



# Elevating and Integrating the Dimensions of Triple Bottom Line into the Strategic Management System

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# Agenda

- Society's Evolving Expectations
  - Leadership being sought across sectors
  - Economic, Ecological and Social dimensions (TBL measures)
- Current Concepts
  - Maturity stages, commensuration, etc.
  - Time Horizons: Is current “long-term” long enough?
- Enhanced Strategy Process
  - Strategy Development and Deployment - Flows/Blueprints
  - Strategy System “Breadth” & Integration
  - Enhanced Strategy Maturity Model
- Examples
  - Connecting actual organizational actions to concepts
- Discussion
  - Issues, e.g. testing “climate change” through the model

# Evolving Global Sentiment

- Changing global ice condition -> sea levels
- Fossil fuel *efficiency* declining in places
- Experts expressing urgency
  - Hansen of NASA – “unprecedented” terms in IPCC
  - Wigley of N-CAR (scenarios: “we need a miracle”)
  - University institutes (Stanford, Princeton, ASU)
- Students concerned with future damage/cost
- Others??

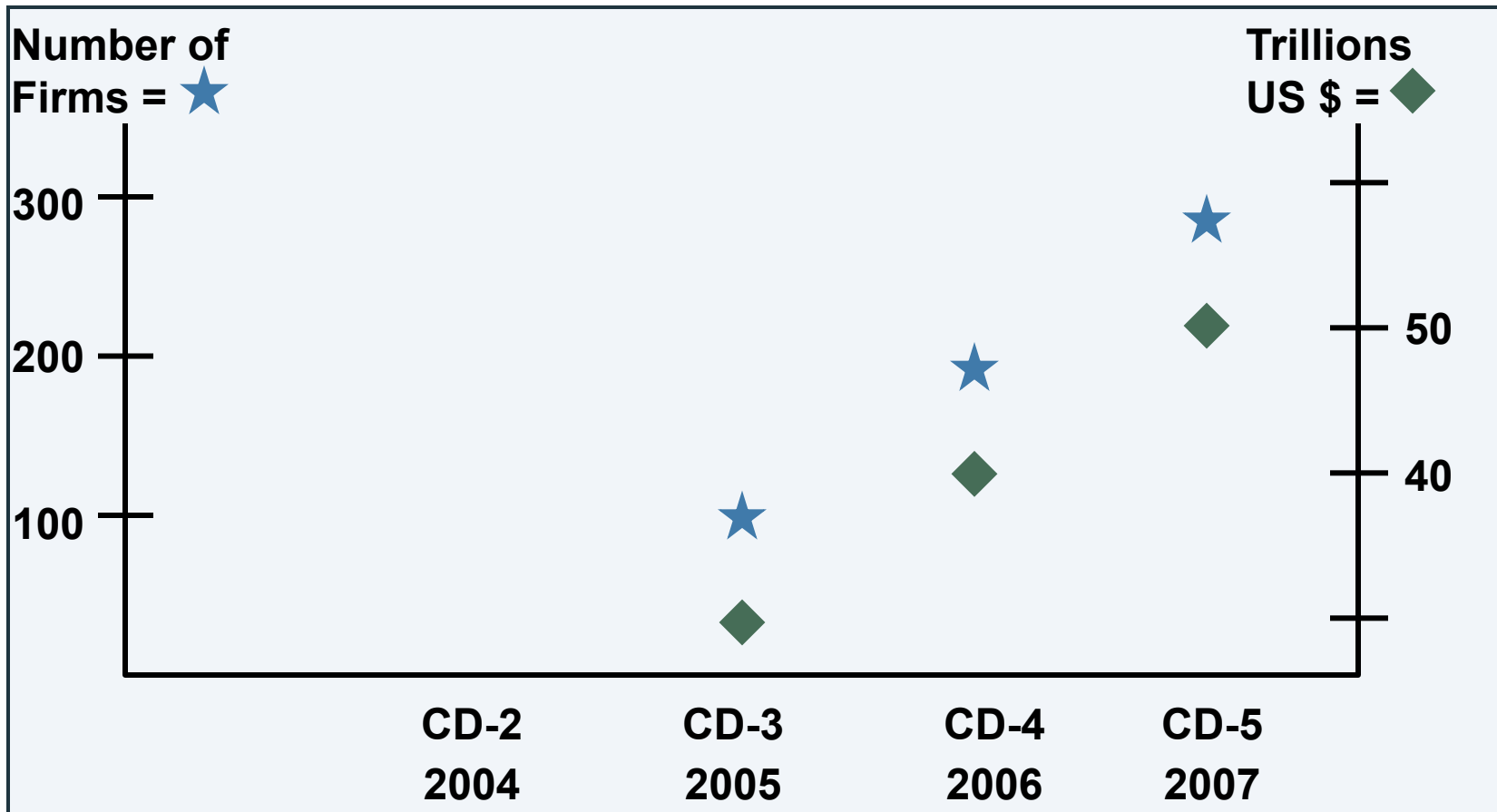
## What urgency now?

- “Market failures” increasingly obvious
  - “tragedy of the commons” in atmosphere, etc.
  - Transparency & accountability often missing
- Climate change knowledge is improving
  - Glacier monitoring, air currents, ocean temps
  - Regional “carbon markets” developing in USA
- “Third party data” being distributed
  - [www.CDProject.net](http://www.CDProject.net) ; [www.CARMA.org](http://www.CARMA.org)
- Stakeholders concerned with “contingencies”
  - EU, Japan moving quickly; US elections → MNCs

## Society's Evolving Expectations

- MBNQA & “performance excellence” in 2008
  - Rapidly evolving criteria – EU, USA, Asia
- Developments recently
  - Climate change & carbon emissions trends
  - Analytical efforts (Innovest, PwC, KPMG, banks, TATA, TruEVA, etc.) – technical to \$\$ data
  - AASHE & Practice GreenHealth -- expanding
- Performance Excellence – now means what?

## Investors' Support of the "Carbon Disclosure (CD) Project:" Firms & \$\$s Over Time



Source: [www.cdproject.net](http://www.cdproject.net)

# Options for Positive Actions

Examples of big “wedges” of opportunity\*

- Energy efficiency
- Sequestration in many forms
- Renewable sources to scale-up
- Conservation tillage in agriculture
- What major new innovations??
- ”Choose 7 or more of 15” as a start

\*Source: Socolow & Pacala, Princeton Univ.

## CARMA -- example

- Carbon Monitoring for Action (CARMA)
- Identifies CO2 emissions by:
  - Country, company & power plant
- Encourages political action globally
  - China, US, *et al* creating big L-T problems
- Visibility – encourages replacing dirtiest plants
  - Duke Energy, China's government
- Other??



## Challenges familiar to BAR

- Definitions – “Quality” to “Sustainability”
- “System” boundaries
  - Industrial ecology – eco-linkages among firms
- Standardization of Measures / Concepts
  - Technical; Financial; Cognitive
  - Many errors persist in data
- Disclosures – levels of detail vs. confidential strategy information
- Others?

## Carbon Emissions Analyses

- Innovest -- analysts for Carbon Disclosure Project (CDP)
  - Offices in several cities
  - Carbon Beta Analytics™ -- use GRI's G-3 standards
  - Scope of analyses vary (per Pierre Trevet)
    - Directly generated CO2
    - Emissions attributed to electricity (fossil-based) used
    - All inclusive – “cradle to cradle”
  - Application or breadth of CDP
    - Gathering data on 2300 firms globally
    - Doing some analyses since 1995
  - Criteria for Carbon Beta™ rating of organizations
    - Carbon management strategy
    - Carbon risk exposure
    - Carbon profit opportunities
    - Improvement/deterioration trend in “carbon equivalents”
  - WACCRT (Weighted average country carbon reduction target)

## “Commensuration” issues

- Measuring data conversions for comparability
- Commensuration dimensions\*
  - Technical (measures converted mathematically)
  - Value in \$\$
  - Cognitive (common or shared understanding of what these measures mean and what we are trying to do)
    - Shared understanding of organizational boundaries
    - Are non-CO2 greenhouse gases (GHGs) included?

\*Source: [J.M.Pinkse@uva.nl](mailto:J.M.Pinkse@uva.nl) , 2008

# Data Fallibility

- Data fallibility
    - Improper conversions of data
    - Lack of comparability across reporting periods
  - Examples
    - British Telecom    -- ABB
    - Ford                    -- Diahatsu
- “Is it better to be approximately correct or precisely wrong?”
- Source: [F.Figge@qub.ac.uk](mailto:F.Figge@qub.ac.uk) 2008

## “Industrial Ecology” \*

- System boundaries – often ambiguous
- Boundaries may vary by stakeholder
  - *Investors* focus on firms
  - *Citizens* focus on “the industrial village”
- Other issues or examples
  - National Industrial Symbiosis Program (UK)
  - Greeley’s plans for TIF district

\*Source: Dr. Volker Hoffmann – Germany , 2008

Collaboration example\*  
(Los Angeles port, city, etc.)

- U. So.Cal. Center for Sustainable Cities
- Formula:
  - Population x Affluence x Technology x  
“Consciousness” = Sustainability
  - NATURAL STEP “framework”
- System dynamic scenarios looking at the interdependence issues (wind direction, etc.)
- 25% of particulate from Asia, etc.

Source: H. Bradbury, 2008

## Sustainability Performance: Example of Automobile Industry\*

- Carbon “footprint” during *production* and delivery
- Carbon “footprint” during *operating* years
- Matrix for automobile brands
  - BMW – good in both “carbon categories”
  - General Motors – weak in both categories

\*Source: Frank Figge, Queens Univ., Belfast & T. Hahn AoM #1203, 2008

# Climate Change Responses

- Organization resilience to extreme weather events
- Flow chart – levels of attention
  - Ignore
  - Avoid
  - Adjust
  - Influence

Source: M.K.Linnenluecke, et al 2008



## Stages of the “Sustainability Journey”

- “Pyramid” of development/”maturity” stages
  - Sustainable Enterprise (at the top)
  - Collaboration & Integration
  - “Traction” with implemented projects
  - Foundational concepts – start of organizational learning
- Causal model of performance effects

Source: K. Fairfield, et al -- 2008

## Sustainability's Implications for Financial Analysis\*

- Sustainability reporting evolving
- NFP sector – faster than private sector
- Analyses influence students' career choices
- Other??

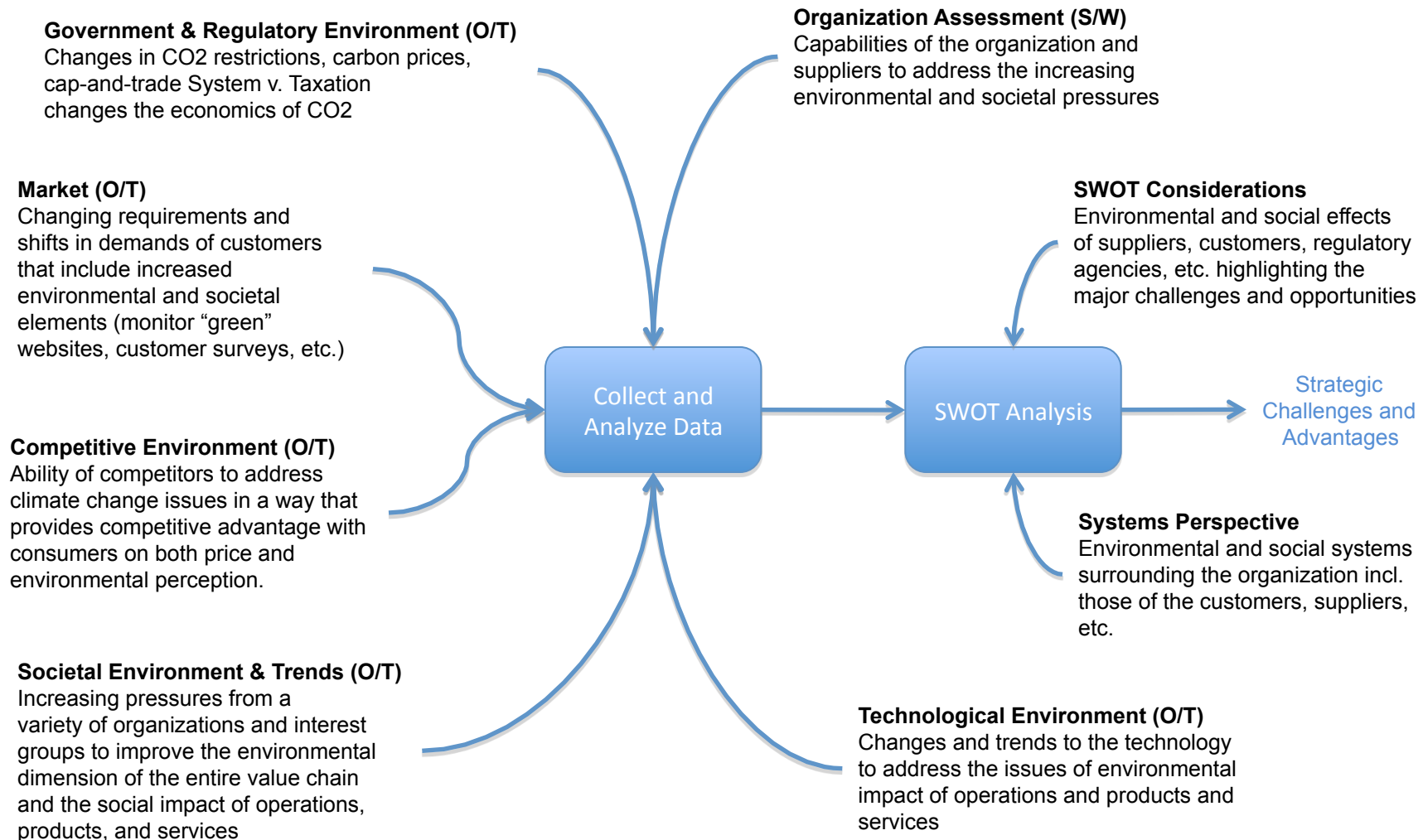
\*Source: Werner, Wankel & Stoner, 2008

## MBNQA & Other Examples

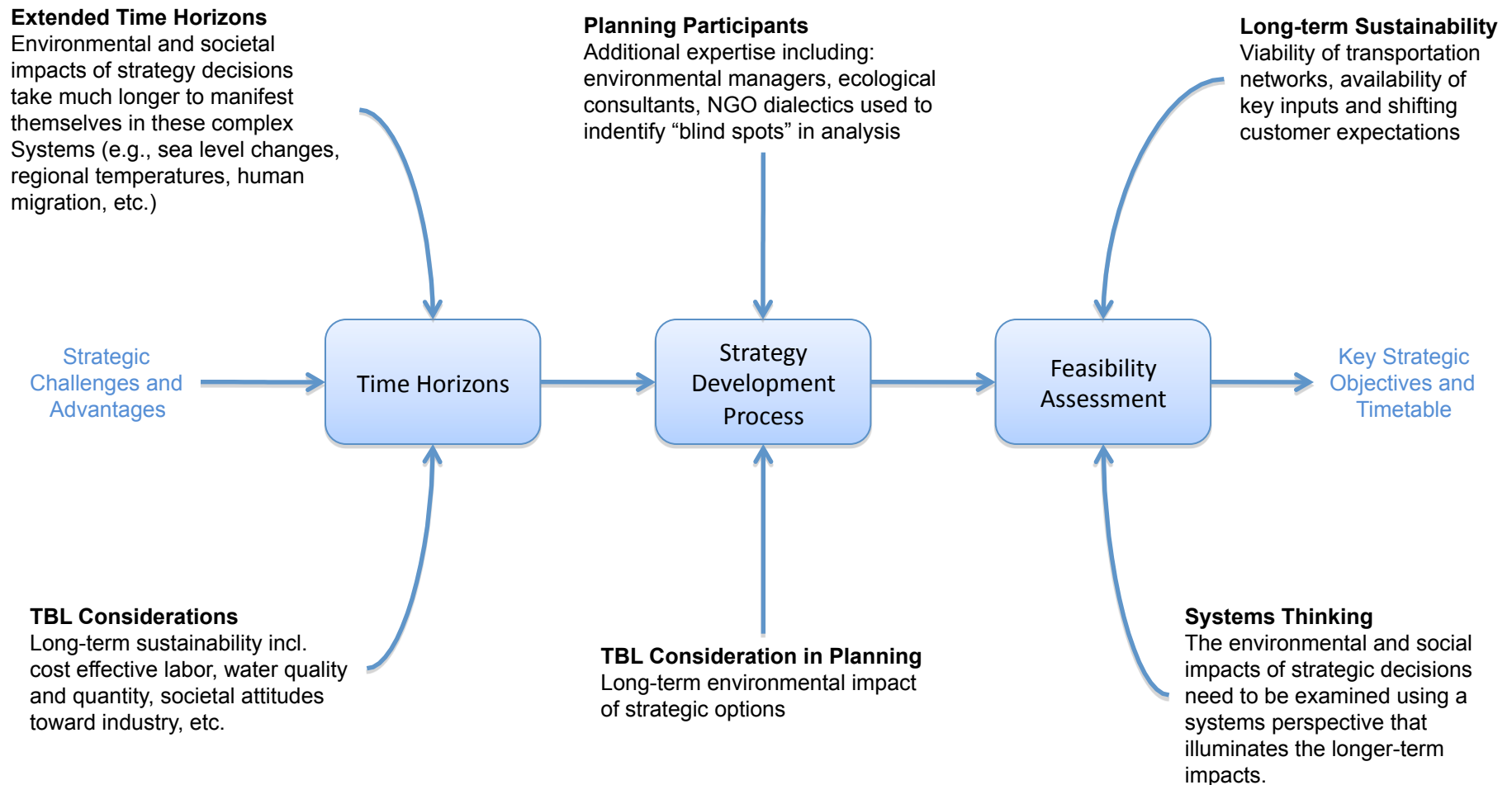
- ST Microelectronics
  - Reports have matured over last decade
- CAT
  - Advisory Board from diverse organizations
- Education
  - AASHE, NWF, *et al*
- Healthcare
  - H2E & Legacy Health System (Oregon)

# Strategy Development

## *Environmental Scan and Analysis Phase*



# Strategy Development *Planning Phase*



# Strategic Objectives and Timeline

## Strategic Challenges and Advantages

There are direct and indirect connections to the analysis, SWOT, and strategic challenges and advantages identified in the environmental scan and analysis phase

## Balance Short- and Long-term

Constantly seek to inform investors of the general trade-offs we are making between short-term “expenses” and longer-term “investments” in future sustainability

**Key Strategic Objectives and Timetable**  
Including objectives that address environmental and social issues directly and indirectly such as reducing carbon footprint; neutralizing “societal costs” of the company ahead of regulation

## Opportunities for Innovation

Guide our search for new technologies that are chemically complementary to our current and planned operations.

Seek telecommuting, on-site medical clinics, etc. which will make our organization more attractive to future employees/associates

## Balance for ALL Key Stakeholders

Stakeholder objectives matrix is updated at least yearly and more often if major environmental shifts occur so the needs of all stakeholders can be systematically balanced over time.

Stakeholders include: customers, employees, investors, suppliers and partners, and communities we operate in and society in general (current and future generations)

# Strategy Deployment

## Action Planning, Implementation, and Results

### Educate and Enable

Ongoing educational programs with staff, customers, suppliers, and regulators to ensure they are all aware of our general assessments of the threats and opportunities facing our organization as a result of shifting technical and social understanding.

### Resource Allocation

Capital markets and other key sourcing systems monitored for vulnerabilities.

Cost/benefit criteria are used to allocate resources to benefit all stakeholders.

### Project Management

Measures for GHGs, societal effects of our organization, etc. are linked to corresponding measures in our “scorecard” some \$\$\$ and some technical (e.g., metric tons of carbon/year).

Matrix of “stakeholders x scorecard” Enables analysis of evaluation of Adequate coverage.

### TBL Projections

Projections include TBL Measures such as Global Reporting Initiative, Carbon Disclosure Project and others.

Key Strategic Objectives and Timetable



### TBL Considerations

Action plans include elements of TBL including: ecosystem costs and benefits and changing impacts on the human and other living systems surrounding the organization.

Monitor the availability and cost forecasts for key materials and personnel and develop contingency plans for unusually sharp changes in key variables e.g., fossil fuels supply interruptions or government rationing.

### Risk Assessment

Expected volatility of Capital markets are Frequently updated and new technical systems are fully tested and insured.

Forecast key financial and human resource needs to develop contingency plans.

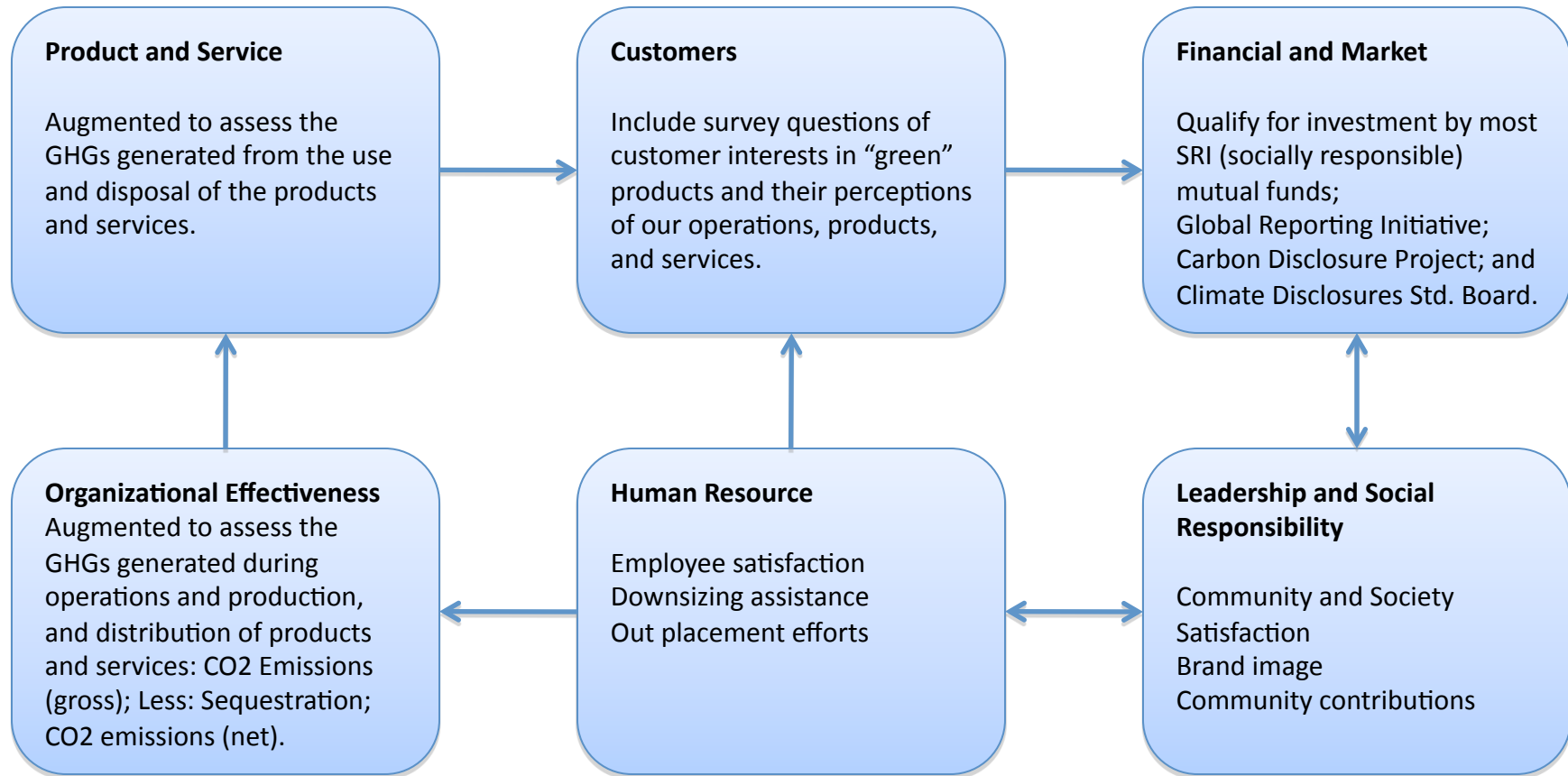
### Crisis Management

Identify key personnel and outside experts that can assist in cases of low probability emergencies, including rapid sea-level changes, political unrest, etc.

### Comparisons

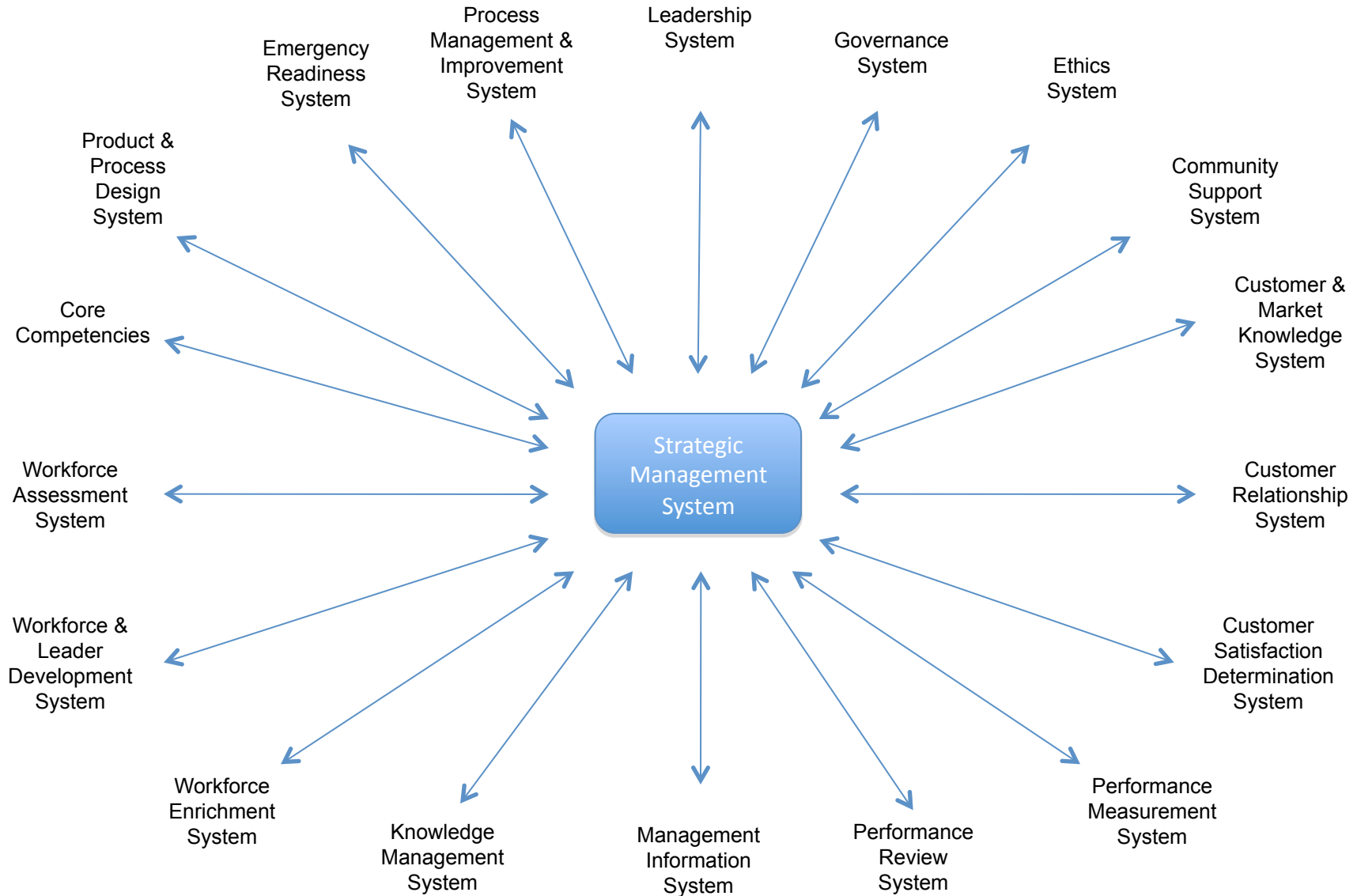
Performance is compared with both government “targets” as well as guidelines proposed by thought leaders in various sectors so we can be viewed as positive role models in our industry(ies).

# Integrating TBL into the Comprehensive Strategic Scorecard





# System Integration and Leverage



## ST Microelectronics -- example

- Non-financial reporting has evolved
- Status at present
  - Six major Key Performance Indicator (KPI) categories, e.g.:
    - Electricity, water, CO2, etc. per unit of production
  - KPIs verified by Bureau Veritas Certif. France
- Overall (multi-factor) performance trends
  - Measures against 2004 base data

## Caterpillar -- example

- Sustainability Reports
  - Six languages on website
  - Many criteria – Products to CO2 emissions
- Advisory Board
  - 18 outsiders – among national “thought leaders”
- Goals to 2020 by CEO

## Professional Services Expanding

- Innovest – financial estimates of actions
  - Banks adding “sustainability” staff
- Project analysts & auditors
  - PwC, KPMG, Deloitte & Touche, et al
- Engineering services
- Others??

## Discussion Questions

- Consider preparing “test applications” using “climate change” scenarios?
  - What effects from 2 ft sea-level rise in 1 yr.?
  - What effects of “China boycott” from dirty air?
  - Oil price change effects from politics?
    - \$200.-/bbl *increase* in 90 days (ala Simmons)?
- How quickly can we expect societal interest in various sectors of the economy?
  - By carbon intensity? By size of organization?

# Strategic Management System Maturity Model

	Strategy Development	Strategic Goals and Timeline	Strategy Deployment	Tracking and Performance Projections
Advanced SMS				
Intermediate SMS				
Beginning SMS				

## Next Steps

- What might “future leadership” toward “performance excellence” require of BAR members?
- What connections with SEC, GAO, EPA ?
- What collaboration, if any, with Climate Disclosure Standards Board or others?
- Discussion of future research, case studies, or even action research projects

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