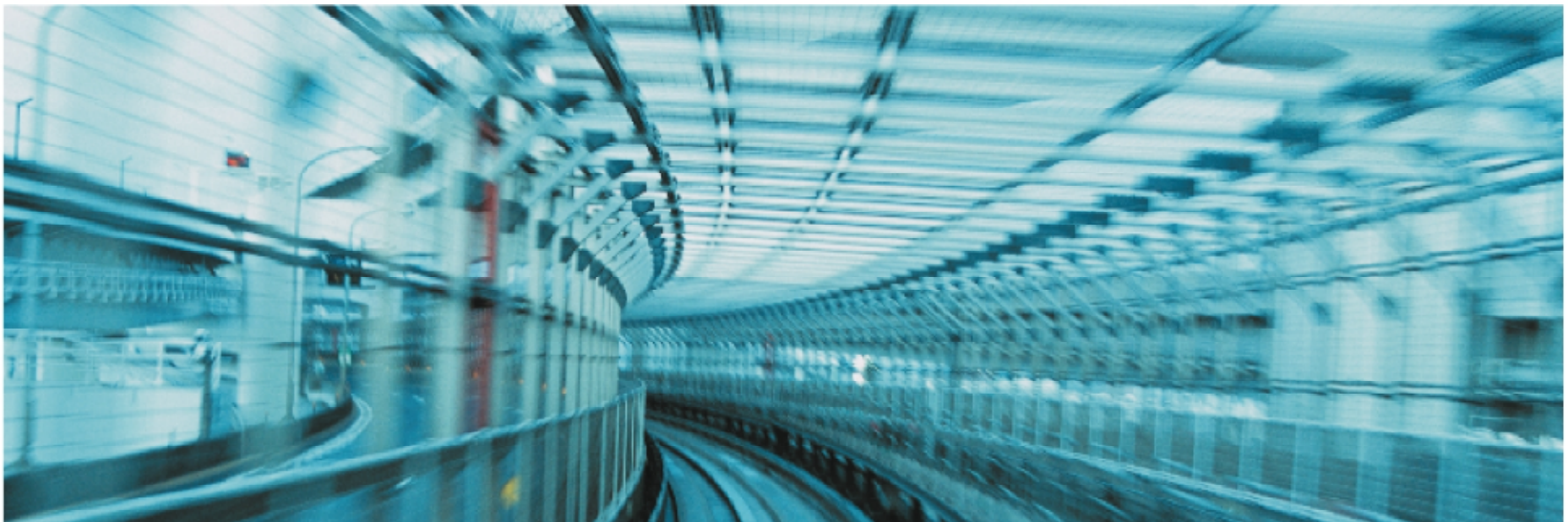


Succeeding in tough economic times with Smart Manufacturing Solutions

Randy Sng



Let's build a smarter planet.



Let's build a smarter planet.



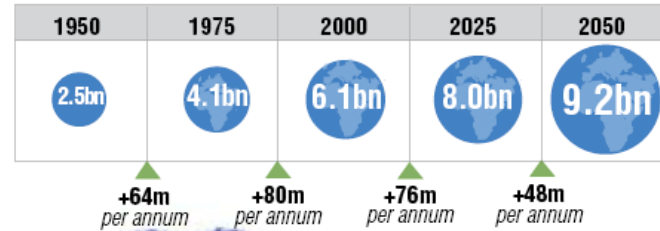
Agenda

- **Change**
 - **Succeeding in the New Economic Environment**
 - **Manufacturing Value Chain**
 - **Smarter Manufacturing Solutions of the Future**
 - **Winning the Manufacturing Race**
-



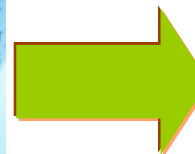
Change

The World's population is growing rapidly, but not evenly.



Source: IBM Institute for Business Value analysis, "The World at Six Billion," United Nations, 2004; The World UN Population Assessment 2006; "Unsustainable World," BBC, April 15, 2008.

Emerging economy & BRIC



Globalization



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Current economic environment.....

A different kind of downturn – Traditional responses will not suffice

Long and Difficult

- Unprecedented constraints on access to credit and capital; Unwinding of over-leverage
- Falling demand, increased price sensitivity as consumers and enterprises cut back
- Disruptions in supply chains, partner and customer arrangements

Transformative

- Restructuring of industries: Firms fail, sold off overnight
- New regulatory regimes
- Stress on global inter-dependencies

Typical cost management will NOT be enough

Firms must examine working capital & investment: identifying opportunities to restructure, reduce, and preserve capital as well as streamline operations



Change led us to believe.....

Our world has become.....

Smaller & Flatter

- Pervasive connections and communications
- Emerging markets
- Open trade

Riskier

- Systems-level complexity
- Viral spread of information
- Widening gap between information available, and information effectively managed.

Smarter

- Instrumented
- Interconnected
- Intelligent

... And tomorrow's leaders will capitalize on the new opportunities created



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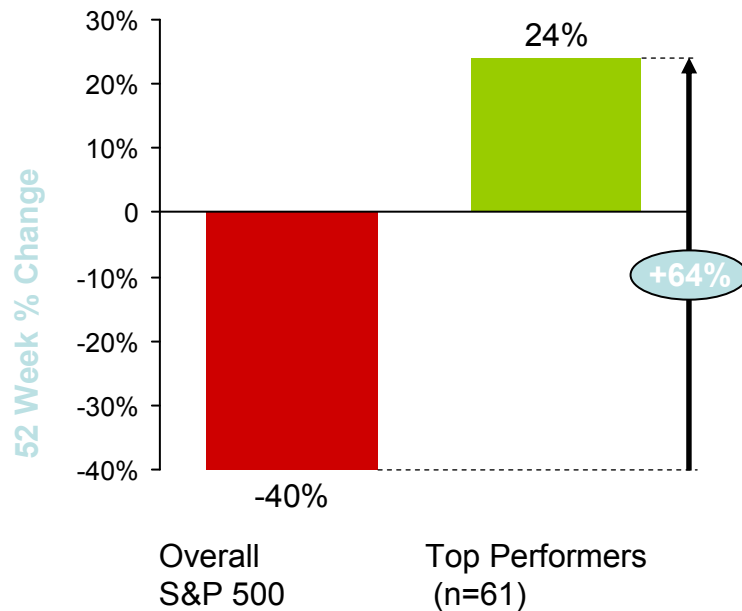


Lessons from top performers..... An analysis of early winners points to strategies for SUCCESS

•Top performers during 2008...

•Exhibited three strategies

Average Stock Price Change
2008



1. Focus on Value

2. Exploit Opportunities

3. Act Quickly

Criteria for Top Performers:

- Market Cap >\$1.4B
- 52 week stock price change >5.0%



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Lessons from top performers..... Companies need to do three things:

Succeeding in the New Economic Environment

1. Focus on Value 49% of Top Performers

- Do more with less**
 - Cut costs strategically
 - Conserve working capital
 - Protect cash reserves
 - Increase flexibility, responsiveness
- Focus on the core**
 - Create value for clients
 - Reduce non-core costs
 - Shift from fixed to variable costs
- Understand your customers**
 - Target value-oriented customers
 - Reduce complexity

2. Exploit Opportunities 39% of Top Performers

- Capture share**
 - Disrupt weak competitors
 - Focus on growth markets
 - Acquire bargain-priced assets
- Build future capabilities**
 - Protect and acquire critical talent
 - Establish corporate infrastructure for growth
 - Invest in innovation
- Change your industry**
 - Understand the downturn will reshape your industry
 - Profit from business model innovation
 - Explore new revenue models
 - Cultivate strategic partners

3. Act with Speed 12% of Top Performers

- Manage change**
 - Overcome the "change gap"
- Empower leaders**
 - Establish strong, aligning leadership
 - Communicate strategy clearly and often
- Risk & Transparency**
 - Reduce risk and increase transparency

Manufacturing Value Chain

Suppliers & Manufacturers

Customers & Channels

PLAN

Design – NPI

- R&D
- Lab Testing
- Packaging
- Recipe Management
- Health & Safety
- Compliance & Environment

Source

- Strategic Sourcing
- Suppliers Development
- Supply Planning
- Receiving
- Inventory Management

Make

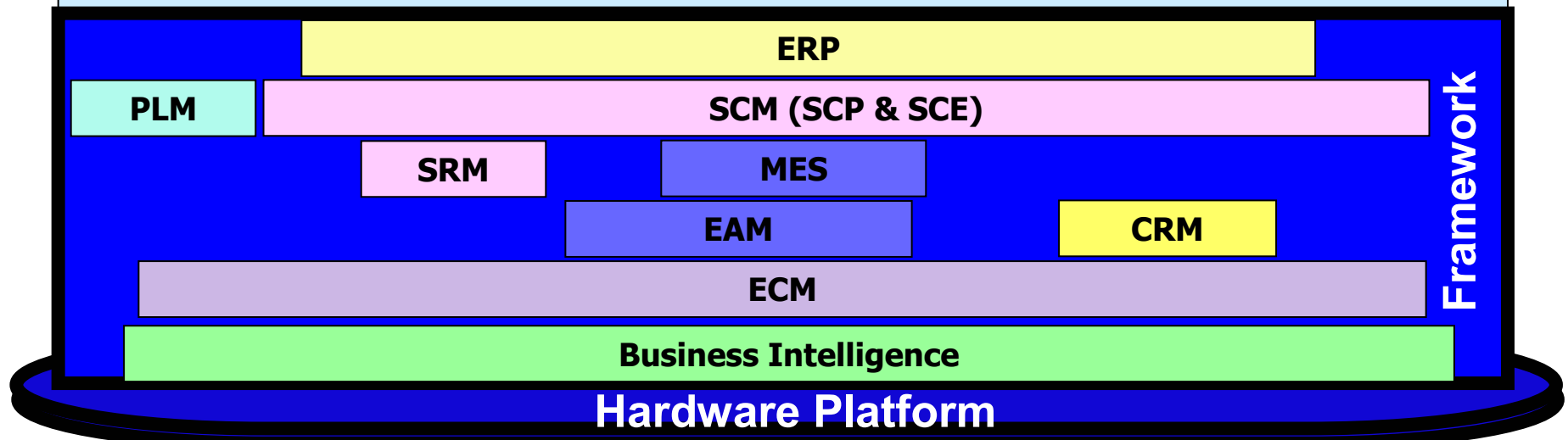
- Production Planning & Scheduling
- Equipment Efficiency
- Work-in-Process
- Inventory Management
- Costing

Deliver

- Demand Planning
- Sales Orders
- Delivery Plan
- Pricing
- Logistics
- Supply Chain Execution

Return - EOL

- Reverse Logistics
- Damaged products
- Quality & Services
- Disposal





SMART Manufacturing Solutions of the Future. It will be Instrumented, Interconnected & Intelligent



Instrumented

Automated Transactions & Smart Devices

- Use of sensors, actuators, RFID, & smart devices to automate transactions: inventory location, shelf-level replenishment detection, transportation locations & bottlenecks
- Supports real-time data collection & transparency from POS to manufacturing to raw material
- Sense-and-respond demand/supply signals allow “predict and act”



Interconnected

Optimized Flows

- ERP to SCM to PLM to MES... system integration across the network. Standardized data and processes.
- Collaborative decision making through decision support and business intelligence – starting with the customer
- C-Suite risk management programs for integrated financial controls with operational performance – monitored and measured



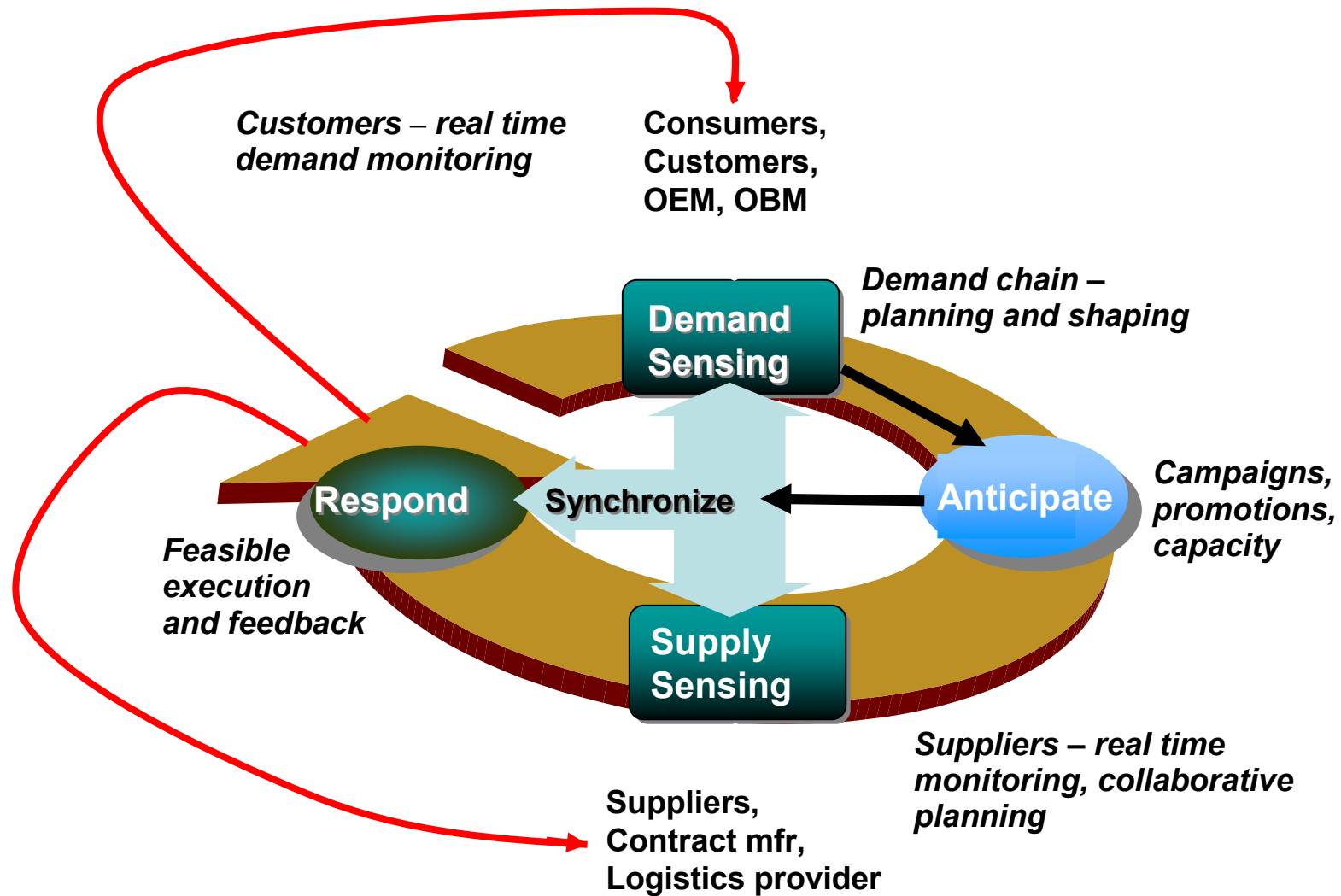
Intelligent


Networked Planning, Execution & Decision Analysis

- Simulation models to evaluate trade-offs of cost, time, quality, service and carbon and other criteria
- Probability-based risk assessment & predictive analysis
- Networked planning/execution with optimized forecasts & decision support



Smarter Business Model – sense and response



 Let's build a smarter planet.



IBM

Know your business.....

.....win the manufacturing race





Waiting is not an option.....



Decision leads to action.....



Let's build a smarter planet.



Thank You

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