Colorado Software Summit 2008

Change .. That Matters

John Soyring
IBM Vice President, Solutions and Software

October 20, 2008
“"A simple rule dictates my buying: Be fearful when others are greedy, and be greedy when others are fearful."

Warren Buffet
October 16, 2008

“I skate where the puck will be, not where it is.”

Wayne Gretzky
Predicting Changes

CEO Survey 2008

Global Innovation Outlook

Change & Business Model Innovation

Industry Reports
Predicting Changes

Global Technology Outlook 2008

“The rise of globalization is shifting the way business works. Emerging technologies combined with industry challenges offer companies new ways to operate.”
1130 CEOs

How are organizations addressing:

- New and changing customers – changes at the end of the value chain
- Global integration – changes within the value chain
- Business model innovation – their response to these changes

**Scope**

- Focus on company and public sector leaders
  - CEOs and leaders from the private (78%) and public (22%) sectors
  - Representative sample across 40 nations and 32 industries*
  - Organization size
    - Companies of over $500Mn (established economies) and $250Mn (emerging economies*) in annual revenue
    - Public sector organizations with over 1,000 employees

**Approach**

- Interviews with 1,130 CEOs worldwide
  - Vast majority one-hour interviews of CEOs using a structured questionnaire
  - Survey of 50 CEOs in India and China, in partnership with the Economist Intelligence Unit
  - 33% Asia, 36% EMEA and 31% Americas
  - 80% Established, 20% Emerging Economies

**Analysis**

- Quantitative and qualitative analysis
  - Analysis of respondents’ current behaviour, investment patterns and future intent
  - Analysis of choices being made by financial outperformers
  - Multivariate analysis to identify clusters of responses to multivariable questions
  - Selective case studies of companies that excel
CEOs Worry About Change and Want Agility

83%
Expect substantial or very substantial change

The change gap

Triples

98%
Plan business model changes

Agile businesses have 29% higher earnings per share.

Source: Business Technology Management Institute

Source: IBM Global CEO Study 2008
Organizations are bombarded by change, and many are struggling to keep up
- CEOs view increasingly demanding customers not as a threat, but as an opportunity to differentiate
- Nearly all CEOs are adapting their business models—two-thirds are implementing extensive innovations
- CEOs are moving aggressively toward global business designs, deeply changing capabilities and partnering more extensively
- Financial outperformers are making bolder plays
The Enterprise of the Future is hungry for change

### Recommendations

| Strategic       | Continue to build the expectations of continuous and disruptive change into the culture of the organization |
| People          | Hire, recognize and retain visionary challengers who are given freedom to infuse deep change |
| Process         | Develop processes to ensure viable new ideas that can be quickly exploited |
|                 | Develop process internally – and across partners - that can adapt to frequently changing business models |
| Technology      | Leverage technologies that create new and disrupt current industry structures |
|                 | Develop adaptive IT infrastructure to support changing business models |
The Enterprise of the Future is innovative beyond customer imagination

Recommendations

Strategic
- Build collaborative relationships with key external partners and key customers for open innovation

People
- Proactively approach customers to co-develop ideas for mutual benefit

Process
- Develop and integrate processes and guidelines for external partner management
- Enable open innovation

Technology
- Leverage collaborative tools to support co-development
- Deliver technology platform to support open innovation
The Enterprise of the Future will be globally integrated

Recommendations

<table>
<thead>
<tr>
<th>Strategic</th>
<th>Adopt a proactive position across multiple innovation levers to drive new value and maintain market leadership</th>
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<tbody>
<tr>
<td>People</td>
<td>Embed collaboration into performance management system</td>
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<tr>
<td></td>
<td>Identify new business opportunities based on global talent sourcing</td>
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<tr>
<td>Process</td>
<td>Business services enable new market innovations</td>
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<tr>
<td></td>
<td>Enable processes to support open innovation</td>
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<td></td>
<td>Leverage global “centers of excellence” to optimize capability and delivery</td>
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<tr>
<td>Technology</td>
<td>Create technology services to enable new market innovations</td>
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<td>Deliver technology platform to support open innovation across the ecosystem</td>
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The Enterprise of the Future is disruptive by nature

### Building the Enterprise of the Future

<table>
<thead>
<tr>
<th>DISRUPTIVE BY NATURE</th>
<th>Exploring Business Model Innovation opportunities</th>
<th>Experimenting with BMI</th>
<th>Implementing BMI initiatives</th>
<th>Multiple BMI strategies</th>
<th>Radical and pervasive BMI</th>
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</thead>
</table>

### Recommendations

**Strategic**
- Constantly innovate across BMI dimensions to maximize value creation

**People**
- Have an adaptable workforce that can sense, anticipate and respond to changes in the outside market

**Process**
- Allow for freedom in processes where needed
- Implement rigorous idea stage-gating process to select new BMI opportunities

**Technology**
- Fully exploit enabling power of technology in transforming business models
The Enterprise of the Future is genuine, not just generous

**Building the Enterprise of the Future**

<table>
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<tr>
<th>GENUINE, NOT JUST GENEROUS</th>
<th>Regulatory compliance</th>
<th>Strategic philanthropy</th>
<th>Values based self-regulation</th>
<th>Efficiency through CSR</th>
<th>CSR as growth platform</th>
</tr>
</thead>
</table>

**Recommendations**

- **Strategic**
  - Identify and act upon opportunities to apply firm capabilities to solve significant social issues with positive commercial value

- **People**
  - Develop new business opportunities based on investments in employee CSR innovations

- **Process**
  - Embed discussions of stakeholder value into business decision processes

- **Technology**
  - Employ and enhance collaboration, transparency and traceability capabilities
  - Create new technologies to address opportunities
Global Innovation Outlook

Open Innovation in Action
IBM’s Global Innovation Outlook: a worldwide conversation about innovation that matters

Africa

Security and Society

Water and the Oceans
Smarter Business Starts with Smarter Insights
Introducing SmartBusiness INsight Series For Industry

10 Guides on the New Paradigm of Business & IT

SmartBusiness INsight

- Best Practices for Industry
- Guide to Measuring Return for Projects
- The new end to end Business Design
IBM’s Global Technology Outlook

Behavioral Sciences

Chemistry

Computer Science

Electrical Engineering

Materials Science

Mathematical Sciences

Physics

Service Science, Management & Engineering
Global Technology Outlook 2008

1. Reinventing the way computer systems are built
2. Answering business needs with a “cloud”
3. Social – and data – networking for the enterprise
4. Real time information processing and analysis
5. Doing business anywhere, anytime

To learn more about the Global Technology Outlook or how IBM can help you innovate, send an email to gtofeed@us.ibm.com or visit www.ibm.com
Supply & Demand of key commodities

- Demand outpacing supply
- Increases need for solutions that make effective & efficient use of natural resources
- Sustainability of resources becomes key design point
Project Big Green
The business knows what it needs to do to achieve its goals…
but there are inhibitors to progress

Businesses Need:

- A way to **change** their operational processes quickly…
- To **deploy** automated processes fast…
- A real time view of operations and be able to **intervene**…
- To see results and **value** fast…

But they can’t because:

- Poor documentation of processes
- Cannot pin-point differentiating process
- Hard to find a place to start
Entry points to business model innovation occur in different areas, depending upon specific industry market pressures and individual organizational needs

- **Front Office Innovation**
  - New collaborative solutions across partners, customers and suppliers

- **Core Business Process Innovation and Transformation**
  - Better customer service and more efficient use of resources through new and innovative approaches to internal business processes

- **Back Office Innovation**
  - New levels of cost efficiency and best-of-breed solution delivery through global services assembly lines
**Business Process Management**

*Services are the “building blocks” for business processes*

SOA improves how you design, manage, and optimize your business processes by enabling:

- Solution Building Efficiency
- Reuse of existing assets
- Flexibility in change
SOA components are choreographed among various ‘value chain’ participants
Why SOA Governance matters

Realize business benefits of SOA
- Business process flexibility
- Improved time to market

"Firms with above average IT governance... had more than 20 percent higher profits than firms with poor governance following the same strategy"

Mitigate business risk and regain control
- Maintaining quality of service
- Ensuring consistency of service

"Effective IT Governance is the single most important predictor of value an organization generates from IT."
Source: Peter Weill, MIT Sloan School of Management’s Center for Information Systems Research

Improved team effectiveness
- Measuring the right things
- Communicating clearly between business and IT

Professional investors are willing to pay premiums of 18-26% for stock in firms with high corporate governance.
Source: McKinsey Quarterly
Virtualization?

Many examples and levels of virtualization across the IT infrastructure

- **Workload / Service Virtualization**
  - Coordinate, schedule and manage services / apps across a grid

- **Server Virtualization**
  - Partitioning / Hypervisors

- **Virtual Memory**

- **Network Virtualization**
  - Virtual LANs (VLANs)
  - Virtual Private Networks (VPNs)

- **Microprocessor Virtualization**
  - Multi / Hyper Threading
  - Hardware assisted virtualization (Intel, AMD)

- **Information Virtualization**
  - Content / Format Virt.
  - Location Virtualization

- **File Virtualization**
  - Distributed File Systems

- **Storage Virtualization**
Growing adoption Sensor & Actuator Solutions Enabling Business Process optimization from new operational insights

**Business Challenges:**

- Compliance with regulations: e.g. FDA mandates for safe & secure drug supply chain
- Supply Chain: end to end inventory visibility
- Asset Tracking: High cost of lost assets
- Asset Monitoring: state & utilization of assets

Networked Devices deliver new data & act upon insights

**Sensors**
- Power meters, SCADA, pressure, volume, RFID readers, Motion detectors...

**Actuators**
- Tag printers, status lights
- Load generation, HVAC & lighting, valves, switches, pumps...

**Controllers**
- HVAC & Lighting controllers, PoS Controllers, SCADA INGs...

Insights enable Business Process optimization and new business capabilities
The evolving Web platform

Web 1.0 was about connecting computers and making technology more efficient for computers.

Web 2.0 is about connecting people, and making technology efficient for people.

Web 2.0 changes the way in which businesses interact with its customers.

Web 2.0:
- Is about communities and social networks
- Builds contextual relationships and facilitates knowledge sharing
- Is about people and the way they collaborate
- It is not a technology, not an industry, not a standard
Many entities have been labeled as WEB 2.0, all with different functionality, utility, and business impact.

<table>
<thead>
<tr>
<th>Social networks</th>
<th>RSS</th>
<th>Open source software</th>
<th>Blogs</th>
<th>Search engines</th>
<th>User review portals</th>
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<tbody>
<tr>
<td>Technology that allows users to leverage personal connections.</td>
<td>An XML standard that lets users collect and read content feeds.</td>
<td>Publicly available software that can be copied or modified without payment.</td>
<td>Online diaries of text, photos, or other media.</td>
<td>Services that find Web content based on user-specified criteria.</td>
<td>Web portals that allow users to search for peer reviews on a product or service.</td>
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<th>Linked In</th>
<th>facebook</th>
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<th>myspace</th>
<th>Friendster</th>
<th>feedburner</th>
<th>bloglines</th>
<th>yahoo</th>
<th>newsgator</th>
<th>pluck</th>
<th>apache software foundation</th>
<th><a href="http://www.apache.org/">http://www.apache.org/</a></th>
<th>openoffice.org</th>
<th>Linux</th>
<th>MySQL</th>
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<th>P2P file sharing</th>
<th>C2C eCommerce</th>
<th>Comparison shopping sites</th>
<th>Podcasts</th>
<th>Wikis/Collaboration software</th>
<th>Tagging</th>
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<tr>
<td>Sharing media flies over a network powered by users who act as both client and server.</td>
<td>Buying and selling among consumers via the Net.</td>
<td>Sites that allow consumers to compare products or services.</td>
<td>Online audio or video that users can download to a device.</td>
<td>Shared publishing software or site that allows users to edit content.</td>
<td>Metadata assigned to items like photos or Web pages to facilitate searching and sharing.</td>
</tr>
</tbody>
</table>

Source: Forrester Research, Inc.
Reshaping of Enterprise Software

Web 2.0 requires & enables an architecture of open services that empowers users to **CREATE, COMBINE & COLLABORATE** around content within a rich user **EXPERIENCE**…

...that will requires additional resiliency to existing enterprise infrastructure through a robust **Services Oriented Architecture**

The Merging of SOA and Web 2.0
eWeek article by Darryl K. Taft, July 15, 2007
World Community Grid

1,097,588 Devices
As of October 18, 2008
World Community Grid – active projects

Nutritious Rice for the World (Launched May 12, 2008)

Help Conquer Cancer (Launched November 6, 2007)

Discovering Dengue Drugs - Together (Launched August 21, 2007)

Human Proteome Folding - Phase 2 (Launched June 23, 2006)

FightAIDS@Home (Launched November 21, 2005)
The Smart SOA™ Widget

Save the date!
May 3-8, 2009
Las Vegas, Nevada – Venetian Resort Hotel & Casino
Colorado Software Summit 2008

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October 20, 2008