Creating IT-enabled Business Options

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Agenda

- Why justify IT investment?
- What are business options?
- Process of creating business options
- Where are the ‘options’ opportunities?
- Business Options cases from
  - Trinity Health
  - GE Aircraft Engines
  - UPS – video clip
- BREAK
- How to prepare for creating business options?
- Weaknesses and Opportunities
- Issues in creating business options
- Traits of option exploiting organizations
Why does an organization want technology justification?

- What are the CFO’s real concerns?
- What are the CIO’s fears?
- What is the objective of an IT investment justification?

IT Justification is important…

…but not executed well

- 86% of IS professionals believe that IT value is a priority, but under 15% conducted post-implementation measurement*

- Commonly used retrospective approaches
  - Cost-Benefit analysis
  - Net Present Value (NPV)
  - Return on Assets (ROA)
  - Total Cost of Ownership (TCO)

*Source: Giga Group survey
Most financial justification approaches consider tangible investments only

- How do we account for investments that create assets that provide agility to businesses?
  - First mover
  - Killer Apps
  - Process superiority
  - Flexibility to launch products quickly
  - Improved image from greater reliability
  - Tighter integration with partners
  - Compatibility with other products

What are IT-enabled business options?

- IT-enabled business options are choices afforded, but not necessarily anticipated, from IT investment to exploit business opportunities to derive competitive advantage
Flexibility or Agility as a Business Option

Option \( \rightarrow \) 2\textsuperscript{nd} Investment \( \rightarrow \) Asset

Airlines:

- Option
- Aircraft
- Revenue

Server Capacity

Business Application

- e.g. Online Banking
- Land’s End Virtual Model

Revenue or Business Benefit

Information Technology

Creating Business Options

A process

Adapted from Sambamurthy et al. (2003)
Where are the opportunities for IT-enabled business options?

<table>
<thead>
<tr>
<th>Opportunity</th>
<th>IT Investment</th>
<th>Options Enabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Mgt</td>
<td>Design</td>
<td>Production</td>
</tr>
<tr>
<td>- Fully allocated costs; ABC</td>
<td>- Integrate Mfg. and Design</td>
<td>- Computer Aided Mfg.</td>
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<tr>
<td>- Cost Information Systems</td>
<td>- Knowledge Based Systems</td>
<td>- Robotics linked with design and admin. systems</td>
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<tr>
<td>- BPR</td>
<td>- Mfg. Errors</td>
<td>- Quick changeovers</td>
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<tr>
<td>- TCO, Price-based-Costing</td>
<td>- Use Designers Knowledge</td>
<td>- Design Input</td>
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<tr>
<td>- Contracting</td>
<td>- Rapid Develop.</td>
<td>- BOM – Costs</td>
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<td>- Niche mktg.</td>
<td>- Simulated Testing</td>
<td>- Update Design</td>
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<tr>
<td>- AMT Choices</td>
<td>- Simulated Testing</td>
<td>- Rapid Develop.</td>
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</table>
Cost Mgt can lead to Competitive Advantage*
Options creation at AirTran and JetBlue

- Managing Costs lead to lower cost per seat/mile
  - US Airways 11.8c
  - AirTran 8.4c
  - JetBlue 5.9c
- Leads to Available Cash
- Cash gives opportunities to invest in business options
  - Purchase profitable routes
  - Sweet deal on canceled Boeing plane orders
  - Hire experienced laid off workers

* With apologies to Michael Porter

Source: How Discount Airline Profited from the Bigger Rivals Woes
Wall Street Journal August 12, 2004

Options Payoff for AirTran, JetBlue
“... keep on giving”

- New planes
  - Lower fuel costs and maintenance costs
  - Happier customers
- Additional Routes
  - Higher occupancy rate
  - Connections to more cities
- Hiring laid off workers
  - Lower pay scales
  - Younger employees have lower medical bills
- More cash
  - Lower capital borrowing costs
  - Lock-in lower fuel prices with hedges

Source: How Discount Airline Profited from the Bigger Rivals Woes
Wall Street Journal August 12, 2004
Industry Examples of IT Enabled Business Options

- GE Aircraft Engines
- Trinity Health’s Adverse Drug Event (ADE) System
- UPS Worldport Operations
  - Video clip

BREAK

Business Options at UPS

Business Strategy
- Synchronize commerce
- Perceived as a trusted broker
- Use technology to create new services

IT Investment

IT Strategy
- Interface systems with Customers
- Manage packages
- Design and develop new services
- Manage Customer Relationships

IT Assets
- E-procurement
- Package flow optimization
- Routing Hub
- Hub simulation system
- Campus Ship Web based system

IT Competencies
- Pricing of services
- Shorter routes
- Fix incorrect addresses
- Resource planning
- Customer supply chain visibility

Firm-level capability
- Visibility of goods in transit
- Optimized processes
- Single source service provider
- Access to customer supply chain

Business Options
- Outsource unprofitable routes
- Reduce delivery time by 1 day
- Intercept, reroute packages
- Labor, equipment flexibility
- Target new services to customers

Competitive Advantage
- Cost focus
- Leader in understanding logistics processes
- Reputation for high quality reliable service
- Barriers to competitor entry

Entrepreneurial alertness of competitive forces

Second Investment in know-how, IT and warehouses
Expected Outcomes from Business Options

- Caveat - IT-enabled business options are ‘price of entry’ which must be availed to create outcomes
- Outcomes include
  - New business opportunities – GE, UPS
  - Risk mitigation – Trinity Health
  - Improved customer service – UPS, Land’s End
  - Cost Control – Holy Cross Health System
- Cost control in competitive markets can be as valuable as other outcomes

Weaknesses of IT-enabled business options

- Risk
  - Business option might not payoff
  - Limit future options by being locked into an IT infrastructure
  - Short shelf life of the option – when competitors or vendors create better options
- Time consuming strategic thinking and planning
- Drain on people and systems resources
- Requires spending ‘political capital’ when the outcomes are unclear
Reducing risk from IT-enabled investment in business options

- Identify dual purpose IT investments that also accomplish
  - Cost reduction
  - Improved time to market
  - Greater accuracy or quality of products
- Partner with business leaders
- Fix ‘pain’ points of the organization
  - Lost contract bids
  - Aggressive competitor
  - Causes of litigation

How to Prepare for IT-enabled Business Options?

<table>
<thead>
<tr>
<th>Impediments</th>
<th>Resources Needed</th>
<th>Resolutions</th>
<th>Cost Mgt</th>
<th>Operations</th>
<th>Logistics</th>
<th>Customer Service</th>
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Customer Service

Logistics

Operations

Cost Mgt

Resources Needed

Impediments

Resolutions
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<tr>
<td>Unclear strategy</td>
<td>Lack of communication between functions</td>
<td>Limited bargaining power</td>
<td>Higher customer expectations</td>
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<td>No immediate ROI</td>
<td>Lack of integration</td>
<td>Lack of integration</td>
<td>Customers’ unwilling to pay</td>
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<tr>
<td>Resistance to cost cutting</td>
<td>Limited job flexibility</td>
<td>Substantial IT investment</td>
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Resolutions

- Strategy to exploit cost information
- Allocate profits to develop systems
- Communicate consequences

- Forum for dialog
- KM sharing incentives
- Engage customers in design and test

- Build SCM partner alliances
- Start with one
- Join an e-Hub

- Provide something of value
- Bundle services with products
- Merge IS into CRM

Resources Needed

Benchmarking data
Managers’ deep knowledge
Plans to address scenarios under various situations

- Cross functional teams
- Hybrid managers
- Cross trained employees
- Involved customers

- Demonstrable contribution to partners
- Interface engine
- Deep understanding of business processes

- Integration of upstream systems
- Highly trained customer reps
- Centralized database
- Data standards

Issues in Business Options

Some partly baked ideas

- Can Knowledge Management and Discovery initiatives be tied to Options?

Knowledge Bearing Component ➔ Knowledge Integration (IT’s role) ➔ Business Option Creation

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KM and Business Options
Exxon Mobil’s oil exploration

TROLLING FOR OIL
How Exxon Mobil’s electromagnetic surveys work:

- A transmitter towed close to the sea floor injects a current into the water.
- Electric dipole receivers record the sea-floor electric fields at various ranges from the transmitter.

Source: Scripps Institution of Oceanography

Source: Wall Street Journal
August 17, 2004

Issues in Business Options
Virtual alliance organizations

- What options can be created among virtually connected partners?
- Who owns the business option?
- Who bears the risk of the IT investment?
- What role does the bargaining power of the partner play?
Option creation in e-hub environments
Example: Cisco-led e-Hub (now i-Hub)

Options creation in eHub environments
Who will benefit?
Traits of options exploiting organizations

- An ambidextrous organization?
  - Flexible yet stable business processes
  - Encourages taking risks while rewarding successes
  - Has visionaries as well as doers
  - Insulates risk-takers from nay-sayers
  - Thinks ‘integration’ of systems, data, customers
- Cold reality
  - Not all firms have the $ to take on risks
  - Few options will be successful
  - There will be false-starts
  - People will get ‘burnt out’
  - Serendipity will play a role