INDUSTRIAL ENGINEERING SUPPORT FOR EMERGING BUSINESS MODELS

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Introduction: Where are things moving to?

Function/site
- 1920's-1980: Cost
- 1980-1990: Scale of efficiencies
- 1990-1995: Continuous Improvement
- 1995-2000: Time/quick response
- 2000 & Beyond: IT enabled processes, process expertise & relationships

Business Process
- 1995-2000: Flexibility
- 1995-2000: Economies of scale/integration
- 2000 & Beyond: Knowledge Factory

Enterprise Processes
- 2000 & Beyond: Mass personalisation/economies of knowledge
- 2000 & Beyond: Intelligent systems, Communities of Practice


Source: SAIIE_1999_Presentation.ppt
EMERGING BUSINESS MODELS

VALUE CHAIN

VERTICAL ENTERPRISE

CUSTOMER

VALUE SHOP

HYBRID ENTERPRISE

CUSTOMER

VALUE NETWORK

VIRTUAL ENTERPRISE

CUSTOMER

CUSTOMER

CUSTOMER
IMPACT OF THE MODEL: The Business Lifecycle

**BIRTH OF SYSTEM**
What are the strategy of the organisation?
What are the objectives, goals and actions of the organisation?
How do we manage implementation?

**REVISE SYSTEM**
How do we manage growth and change over time?

**MANAGE THE SUPPLY CHAIN**
How do we manage the supply chain?
How do we manage suppliers & purchasing?
How do we forecast demand?
How do we manage day-to-day activities of planning, scheduling and operations?

**PRODUCT DESIGN AND PROCESS SELECTION**
What is the form of the product?
How do we design the service?
How do we develop it?
What technology do we require?
How do we achieve quality?

**DESIGN THE SYSTEM**
How much capacity?
Where should operations be located?
How will jobs be performed and measured?
How will workers be compensated?
How do we measure learning?
Impact of Change towards New Business Models

Shareholder

Management Systems

Structure

Processes

People

Resources

Customers

Vendors & Partners

Impact of Change towards New Business Models

demands

reinforces

fosters

requires

Supports

Supports

enables

enables

Shareholder

Management Systems

Structure

Processes

People

Resources

Customers

Vendors & Partners
Value Drivers for Future Organisations

Customer Service

Asset Shift

Digital Technology

Plug-and-Play Business Process

KNOWLEDGE
What is out there? What is our capacity to act? What is our internal competence?

PEOPLE
Team oriented Process driven Knowledge workers

PROCESS
Customer driven Strategy Aligned Holistic enabled

CHANGE
Performance driven Results oriented "Physical fast"

TECHNOLOGY
Digital, Online Web-focused Business driven
What are key organisational requirements to implement?

- **Change** is the only fixed variable
- **Change agility** should be part of the organisational culture
- **IT & IS** are the key enablers of future organisations
- This means that we have to have:
  - Organisational **knowledge** about our market, business and employees is of paramount importance
  - A Change **methodology** with short lead times
  - Understanding of how to increase **economic value-added** through change initiatives
  - The ability to change all **organisational elements** in harmony
WHAT IS BUSINESS ENGINEERING?

- Engineering is concerned with the economical use of limited resources for the benefit of mankind
- Business Engineering is a systems approach to the analysis, design, development, construction and implementation of holistic business systems (people, processes and resources)
- Business Engineering adds economic value to organisations through productivity improvement, market expansion or new market creation activities
- Key focus areas of BE are people, business processes, change and knowledge
The BE Person

VISIONING

LOGICAL ANALYSIS & DESIGN

PHYSICAL DESIGN

IMPLEMENTATION

Strategic Process Planning

Project management

Business Modeling

Costing

Facilitation

Workflow

Application Development

Financial Engineering

Business Architectures

Organisational Development

Strategy

Business Architectures

Strategic Process Planning

Project management

Business Modeling

Costing

Facilitation

Workflow

Application Development

Financial Engineering

Business Architectures

Organisational Development

Strategy
IE Support for Emerging Business Models

• **Existing Disciplines**
  - Operations Management
  - Engineering Economy
  - Total Quality Management
  - Continuous Improvement
  - Project Management
  - Simulation/resource optimisation
  - Information System Development

• **New Disciplines**
  - Performance Management
  - Knowledge Management
  - Business Architectures
  - Change Management
  - Business Process Engineering
IE Support for Emerging Business Models

- **Requirement**
  - Change is the only fixed variable
  - Change agility should be part of the organisational culture
  - IT & IS are the key enablers of future organisations
  - This means that we have to have:
    - Organisational knowledge about our market, business and employees is of paramount importance
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- **Support Through?**
  - Performance Management
  - Knowledge Management
  - Business Architectures
  - Change Management
  - Business Process Engineering
  - Operations Management
  - Engineering Economy
  - Total Quality Management
  - Continuous Improvement
  - Project Management
  - Simulation/resource optimisation
  - Information System Development
Conclusion

• Use intangible assets!
• Understand construction of your business!
• Formalise change initiatives!
• Manage business processes!
• Align change to organisational goals!