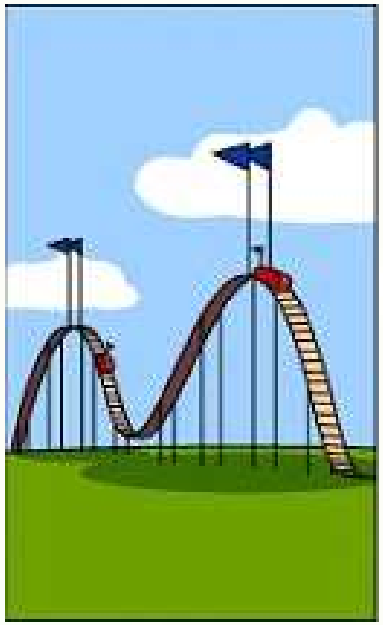
How the Programmer wrote it



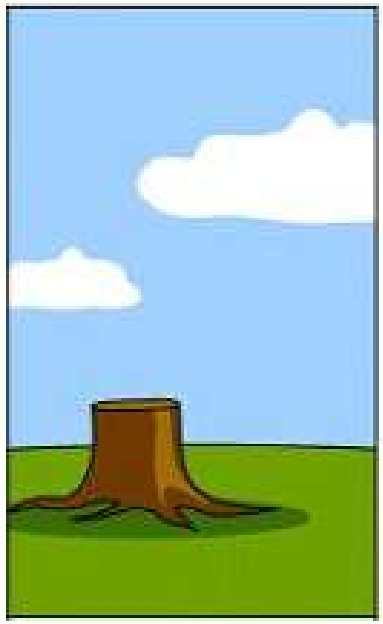
How the System was deployed

Why do most of IT projects fail today? Cont...

How the Customer explained it



How the Customer was billed $$$$$$$

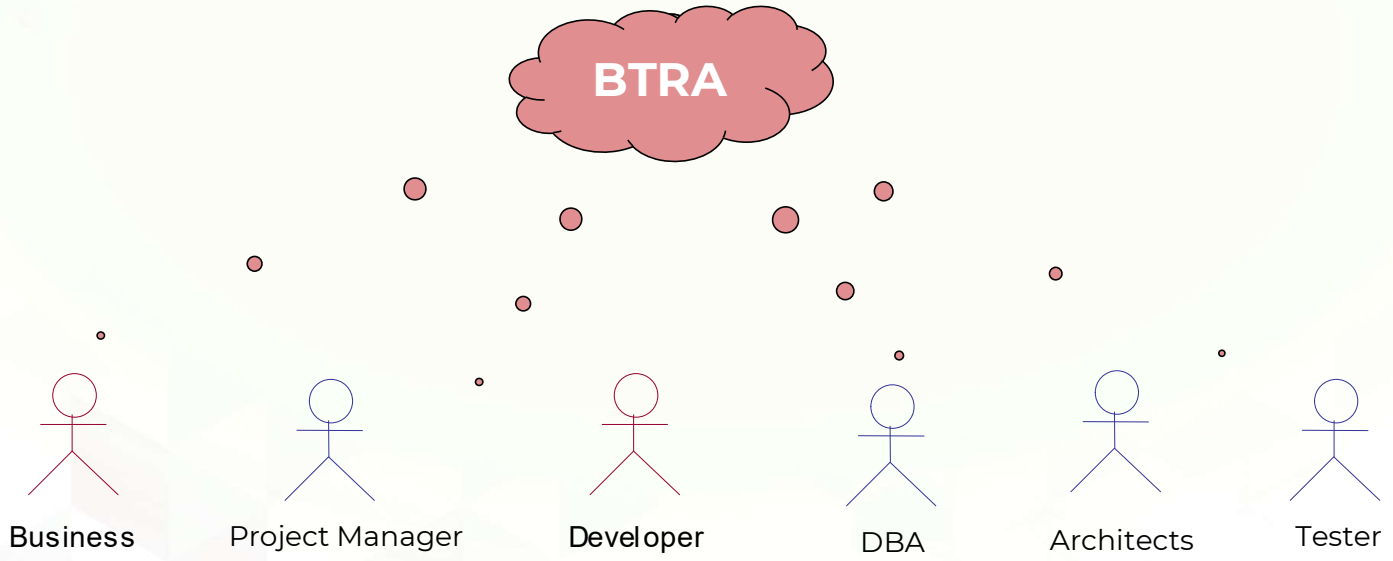


How the System was supported

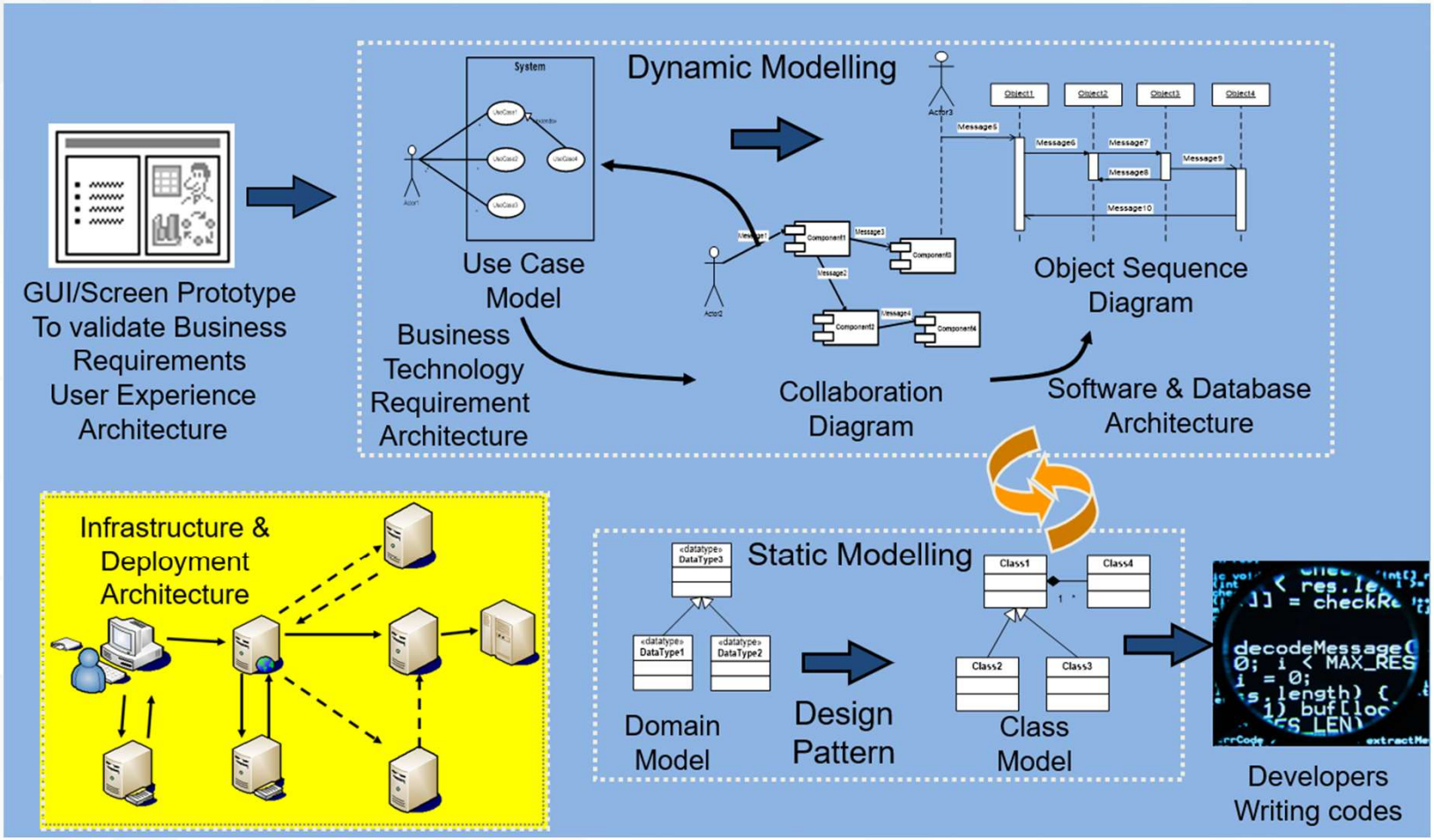
What the Customer really needed

The Target Audience of Business Technology Requirement Architecture (BTRA)

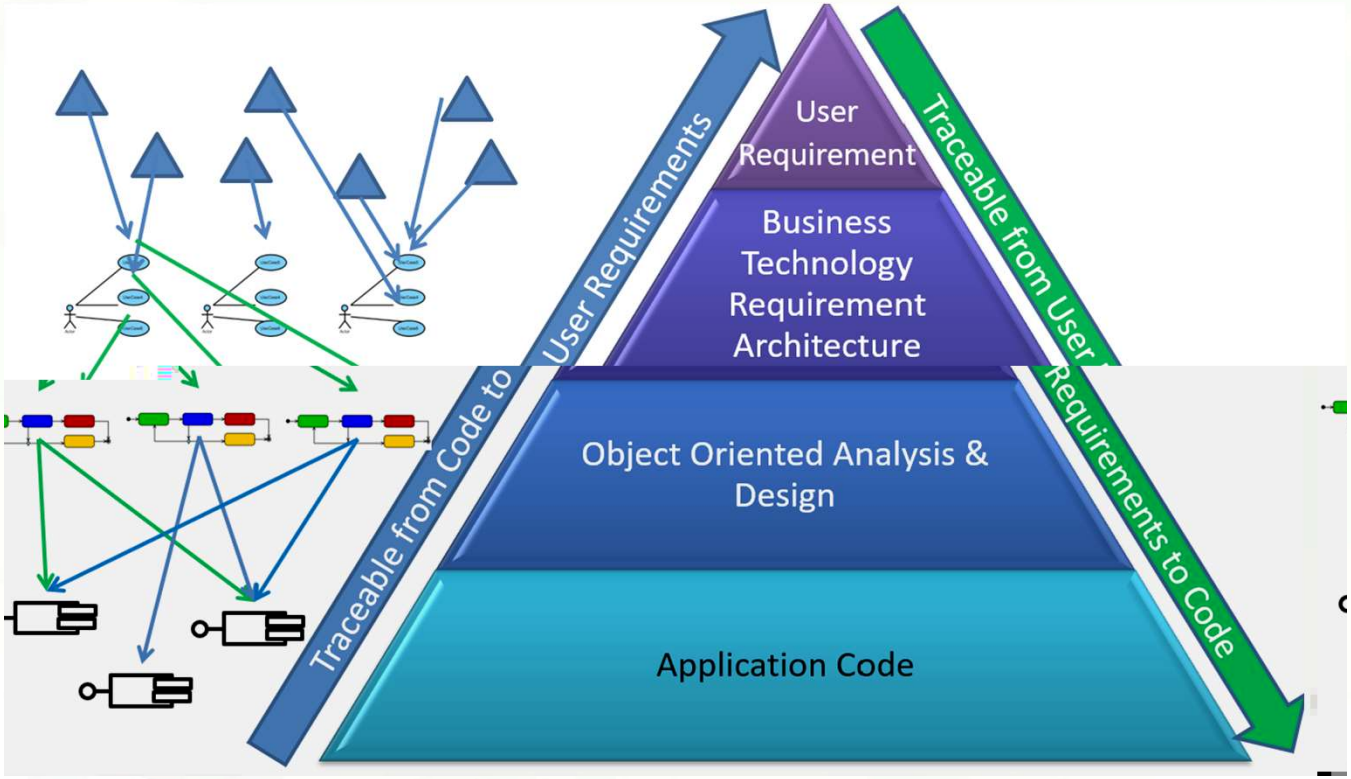
- Various parties involved in defining the functional requirements of a project:
  - This contains the definitions of all the analysis data
  - Confirmed by the business users
  - Shared by the development, database and test teams



Architecting Software with Object Oriented Analysis & Design Based on UML Example



Refinement and Traceability work together



Requirement Pattern - definition

- "Each pattern describes a problem which occurs over and over again in our environment" *–Christopher Alexander, Godfather of technical use of patterns*

- "Requirement pattern is an approach to specifying a particular type of requirement"

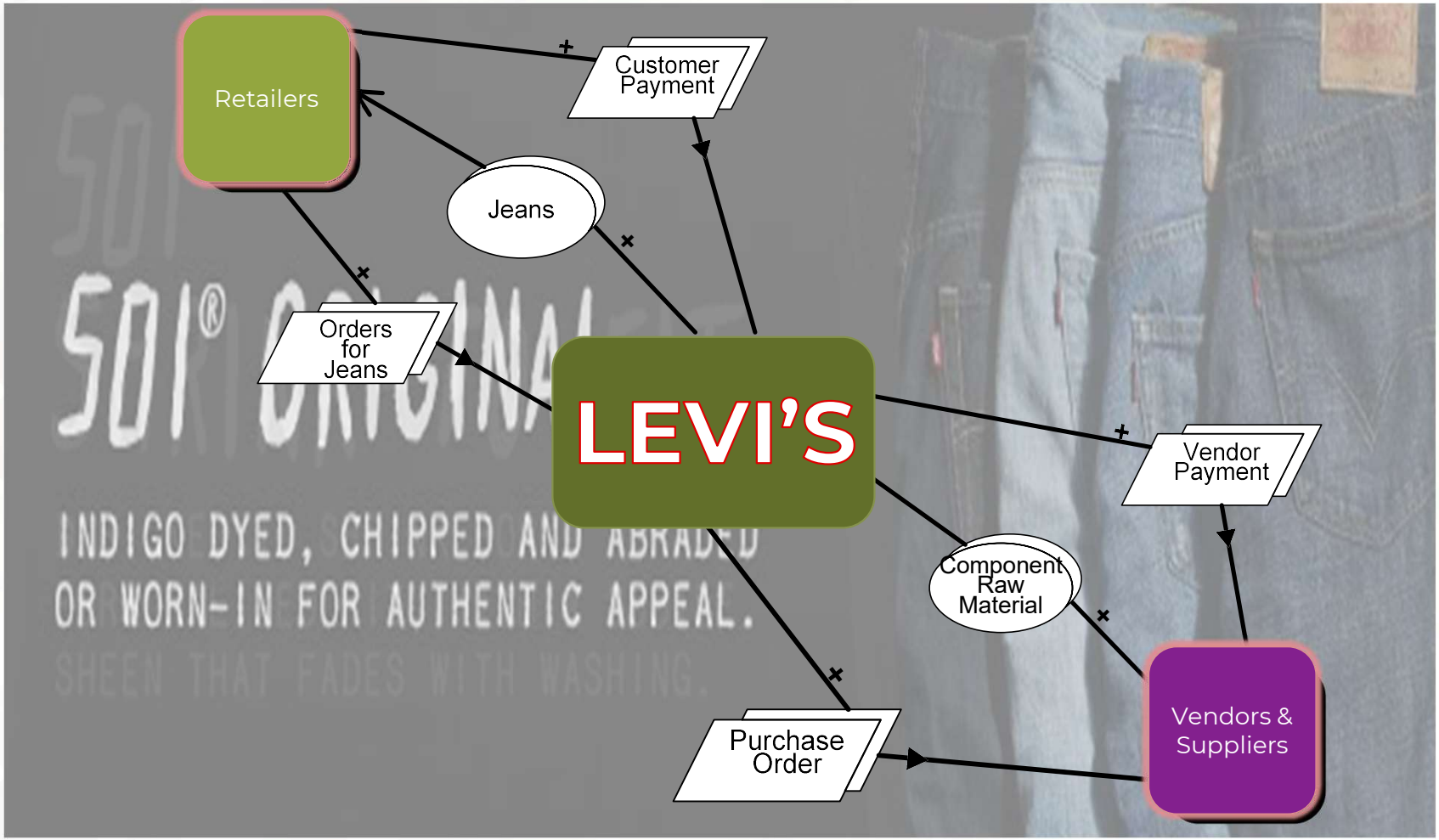
– Stephen Withall, author for "Software Requirement Patterns"

About Levi's

- The Mission of Levi's
  - Provider of casual and work clothing
- The Vision of Levi's
  - Worldwide leader in the distribution of casual and work clothing
- The Strategic Objectives of Levi's
  - Increase profit
  - Improve customer service
  - Increase market share
  - Reduce costs for both capital and operational expenditures
- The Business Strategy of Levi's
  - Shift the focus 100% on customer centric enterprise

Product or customer focus?

- Who made the decision in the 1980s to manufacture which styles and sizes of jeans?
  - Levi's sales and R&D, with some input from the retailer buyers over a three meeting lunches
- Who makes the decision on which jeans to manufacture today?
  - The consumer! i.e. the business
  - R&D has more focus, Levi's company tag line
    - **Levi's Engineered Jeans®**


Retailers
Customer Payment
Jeans
Orders for Jeans
LEVI'S
Vendor Payment
Component Raw Material
Vendors & Suppliers
Purchase Order
INDIGO DYED, CHIPPED AND
OR WORN-IN FOR AUTHENTIC APPEAL.

More about Levi

- Levi Strauss has extensive networks with continuous data flows from its headquarters, its **39 production plants** and its thousands of retailers.
- As stone-washed jeans are sold in their store, a message announcing those sales are sent from the store's cash register into Levi's data center.
- The data center consolidates the transaction centrally with other **3,500 retail stores** and within hours triggers the order for more stone-washed jeans for a factory in Belgium, or more denim cloth from the cotton mills in North Carolina.
- The signal then trigger the factory into action i.e. here bundles of cloth arrive from the mill decked in bar codes. As the stacks of cloth become pants, their bar-coded identity will be followed with hand-held lasers readers, from fabric to trucker to store shelf. A reply is sent back to the store saying the restocking pants are on their way. And they will be, in a matter of days.

Source: Kevin Kelly, Out of Control

Now…

- Purple striped jeans start selling well?
  - Levi's replenishes its retailers with "hot" selling jeans
  - Levi's orders more raw materials for better selling jeans
  - Levi's improves the profit poter of its customers
  - Retailers can focus at "on hand quantities to reduce over stock

Now..

- Purple striped jeans do <u>NOT</u> sell well?
  - Levi's stops orders for raw materials of "poor" selling jeans
  - Levi's does not replenish its retailers with "poor" selling jeans
  - The negative impact on Levi's customers is minimized
  - Levi's has to figure out what happened to their customers' changing expectations

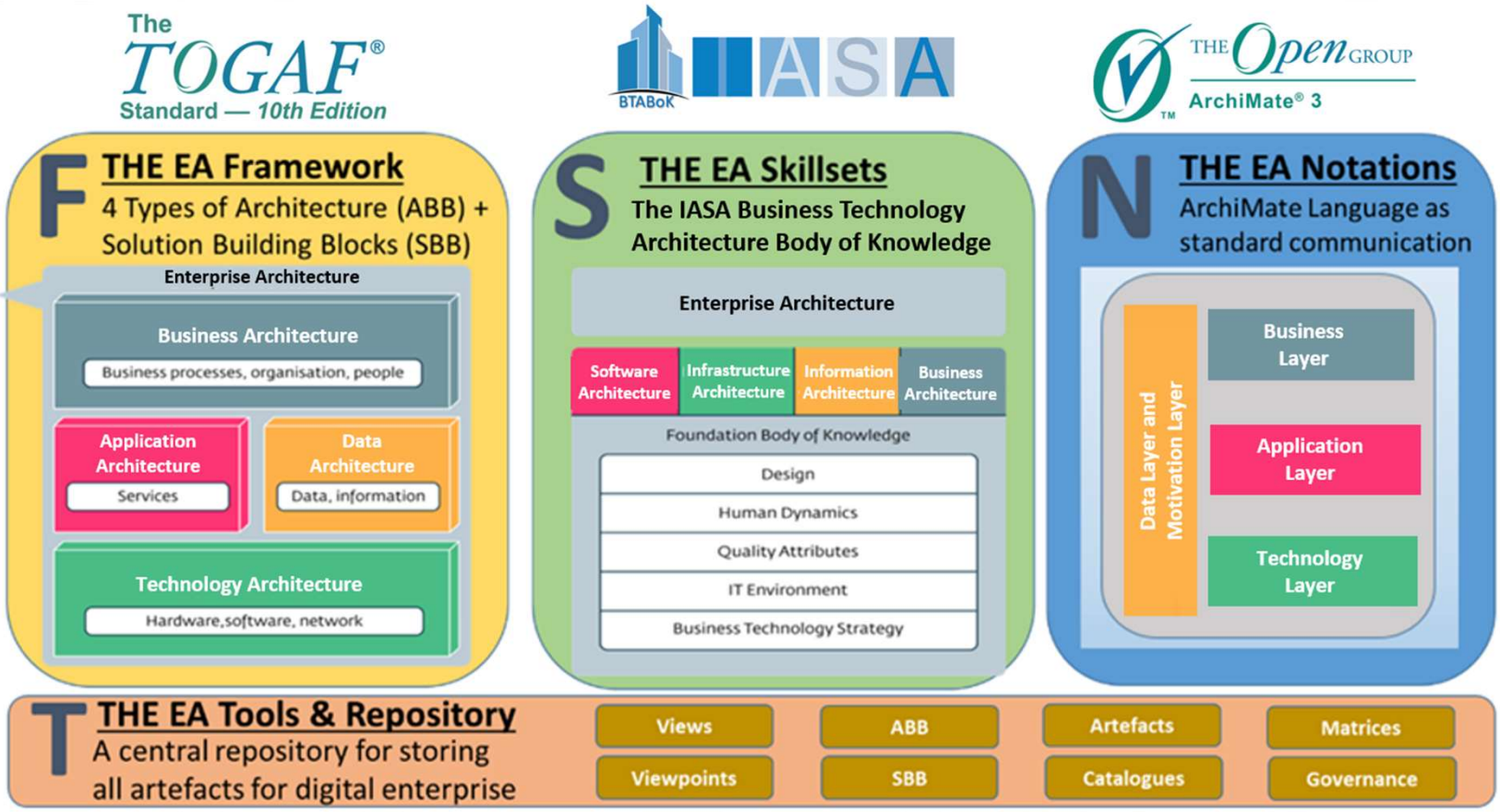
Lesson Learned from [illegible] Cont...

- **Some of the results of the value stream integration:**
  - Faster delivery of “hot-selling” jeans and “just-in-time” inventory of raw materials
  - Improved enterprise key performance (KPI) expected from the strategic initiatives
  - Improved teamwork of employees in pursuit of a common enterprise objective
  - Put control into the process, making it self-managing
- **Some of the impacts of this change in behavior:**
  - Delighted customers i.e. increased customer loyalty
  - Improved sales performance i.e. increased profits
  - Delivered greater stakeholder values

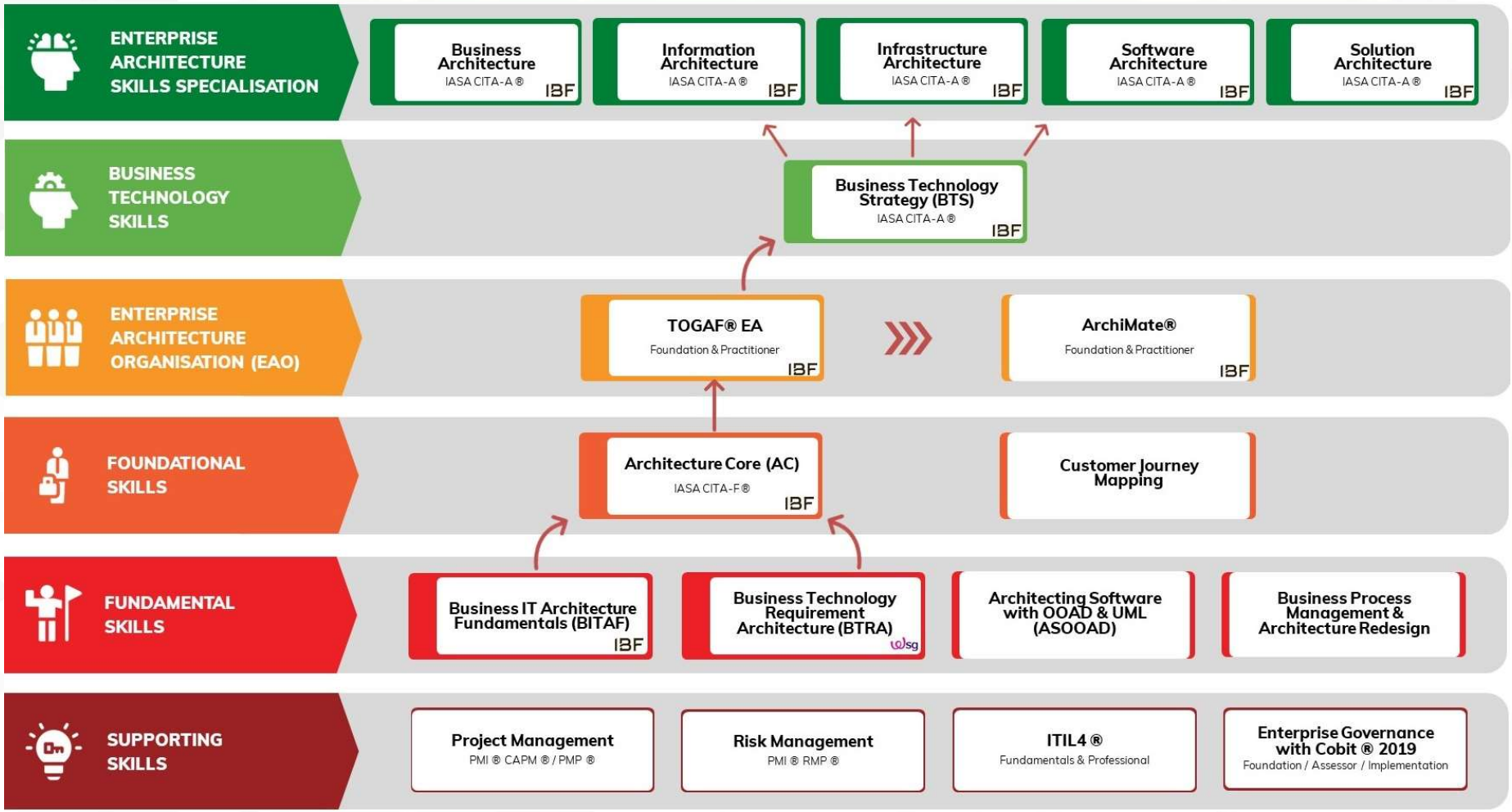
ATD EA Learning

Certification Bodies & Pathway

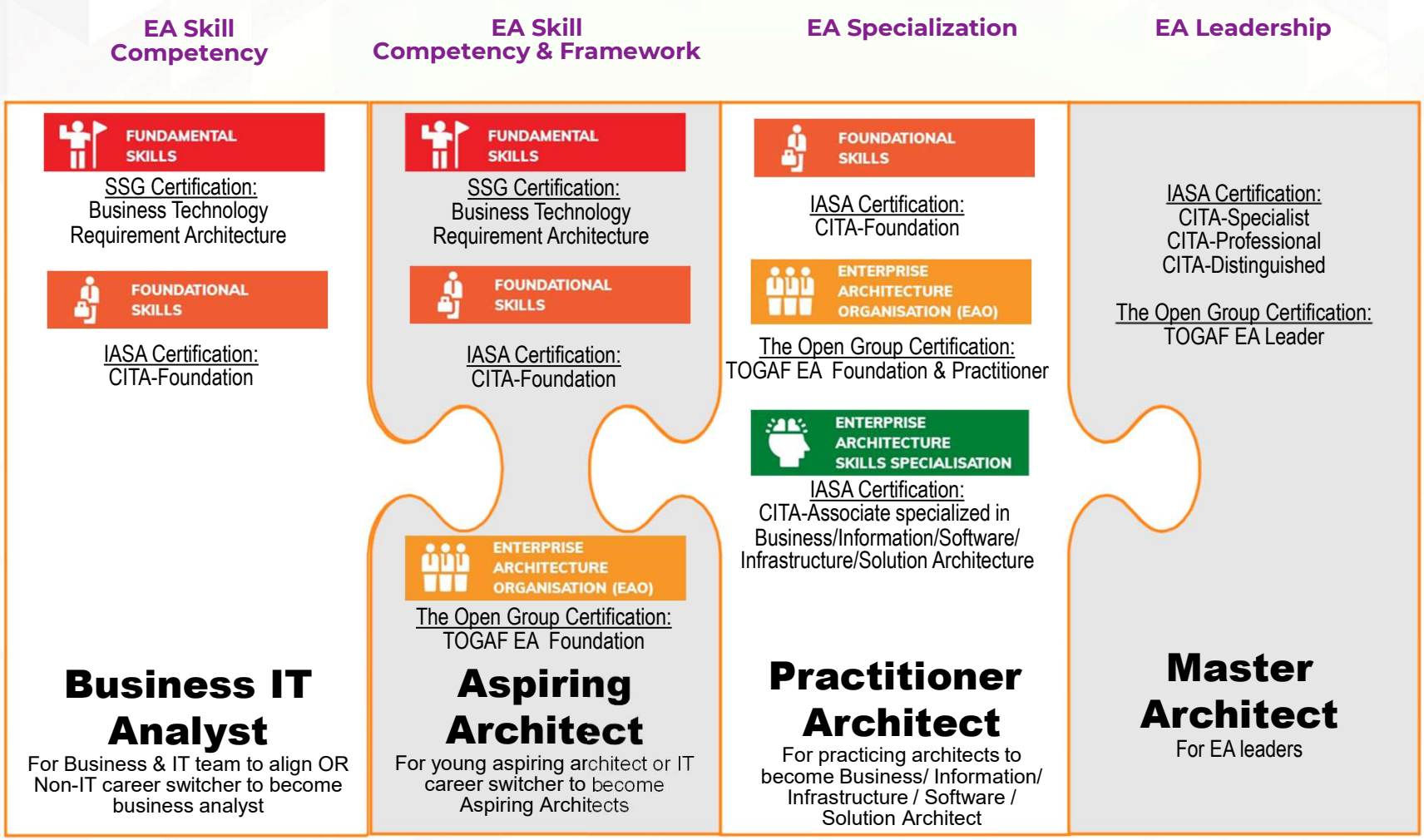
Competency in EA Landscape Components (F-T-S-N)



EA Learning Roadmap



Certified Architect Career Pathway



Reskilling to Aspiring Architects

Business Technology Requirement Architecture (BTRA)

SINGAPORE WORKFORCE SKILLS QUALIFICATIONS

SOA from WSQ

Architecture Core (AC)

Global Certification
Certified IT Architect – Foundation (CITA-F)

TOGAF EA

Global Certification
TOGAF EA Foundation

OJT

Upskilling to Practitioner Architect

Global Certification
Certified IT Architect – Foundation (CITA-F)

Business Technology Strategy (BTS)

IASA Specialization

Global Certification
Certified IT Architect – Associate (Business / Software / Information / Infrastructure / Solution Architecture)

TOGAF EA

Global Certification
TOGAF EA Practitioner

END OF SLIDE DISCUSSION, QUESTION & ANSWER