Knowledge Management for e-Business

Systems that Work in the e-World of ‘re-Everything’

"The wise see knowledge and action as one.” - Bhagvad-Gita

"No amount of sophistication is going to allay the fact that all your knowledge is about the past and all your decisions are about the future."
Illusive IT Performance Gains

"The lack of correlation of information technology spending with financial results has led me to conclude that it is not computers that make the difference, but what people do with them..."

-- Paul Strassmann, in *The Squandered Computer*
Illusive IT Performance Gains

“In the last 20 years, US industry has invested more than $1 trillion in technology, but has realized little improvement in the efficiency of its knowledge workers… and virtually none in their effectiveness...

... the problems businesses have assimilating technology are human ones”
- John Seely Brown in Information Strategy
The New World of “Re-Everything”

“In the increasing-returns world, especially in high tech, re-everything has become necessary because every time the quest changes the company needs to change. It needs to reinvent its purpose, its goals, its way of doing things.”

From Prediction to Anticipation

“The future is moving so quickly that you can't anticipate it...We have put a tremendous emphasis on quick response instead of planning.

We will continue to be surprised, but we won't be surprised that we are surprised...

...We will anticipate the surprise.”

– Steve Kerr in Planning Review
Information & Control Systems for…

- Faster and faster pace of change
- Shift from incremental to radical change
- Shift from continuous to discontinuous change
- Shift from internal to external locus of change
- New world of business: world of “re-everything”
- Shift from reactive to anticipatory response

Shift from “Focus on Core Competencies”… to…
Creation of New Business Models and Industries
Information Strategy

Information Strategy - Synopsis

• IT Performance is dependent upon effective utilization of IT…

• IT Performance is dependent upon the strategic context of IT utilization

• Business world of ‘re-everything’ requires ‘re-everything’ IT strategy and IT design

Integrated E-Business IT Architecture supporting…

“Agile” E-Business Service Architecture
Process Focus: CQI to Radical Redesign

<table>
<thead>
<tr>
<th>Level of Change</th>
<th>TQM</th>
<th>BPR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start From</td>
<td>✓ Incremental</td>
<td>✓ Radical</td>
</tr>
<tr>
<td>Frequency</td>
<td>✓ Existing Process</td>
<td>✓ Clean Slate</td>
</tr>
<tr>
<td>Time Required</td>
<td>✓ One-time/Continuous</td>
<td>✓ One-time</td>
</tr>
<tr>
<td>Participation</td>
<td>✓ Short</td>
<td>✓ Long</td>
</tr>
<tr>
<td>Typical Scope</td>
<td>✓ Bottom-Up</td>
<td>✓ Top-Down</td>
</tr>
<tr>
<td>Risk</td>
<td>✓ Narrow [within]</td>
<td>✓ Cross-functional</td>
</tr>
<tr>
<td>Primary Enabler</td>
<td>✓ Moderate</td>
<td>✓ High</td>
</tr>
<tr>
<td>Type of Change</td>
<td>✓ Statistical Control</td>
<td>✓ I. T.</td>
</tr>
<tr>
<td></td>
<td>✓ Cultural</td>
<td>✓ Cultural/Structural</td>
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Beyond BPR

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From Reengineering to “Re-Everything”

**OLD**
- Technology Focus
  - Reengineering
  - Rationalization
  - Automation

**NEW**
- e-Customer Focus
  - “Re-Everything” Business Model Innovation

Reengineering → ...IT-intensive Radical Redesign
Rationalization → ...Streamlining Workflows
Automation → ...Replacing humans with machines

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“Re-Everything” for e-Customer Focus

“The most productive and successful companies focus on increasing market share by staying one step ahead of the customer and coming up with brand-new product innovations that will inspire his imagination, rather than by battling for market share in an already crowded market.”

“Quality, then, means anticipating the needs of the customer.”
Beyond BPR

Until Reengineering…

“Internal” Focus

Optimization-based Efficiencies

High

Low

RISK

Reengineering
“Radical Redesign”
of Business Processes

Rationalization

Automation

Low

RETURN

High

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Beyond Reengineering…

“External” Focus

Re-everything

Business Model Innovation

NEW

‘White Spaces’
Virtual Form
E-Form
Ecosystems
Extended Supply Chains…

REENGINEERING

“Radical Redesign”
of Business Processes

RATIONALIZATION

AUTOMATION

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Beyond Reengineering…

Radical Rethinking of the organization and its business

70% RISKS
70% RETURNS

Low High
Low

RETURN

Low

Business Model Innovation

NEW

‘White Spaces’
Virtual Form
E-Form
Ecosystems
Extended Supply Chains…

‘e-Agility’ Focus

‘Machine’ Focus

Beyond BPR

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“The classic timeline of BPR – where consultants are brought in, models are drawn up, and plans are implemented gradually – just isn’t fast enough…”

“Many companies can’t go back to the ‘clean slate’ and completely rearchitect critical systems such as order fulfillment and product databases from the bottom up because they greatly depend on existing infrastructures.”

“E-Business is forcing companies to rearchitect all or part of their IT infrastructures – and to do it quickly.”

- Rapid Fire IT Infrastructures, Information Week, January 31, 2000
The E-Business (R)evolution

• Why firms exist? The Net changes everything!!
• **Emergence** of e-Business Communities
  – iVillage.com, AOL, Amazon.com, Geocities, Linux,…
• Emphasis on **intellectual capital and intangibles**
• Beyond ‘**Deep Blue**’ and Kasparov…
• Business ecosystems – complementary co-evolution
• From ‘core’ to creating new markets & industries
• Splitting of the ‘atoms’ and the ‘bits’
• **Click-and-mortar vs. ‘Pure Plays’**
Strategic Context of IT Utilization

‘Old’ Biz
- Machine
- Utilization
- Tangibles
- Prediction
- Structure
- Converge
- Compliance
- Diminishing

e-Biz
- Ecosystem
- Creation
- Intangibles
- Anticipation
- Edge of Chaos
- Diverge
- Self-Control
- Increasing

Metaphor
- Knowledge
- Assets
- Strategy
- Design
- Role of IT
- Management
- Returns

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The E-Business (R)evolution

“We’re shifting back to our natural way of doing business because of the Net. For most business history, people did business through bazaar, where the exchange of knowledge was the rason’d’etre and the exchange of currency and products the by-product.”


“To be truly successful with B2C E-business, you need a different set of skills and deliverables than what would have made you successful in the pre-Web time.”
BPR to e-Agility

**BPR**
- ✓ Radical
- ✓ Clean Slate
- ✓ One-time
- ✓ Long
- ✓ Top-Down
- ✓ X-functional
- ✓ High
- ✓ IT
- ✓ Culture/Structure

**Type of Change**
- ✓ Radical / Incremental
- ✓ Existing Model
- ✓ Ongoing
- ✓ Short / Long
- ✓ All Levels
- ✓ X-Network
- ✓ High / Critical
- ✓ IT / Human Capital

**Re-Everything**

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Changing Business Environment
Information Processing vs. Business Model Innovation

• **OLD Focus on Information-Processing (Automation)**
  – Focus on ‘right questions’ and ‘best answers’
  – Emphasis on Information systems and databases
  – Digitized memory, experience and expertise
  – **Technology is central**, People are less important

• **NEW Focus on Business Model Innovation (e-Agility*)**
  – Multiple views of the problems and related solutions
  – Emphasis on Vision, Beliefs and Action.
  – Creative conflict, Dialog, ‘Questioning the Status Quo’
  – **People are central**, Technology is also important
**KNOWLEDGE PROCESS**

- **Knowledge Creation**
- **Knowledge Utilization**

**FROM COMPLIANCE TO COMMITMENT**

**External Controls for Compliance**

**Stable and Predictable Organizational Environment**

**Pre-specification of rules, procedures and best practices**

**Self Control for Knowledge Creation**

**Self Controls for Commitment**

**Stable and Predictable Organizational Environment**

**Self Control for Knowledge Utilization**

**‘Wicked’ Organizational Environment**

**Customer Driven Virtual Communities**

**Supplier Coopetition in Business Ecosystems**

**Human Capital as Key Enabler**

- **e-Biz (R)evolution**

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Knowledge Management for E-Biz Performance

- Focus on performance outcomes of organizational adaptation, survival, and competence
- Embodies organizational knowledge processes
- Seeks synergistic combination of
  - data and information-processing capacity of information technologies, and,
  - creative and innovative capacity of human beings.

"The wise see knowledge and action as one."
  -- Stafford Beer, quoted from Bhagvad-Gita
Leveraging Innovation & Technology*

- Non-linear Technologies for a Non-linear era
- Designing Systems for Creative Abrasion
- Designing for **Divergence** of Meaning
- Designing for **Emergence** of Knowledge
- Designing “**Loose-Tight**” Systems
  - Ongoing ‘learning’ and ‘unlearning’
  - Renewal of organizational memory
  - Multiple views of ‘problems’
  - Creating multiple ‘solutions’
e-Business Model Innovation

RADICAL DISCONTINUOUS CHANGE

DESIGN FOR AGILITY, FLEXIBILITY AND ADAPTABILITY

e-BUSINESS TECHNOLOGY ARCHITECTURE

e-Business SERVICES ARCHITECTURE

BALANCE TIGHT INTEGRATION OF e-TECHNOLOGY WITH ADAPTIVE INTEGRATION OF e-SERVICES

TIGHT EFFICIENCIES OF SCALE & SCOPE

ADAPTIVE AGILITY & FLEXIBILITY

PROCESS REENGINEERING WORKFLOW REDESIGN AUTOMATION

BUSINESS MODEL INNOVATION FOR ‘RE-EVERYTHING’

Detect & Correct

Sense & Respond

INTEGRATION OF DATA, ACTIVITIES & PROCESSES

CREATIVE ABRASION & CREATIVE CONFLICT

‘K’ for ‘A’

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Dimensions of e-Business Performance

- Virtual process
- Increasing Returns
- Virtual product

From Atoms to Bits
‘Gray Matter’ to e-Matter
From Bricks to Clicks
From BPR to e-Agility
Business Model Innovation for E-Biz Performance

Information Networks + Creativity & Innovation → Knowledge Management ← e-Business Performance

Product – From atoms to bits
Channel – From bricks to clicks
Processes – From BPR to e-Agility
Industrial Age Corp.
Vertical
Fully Integrated

Customer Driven
Virtual Communities
Supplier Coopetition
in Business Ecosystems
Human Capital
as Key Enabler

Customer-driven
e-Markets

E-Business Ecosystems

Cyber Corporation
Extended ‘Chains’
Tightly coupled

Industrial Age Corp.
Vertical
Fully Integrated

Product – From atoms to bits
Channel – From bricks to clicks
Processes – From BPR to e-Agility

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Working Knowledge
How Organizations Mange What They Know
[And What They Don’t Know… Yet]
Working Knowledge - Introduction

- State of the KM movement – fad and back
- Implementations of KM
- Current Trends – Publications etc.
- From Data to ‘Human Interaction’
- Communities hold answers… do they?
- Looking beyond technology…
- Cultural and organizational change…
- Technological Innovation
Working Knowledge - Introduction

So far… KM projects… plateau

From redesign to business model innovation

Integrate with strategy, process, culture, behavior

Link K to Business Strategy
  - K is the product
  - K is not the product

Link K to Work Processes

Link K to Culture

Link K to Behavior

Link K to Physical Business Environment?
Working Knowledge - Introduction

• Why interest in Knowledge?
• Why now?
• When K walks out the door with people
• Can technology replace K ??
• From D, K, I to Insights
• “Organizations that know how to do things”
• Performance focus – metrics
Data, Information, Knowledge

- Data is not Information
- Information is data endowed with relevance and purpose
- Knowledge derives from minds at work.
- Knowledge in Action