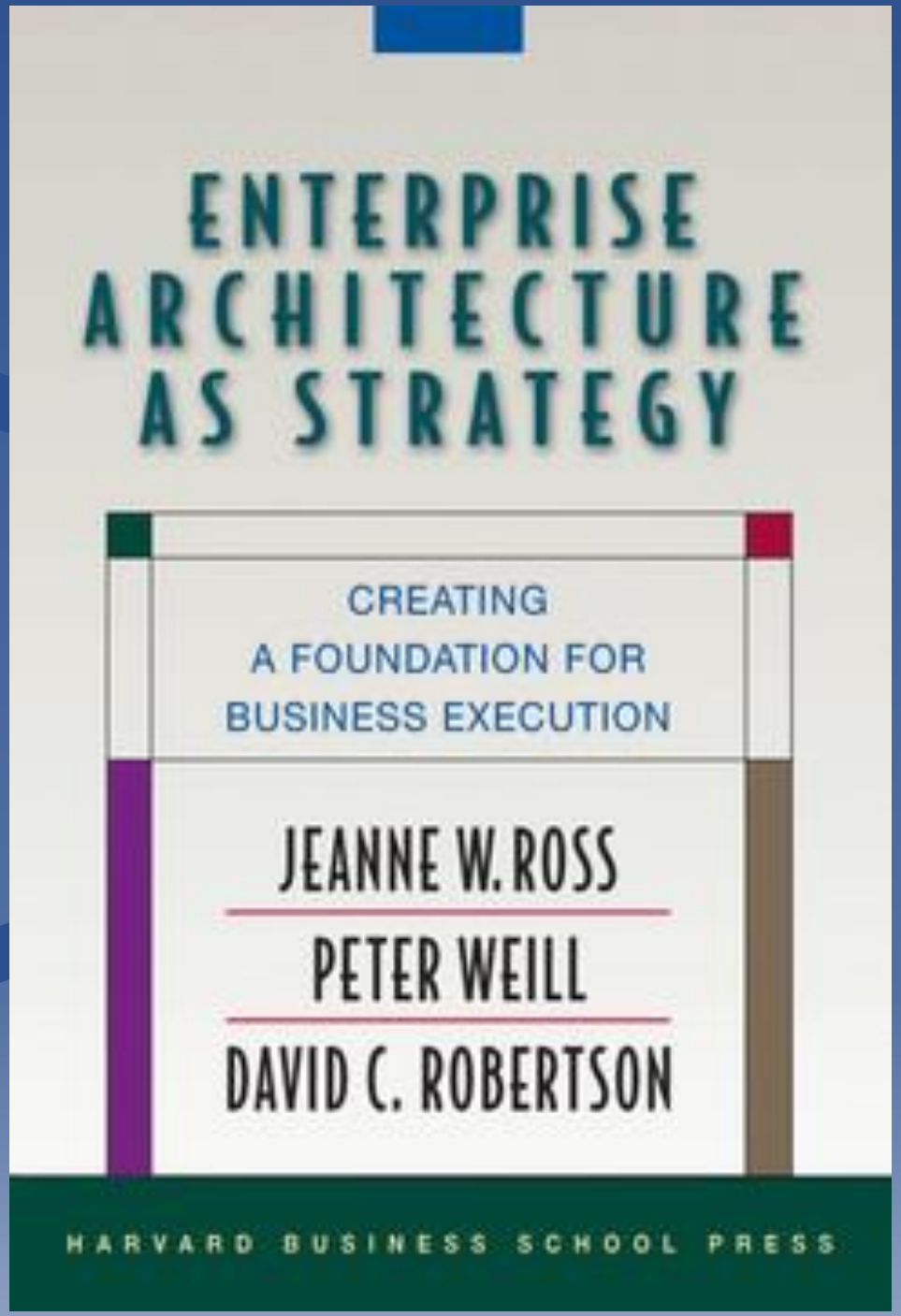
Enterprise Architecture as Strategy

D. Vanderbist – 19/05/2022



Build Your Foundation

Introduction

Enterprise Architecture:

- Business Process Standardization
- Business Process Integration (Data)

Foundation of Execution for an Enterprise:

- Not an IT Issue
- It is a business problem to solve

Build Your Foundation

Foundation of Execution:

- Definition:
  - IT Infrastructure to Automate Core Processes
  - Efficient/reliable/predictable Process Execution
- Focus on Digitized core processes
  - No need to focus on routine activities = the mondain
  - Concentrate on higher-order processes = the differentiators
- Focus of top companies:
  - Also digitize differentiating capabilities
- Effects of Standardization:
  - Less flexible core
  - More agile company

From Strategy to Solutions:

- Applications
- Data
- Technology

Issues:

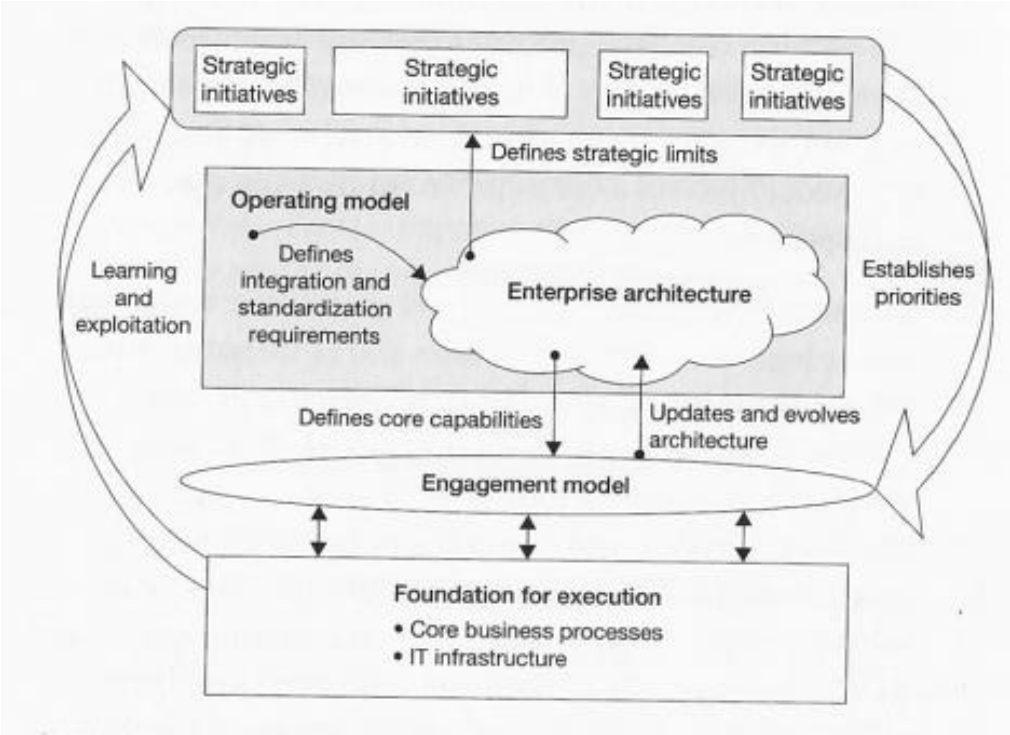
- Unclear strategy
- Sequential process
- IT reacting late = bottleneck

Data Silo's:

- Individually applications work fine
- Together they hinder the company
- Integration Isolated systems = 1:1 integrations in E2E processes

Build Your Foundation

1. Operating Model
   - Required level of business process integration/standardization
   - Deliver Good/Services
   - E2E processes as single client interface
2. Enterprise Architecture:
   - Organizing logic
     - Business processes
     - IT infrastructure
   - Reflecting operating model
     - Process Integration
     - Process Standardization
   - Stages
     - Business Silo's
     - Standardized Technology
     - Optimized Core
     - Business Modularity
3. IT Engagement Model:
   - Governance to achieve Objectives
     - IT
     - Business



Why

- Non-standard process variations = disadvantages
- More Agility required
  - Business cycle time increase
  - Internationalization
  - Regulation
- Spend smarter rather than more
  - Implement one project at the time and learn

Chapter Overview

1. Define Your Operating Model:
- Unification
- Coordination
- Replication
- Diversification

2. Implement Operation Model via Enterprise Architecture
- Processes
- Infrastructure
- Data
- Interfaces = Apps

3. Mature Enterprise Architecture
- Business Silos
- Standardized Technology
- Optimized Core
- Business Modularity

4. Cash in Learning

5. Build the Foundation one Project at the time:
- IT Engagement Model
    - IT governance
    - Project Management
    - Linkage of both

6. Use Enterprise Architecture to Guide Outsourcing:
- Strategic
- Co-Sourcing
- Transactional

7. Exploit Foundation for Profitable Growth
- Growth

8. Take Charge of the Leadership Agenda:
- Rethinking the Foundation of Execution

1. Define Your Operating Model

Operating Model

Business Strategy:

- How to compete?
- Where to compete?

Operating Model:

- Process
  - Integration
  - Standardization
- Deliver:
  - Goods
  - Services
- What strategy to follow
  - Mechanism to apply strategy!
  - Limits type of opportunities!
- Commitment on how to do business

Integration & Standardization:

- Standardization
  - Defining exactly how it is executed regardless of who performs /where performed
  - Efficiency up
  - Throughput up
  - Innovation down
- Intergradation:
  - Shared data: between or across processes = E2E process
  - One interface = single face to customer
  - Challenge data format standard
  - Efficiency up
  - Coordination up
  - Agility up

4-Types of Operating Model

Selecting Operating Model Driving Questions

- Transactions completed across BU's? => Integration
- Benefits of running BU's in the same way? => Standardization

1. Diversification: *Independence with shared Services*

- Different product/services to different customers
- Shared services for economies of scale = synergies between BU's not BU integration
- Company growth through M&A

2. Coordination: *Seamless Access to Shared Data*

- Data integration not process integration
- BU autonomies in executing processes
- Shared CRM data but customized interactions (=processes)
- All things for some people

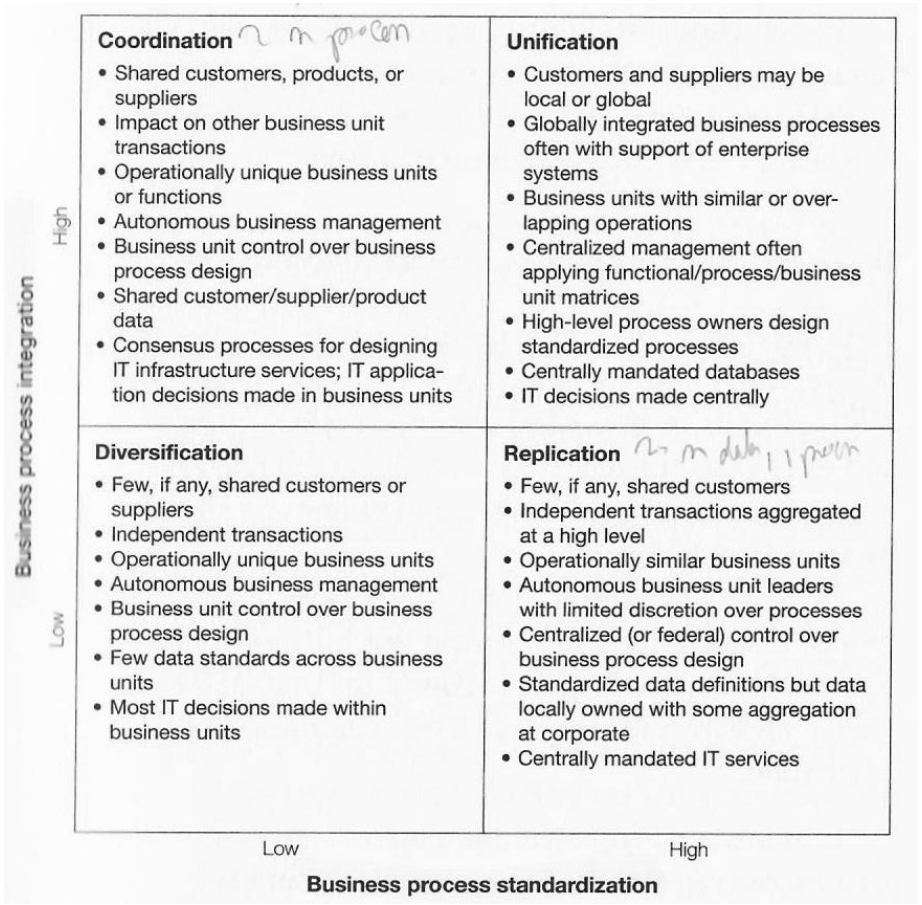
3. Replication: *Standardized Independence*

- Repeatable process
- Not Shared CRM
- M&A: installation of standard processes
- BU runs business based on standard process

4. Unification: *Standardized/Integrated Processes*

Max efficiency through

- Integrated data
- Standard processes = Removing variability



4-Types of Operating Model

High Process Integration:

- M&A is hard: data unification is hard between existing companies
- Easy: expending existing products in new markets

High Process Standardization:

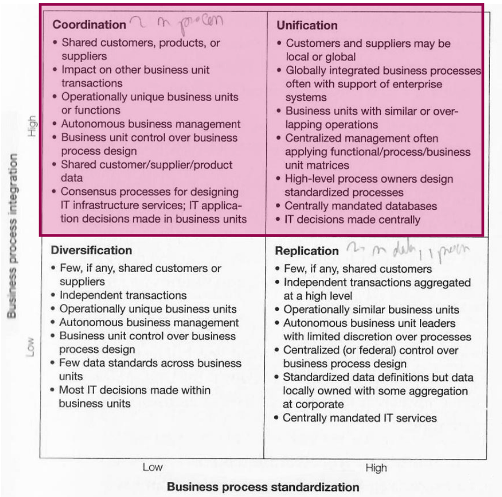
- M&A: rip and replace processes
- Focus on processes already in place
- Limited focus on new processes: innovation

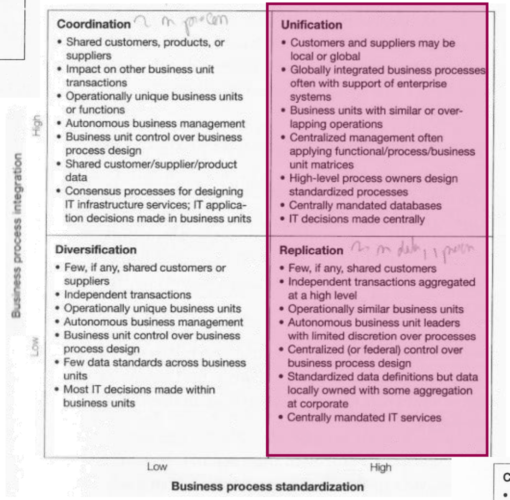
Diversification:

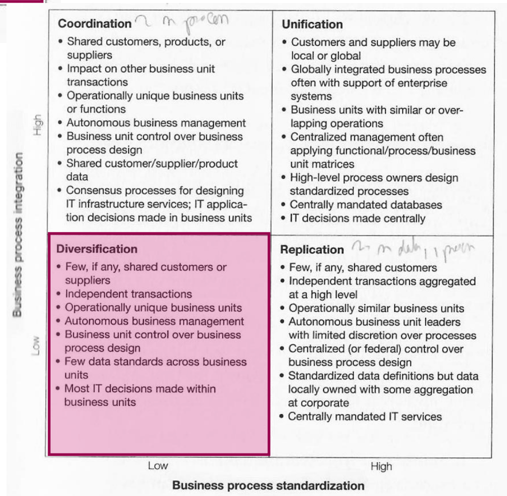
- Limited constraints best for organic growth
- M&A Easy but limited shareholder value creation = low efficiency

Shifting Operating Model:

- Transformational disruption of the enterprise







2. Implement Operation Model via Enterprise Architecture

Operation Model

Operating Model:

- Expectation on
  - Standardization
  - Integration
- EA Outlines:
  - Processes
  - Data
  - Technologies
  - Interfaces = Apps
- EA is the organization logic for
  - Business Processes
  - IT infrastructure
  - Requirements on Standardization/Integration
- EA is not IT Architecture!

Core Diagram:

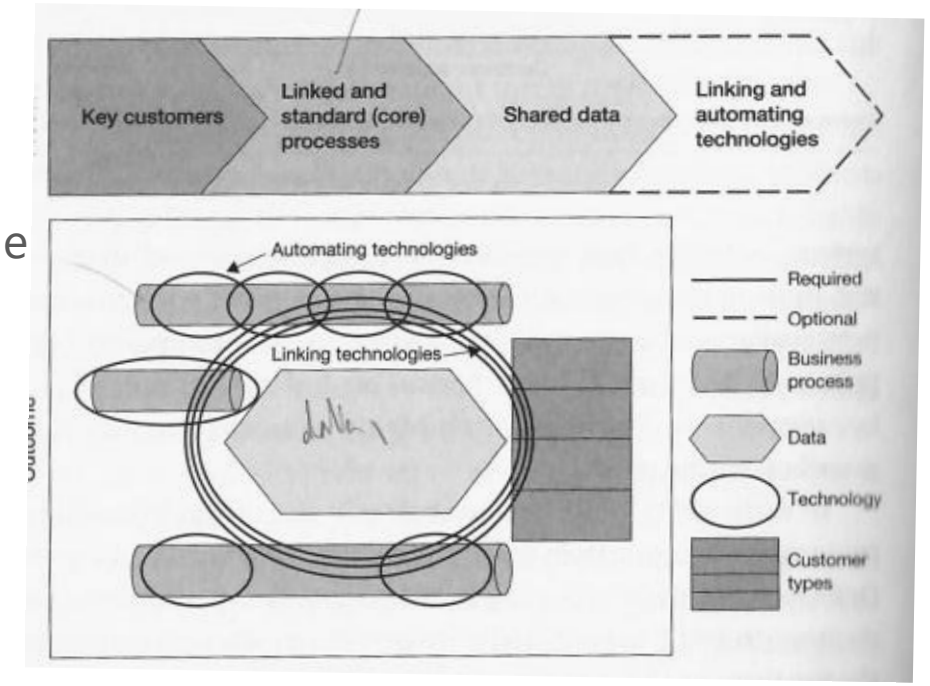
- High-Level View of EA
  - Principles
  - Policies
  - Technology choices
- Components
  - Core Business Processes
  - Shared Data
  - Technology
    - Middleware
    - Packages
  - Key Customers:
    - Served by Foundation of Execution

EA Core Models

Unification Model

EA Process

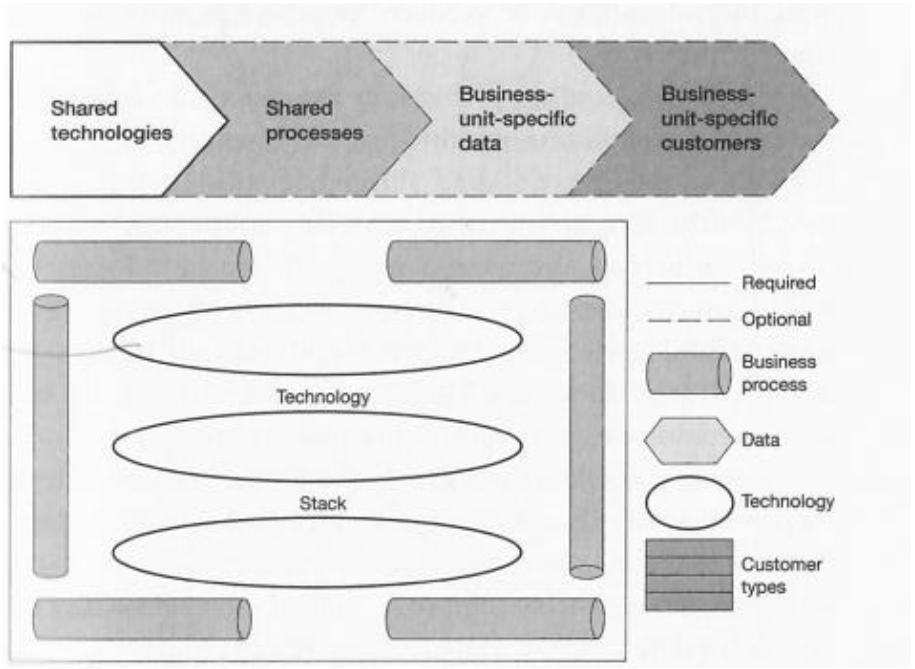
EA Outcome



Shared Data & Shared Processes:

- Core Processes:
  - Serve customers = standardized processes
- Data:
  - Data critical to execute processes = integrated data

Diversification Model



Different Data & Different Processes:

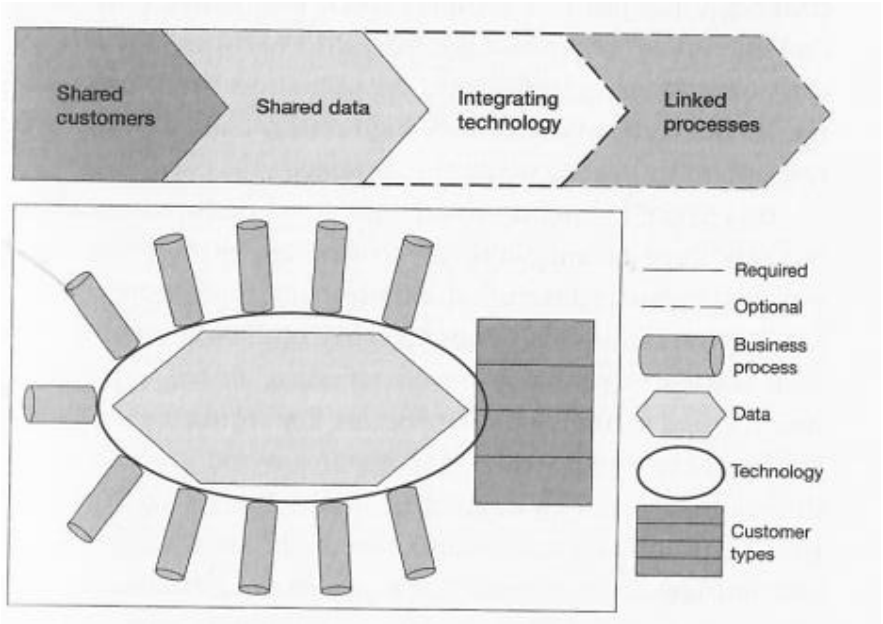
- Still:
  - Opportunities for Shared Services
  - Economies of scale through Shared Technology Platform
- Standard process/share data required for
  - Financial Reporting
  - Risk Management
  - Compliance

EA Core Models

EA Process

EA Outcome

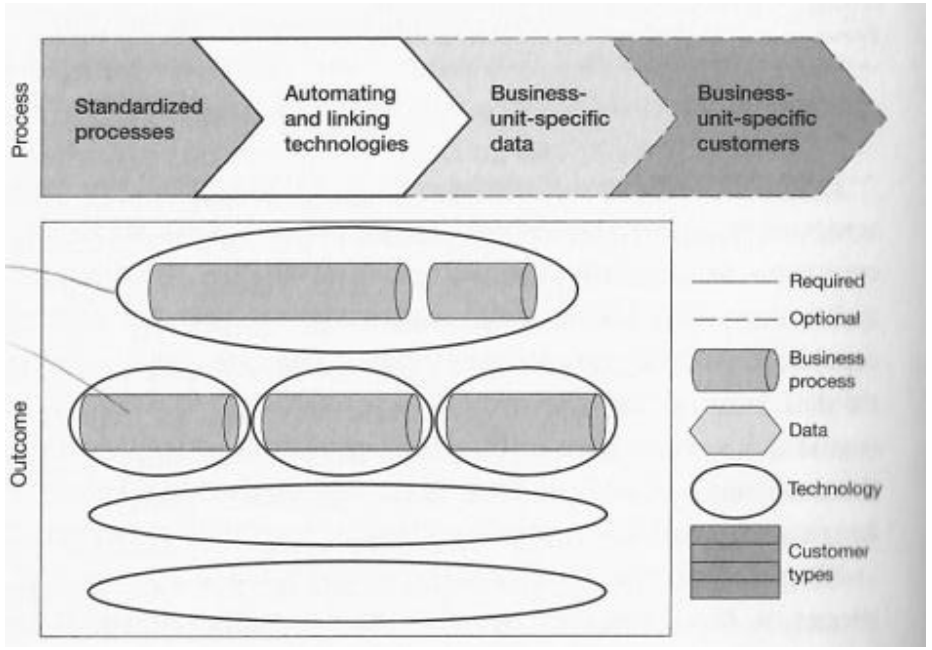
Coordination Model



Same Data – Different Process

- Common Face to Customer
- Costly to extract individual processes
- Shared Data = Integration Hub

Replication Model



Shared Processes – Different Data=

- Standardized Key Processes
- Module reuse
  - Low cost
  - Managers select modules

EA

Who Designs EA?

- Not an IT problem
- Detailed diagrams do not solve strategic problems
- Core Capabilities:
  - Easier/Faster to implement strategy
  - Core more difficult to change
- Design:
  - IT-Facilitated discussion:
    articulate the essence
  - IT-Led discussion:
    communicate underlaying logic

3. Mature Enterprise Architecture

EA Maturity

EA:

- Don't build from scratch
- Build Foundation of Execution
- But Keep the lights on = ongoing business

Stages:

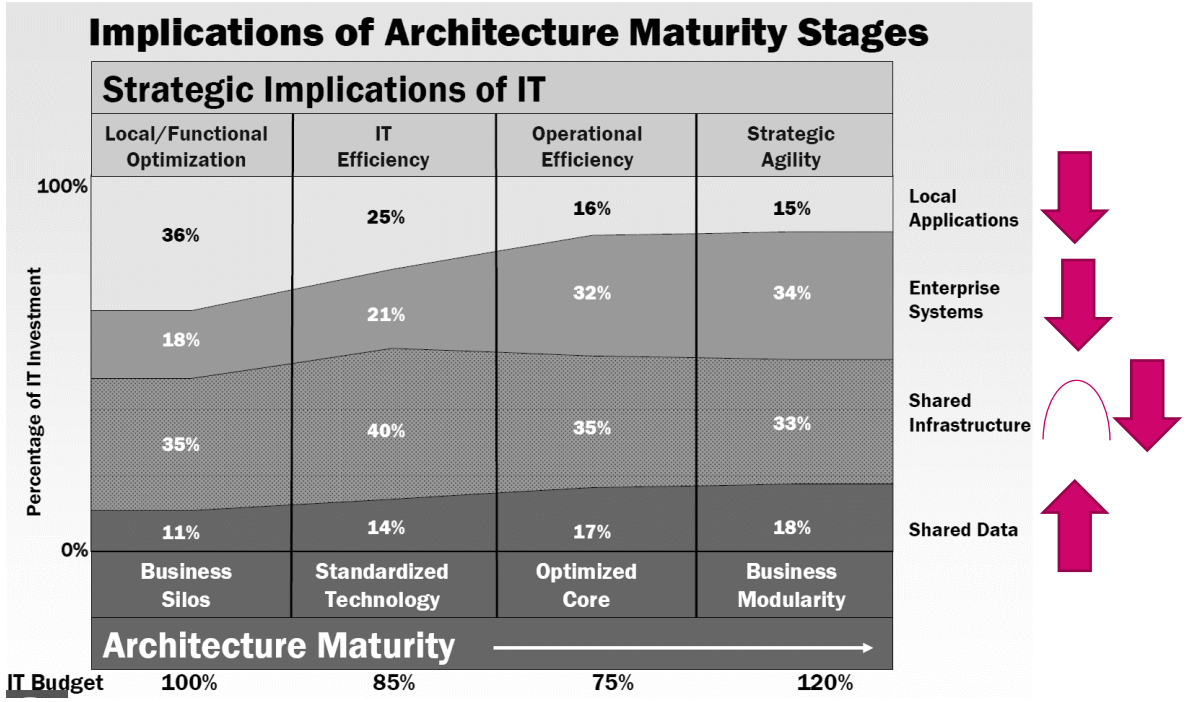
1. Business Silo Architecture
2. Standardized Technology Architecture
3. Optimized Core Architecture
4. Business Modularity Architecture

+

5. Dynamic Venturing (last chapter)

Outcome:

- Lower Costs
- Higher Agility



EA Maturity

1. Business Silos:

- Shard infrastructure
- BU Specific processes => Innovation restrictions
- One-Off Solutions:
    - Competitiveness up
    - Legacy up

2. Standardized Solution:

- Technology standards
    - Number of platform down
    - Cost Down
- Shared Services
- Best of breads:
    - Best part of acceptable platforms
- Shared data
    - Increase usage => DWH introduced
- Transactional data still part of individual applications

3. Optimized Core

- Local to Enterprise View
    - Data
    - Applications
- Shared Transactional Data
- Critical Corporate data
- Standardized Business Processes
- Optimized Core =
    - Reusable Data & Processes
    - Predictable business outcome
- Local autonomy down

4. Business Modularity

- Agility through reusable modules
- Two approaches:
    - Menu of web-services
    - Unique front-end process with core data/back-end processes
- Innovation = local experiments
- Opportunities = extend the core

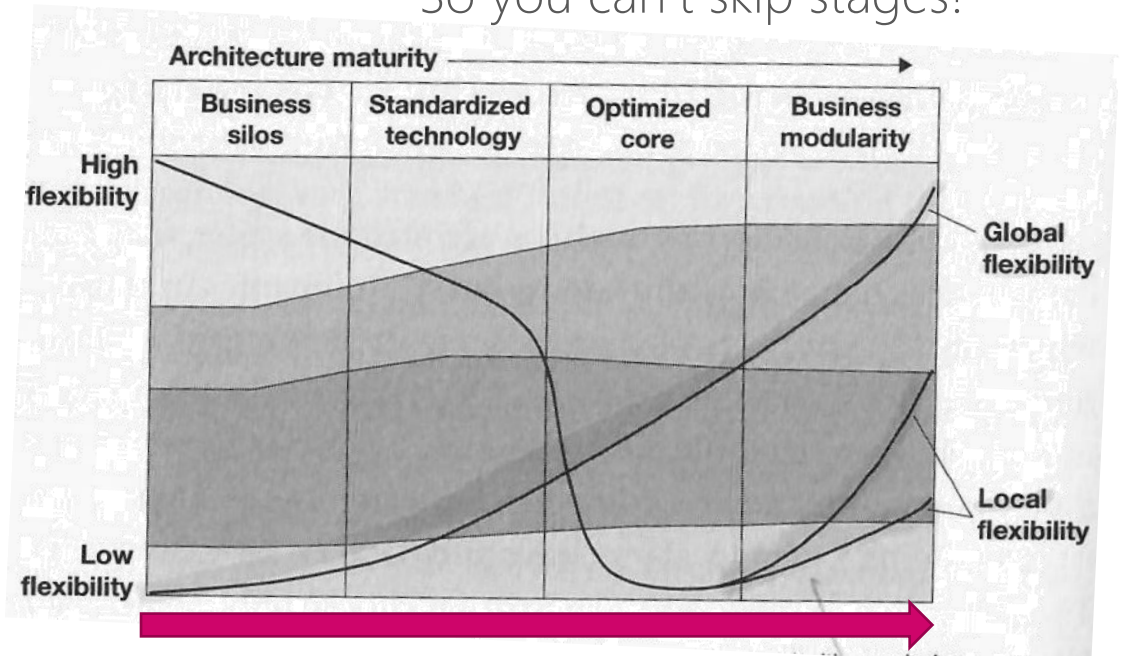
EA Key Learning

Local to Companywide Perspective

- BU = local flexibility to …

  Enterprise = global flexibility
- Modularity allows for Local flexibility again
- Every stage = organizational change

  So you can't skip stages!



1. IT Capability
2. Business Objectives
   - ROI
   - IT Costs
   - Process Improvements
   - Speed to Market
3. Funding Priorities
   - Individual
   - Shared
   - Enterprise
4. Management Capabilities
   - New Tech
   - Standard
   - Processes
   - Reusable Modules
5. Defining Applications
   - Local Business
   - IT & Business
   - Senior + Process Leaders
   - IT & Industry
6. Critical IT governance issues
   - IT Investments
   - Effective standard
   - Effective objectives
   - Business process Modules
7. Strategic Implications

How to Apply EA Stages?

- Focus on strategic organizational processes
- Incremental evolution
- EA at different levels: Company & BU
- Build inhouse EA capabilities
- Aim for business modularity

4. Cash-In on Learning

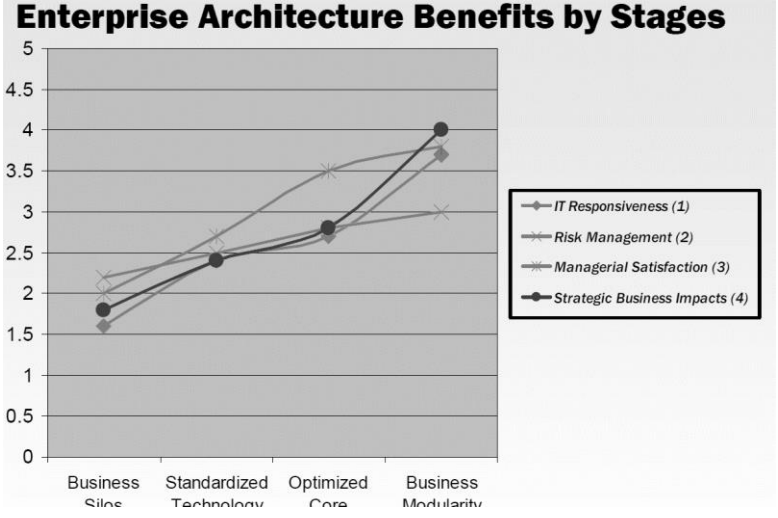
EA Learning & Benefits

EA Evolution:

- New Capabilities = learning required
- First Operating Model then EA

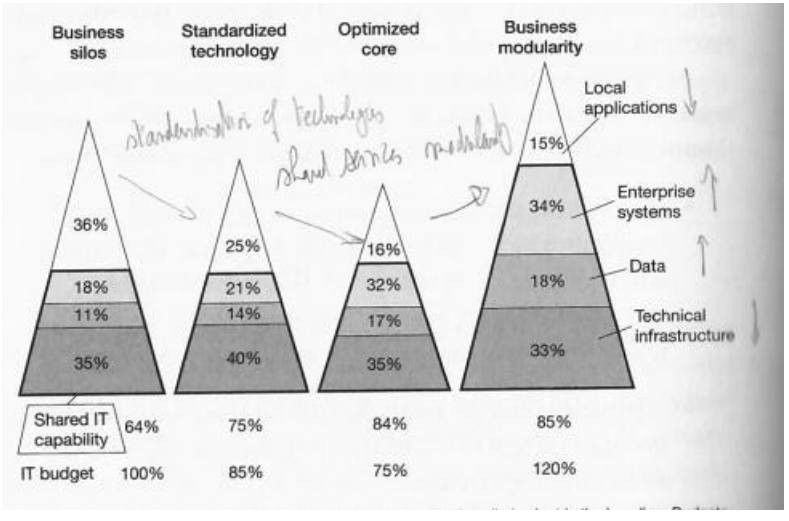
EA Benefits:

1. IT costs
2. IT responsiveness
3. Risk Management
4. Managerial Satisfaction
5. Business Outcomes



1. IT Costs Reduction:

- Types
  - IT operations Costs
  - Application Maintenance Costs
- Maturity:
  - 1->2: Standard Technologies
  - 2->3: Shared Service
  - 3->4: Modularity of the business + creation of new opportunities



EA Learning & Benefits

2. Increase Responsiveness:

- Maturity:
    - 1->2: Standard Environment
        - Less Tech Choices
        - Less Technical Problems
        - Faster Delivery:
            - Elapsed time down
            - Development time down
    - 2->3: //
    - 3->4: Modularity

3. Improved Risk Management:

- Business Risk = Reliability and Consistency Up
- Disaster Tolerance = Minimized downtime
- Security Risks = Avoided Breaches

4. Increased Management Satisfaction:

- Ability of IT to deliver value
    - Costs down
    - Responsiveness up
    - Strategic Business – IT Alignment
- Satisfaction:
    - Senior Management
    - BU Leader Satisfaction

5. Enhance Strategic Business Outcomes
    - Operational excellence:
        - Lower costs
        - Reliable
        - Predictable
    - Customer Intimacy:
        - Extraordinary service
    - Product Leadership:
        - First to market
        - Innovative
    - Strategic Agility:
        - Faster response to
            - Competition
            - Opportunities

Management Practices

Management Practices:

- To realize value from maturity
- Roles
- Management Processes

Stage 1 Practices:

- Business Case: Costs/Benefits
- Discipline Approach

Stag 2 Practices:

- BU to Enterprise Thinking
- Centralized IT Funding:
    - Steering
    - Control Budget
    - Infrastructure Renewal
- Standardized Technology Environment:
    - Compliance Process
    - Architects part of projects
    - Exception Process
    - Centralized Standards Team

Stage 3 Practices:

- Central Process Owner
- EA Guiding principles
- Business responsibility for project benefits
- EA overviewed by senior management
- IT program manager
- Optimized Core = senior management decided on processes that become part of the core

Stage 4 Practices:

- One-Page Core Diagram: requirements for standardization/integration
- Post-implementation Assessment: lessons learned
- Formal Research & Adoption Process: new technology
- Full-time EA team

Management Practices

Top performers:

- Senior management involvement:
  - Less projects more attention
- Architecture patr of project methodology
  - Beginning: early IT involvement
  - End: compliance review
  - Establish standards
  - Identify need for new infrastructure capabilities
- Maturity of EA:
  - Greater strategic impact of IT

5. Build the Foundation one Project at the time

IT Engagement Model

Projects:

- Big Bang:
  - Large implementations
  - Low rate of success: 50%
- One Project at the time:
  - No ivory-tower abstraction
  - Robustness up => increments up
  - Distribute: costs & risks

IT Engagement Model:

- Governance to achieve projects
  - Company Wide IT Governance
  - Project Management
  - Linking Mechanism: Governance – Project Management

Six stakeholders:

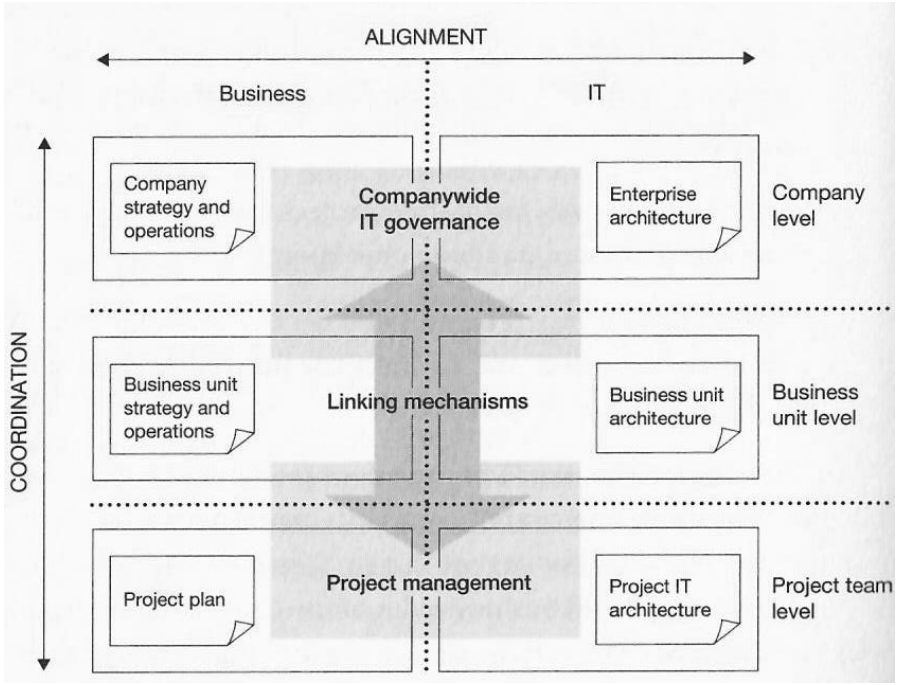
Coordinate

- Company
- BU
- Project

&

Align

- IT
- Business



IT Governance & Project Management

IT Governance:

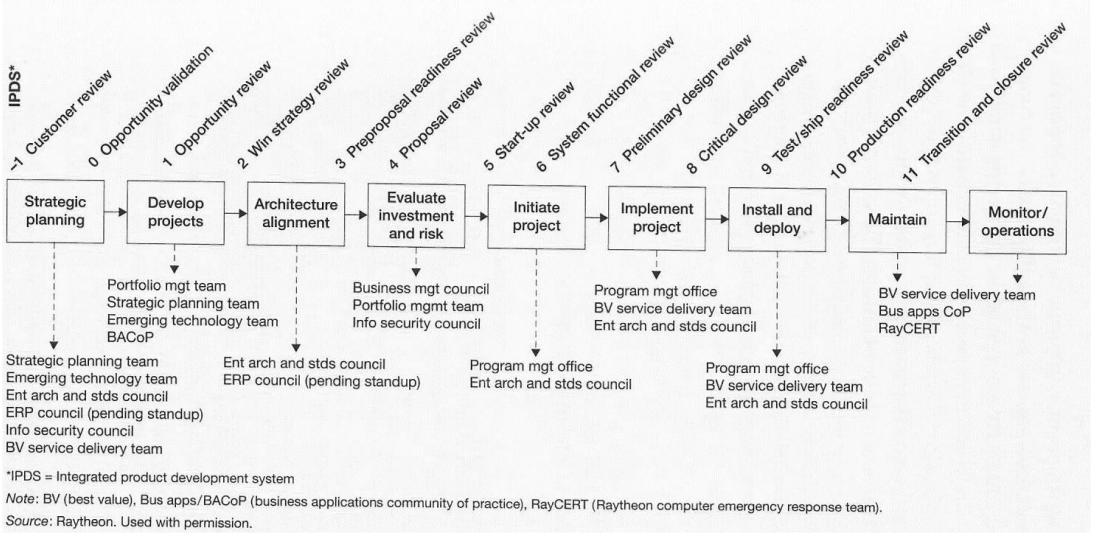
- Decisions
- Accountability

Decisions Areas:

- IT principles: how IT is run to meet business objectives
- EA: organizing logic of business processes
- IT Infrastructure: foundation of execution
- Business application needs: business requirements
- Prioritization & Investment: how/where to invest in IT

Project Management:

- Gates based on phases
- Involved Teams
- Example

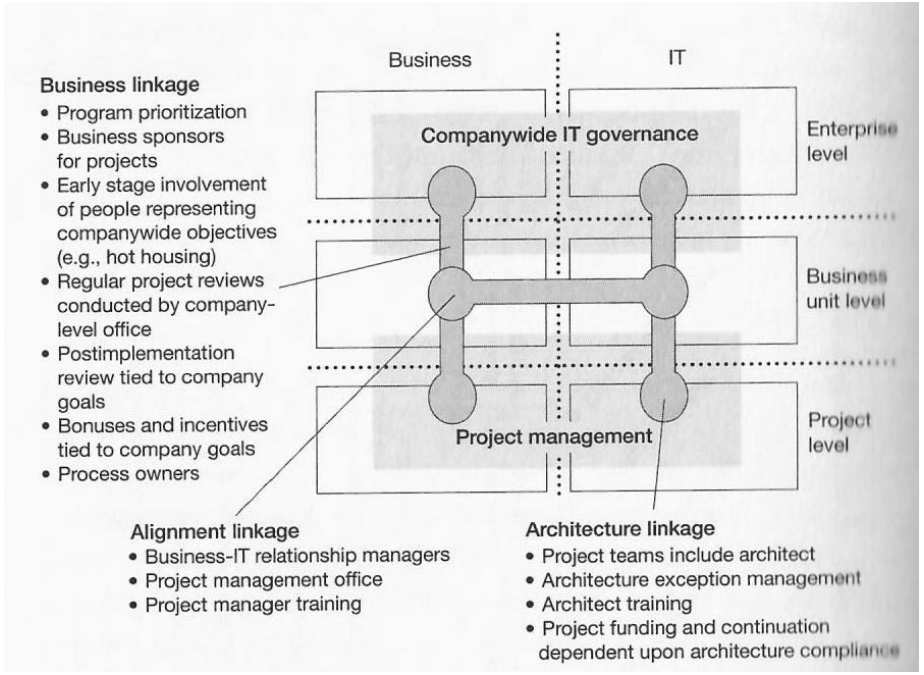


*IPDS = Integrated product development system

Note: BV (best value), Bus apps/BACoP (business applications community of practice), RayCERT (Raytheon computer emergency response team).

Source: Raytheon. Used with permission.

Linking Mechanism



Linking Mechanism:

- Company under governance
- Projects

Linking:

- Architecture
  - IT governance decisions - Project design decisions
  - Standards, Compliance, Exceptions
- Business
  - Business goals - Project goals
  - Goal translation
- Alignment
  - IT concerns – Business Concerns
  - Communication & Negotiation

IT Engagement Model

Funding:

- Architecture work funded by a project
  - Do something right the first time
  - Distribute change over all projects
- Avoid creating separate architecture projects
  - Embed architecture work in projects
  - Cost is distributed over projects

6. Use Enterprise Architecture to Guide Outsourcing

EA Outsourcing

Outsourcing:

- Risk of loosing connection
- Drivers:
  - Cost savings
  - Variable Capacity
  - Focus on Core
- Types:
  1. Strategic Partnership = operational
  2. Co-sourcing = project & PM
  3. Transaction Relationship = business process
- Architecture Maturity
  - Outsource support to build foundation of execution!
    - Outsource technical challenges
    - Outsource organizational change
  - Do not outsource architecture!

1. Strategic Partnership:

- Provide an integrated set of operational services
- Client: variable capacity
- Vendor: economies of scale
- High risk: 50% successful
  - Requires behavioral changes to generate expected outcomes
  - Can you do it => Should you do it?
- Fit with 2nd maturity stage
  - Vendor best practices => standardization => better operations
  - Company does not have to build up skills
- First-Choice Provider principle:
  - Strategic partner favored for outsourced new activities

EA Outsourcing

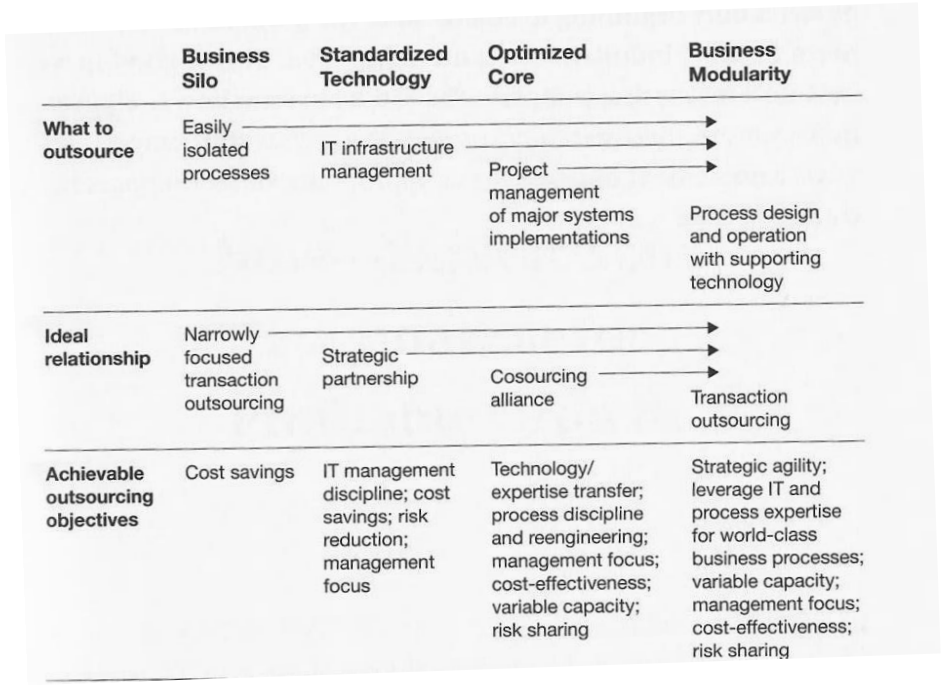
2. Co-sourcing Alliances:

- Shared responsibilities in project context
- Client: business knowledge
- Vendor: technical skills & PM skills
- Advantages:
  - Lower cost: off-shoring
  - Less risk: risk management via negotiation/accountability
- Fit with 3rd Maturity Stage:
  - Integration/standardization =>rip and replace legacy systems
  - Build up internal expertise
  - Use 3rd party expertise in new technologies

3. Transaction Relationship:

- Out-tasking = outsource specific services
  - Narrow defined
  - Task with clear business rules
- Clients:
  - Best practices
  - Variable capacity
  - Focus on core
- Vendors:
  - Economies of scale
  - Assets & Expertise
- Fit with 4th Maturity Stage:
  - Isolate activities = allows to isolate architectures
  - Plug external processes into foundation of execution

EA Outsourcing



	Business Silo	Standardized Technology	Optimized Core	Business Modularity
What to outsource	Easily isolated processes	IT infrastructure management	Project management of major systems implementations	Process design and operation with supporting technology
Ideal relationship	Narrowly focused transaction outsourcing	Strategic partnership	Cosourcing alliance	Transaction outsourcing
Achievable outsourcing objectives	Cost savings	IT management discipline; cost savings; risk reduction; management focus	Technology/ expertise transfer; process discipline and reengineering; management focus; cost-effectiveness; variable capacity; risk sharing	Strategic agility; leverage IT and process expertise for world-class business processes; variable capacity; management focus; cost-effectiveness; risk sharing

- What to outsource:
  - Easily isolated processes
  - IT Infrastructure Management
  - Project Management
  - Process Design
- Ideal relationship:
  - Narrowly focused Transaction
  - Strategic
  - Co-Sourcing
  - Transaction
- Outsourcing Objectives

7. Exploit Foundation for Profitable Growth

Growth & Foundation of Execution

Growth – Foundation of Execution:

- Organic
  - New capabilities
  - Apply existing to the new
- Acquisition-Driven: M&A
  - Rip-and-replace
  - Diversify

Growth in a

Unification Model:

- Shared data = customer focus
- Process standardization = digitized end-to-end
- Focus on Innovation = new product/markets/processes

Replication Model:

- Leverage standard IT enable processes = Reduced start-up costs
- Focus on Same process in new markets

Coordination Model:

- Shared data across unique business
- Better CRM = understanding of the customer
- Focus on Cross-Sell/Up-Sell

Diversification Model:

- No shared-date or processes
- Shared Infrastructure
- Focus Natural Synergies = shared services

Architecture: M&A – Dynamic Venturing

M&A:

- State with Two companies
  - Incomplete Foundation of Execution
  - Different Architecture Maturity
    - Can't skip stages!
- Solutions:
  - Rip & Replace + Data Portal
  - Apply Diversification Model + Experiment Fail Fast

5th Maturity Stage = Dynamic Venturing

- Reconfigure business portfolios
  - Organic reconfiguration
  - Plug & Play business
  - Opportunities: Partner, Acquire, JV, Collaborate, Integrate, Connect
- Modules of stage 4 = businesses in stage 5
- Platform economy =
  - Intelligent agents
  - Auto brokerage
- Components
  - Business rules = how to run component
  - Business process = activities
  - Data
  - Interfaces
  - Security
  - Coupling rules

8. Take Charge of the Leadership Agenda

EA Change

- 9 symptoms of ineffective Foundation of Execution
- 6 step to rethink Foundation of Execution
- 10 leadership principles

Ineffective Foundation of Execution

1. One customer question elicits different answers
   - Confused Customers: One Question => Different Answers
   - Incorrect tools for the job
2. New regulations requires major effort
   - Regulation = overhead
3. Business Agility is difficult
   - New capability takes a lot of time
   - More digitized core = higher agility
   - % revenue from new products
4. IT is a bottleneck
   - IT investments on standards/integration
5. Different processes/system complete same activity
   - Redundancy & Overlap
6. Missing information to make decisions
   - Right info
   - Right usage to make decisions
7. Employees move data between systems
   - Manual re-input = error prone
   - Straight-through processing
8. Senior management dread discussion IT agenda
   - Decide / Steer Foundation of Execution
9. Management doesn't know the Value of IT
   - Requirements for IT => Results for IT

Rethink Foundation of Execution

1. Analyze your existing foundation
   - Processes digitized E2E
   - Data accessibility
   - IT infrastructure quality
   - Flexibility
   - SWOT of foundation
2. Define your operating model
   - Standardization
   - Integration
   - Evolution
3. Design your EA
   - Process
   - Data
   - Technology
   - Apps
4. Set priorities
   - Core = priority
   - Extend/Leverage Foundation of Execution
5. IT Engagement Model
   - IT governance
   - Project Management
   - Linkage
6. Exploit foundation for growth
   - Outside-In = opportunities
   - Inside-Out = customer needs

Top 10 Leadership Principles

1. Commit to the foundation
   - Plan/Implement/Leverage coherent set of capabilities
2. Initiate change from the top – Remove barriers
   - Senior Management
     - Leadership
     - Funding
   - Allocate cots across projects = % of EA should be corporate funded
3. Feed the core – Experiment
   - Focused experiments = not core business
   - Own budget and governance
4. Use Architecture as Compass & Communication tools
   - Blueprint for direction = horizon
   - Roadmap= incremental steps
5. Don't skip stages:
   - Learning requirements
   - Failure & Delayed benefits
6. Implement Foundation one project at the tome
   - No big-bang
   - Strategic incremental approach
7. Don't do it alone – Outsource
   - Standardized processes = outsourcing candidates
8. Invest in your people
   - Creativity in developing core processes
   - Reviews = learning opportunities
9. Reward Enterprise Thinking
   - Incentives to think enterprise not local
10. Empower Employees with the foundation
    - Do more valuable work