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Sustainability and the Capital Markets: The Global Challenge for Human Resources Management

CHRMS and ISE
Fairleigh Dickinson University
February 17, 2006

Bruce M. Kahn, Ph.D.
212-230-3588
fa.smithbarney.com/bkahn
Crossing the river...

- Sustainability as a social movement
- Review of SRI Trends
- Sustainability Investment Consulting
"The Brundtland Report"

- Sustainability is about conserving the planet’s resources for future generations, while ensuring a healthy society and economic growth today and into the future.

- "Meeting the needs of the present without compromising the ability of future generations to meet their needs".

- The objective of sustainability is quality of life for both current and future generations worldwide.

--- 1987 The World Commission on Environment and Development
Ecological Modernization Theory  
(Mol: 2000, 1997)

- Science and technology are sources of technical solutions.

- Market forces are "social carriers of ecological restructuring, innovation and reform."

- Government becomes decentralized, flexible and consensual in problem-solving.

- Environmental groups cooperate with government and market actors to achieve environmental improvements.

- There are society-wide shifts in discourses characterized by concern for environmental issues.
Figure 1. Schematic of an economic activity model in which feedback from the public’s perception of community well-being and their expression of societal preference promotes recovery of natural capital and ecosystem services. (Adapted from Elkins 1992 and Costanza et al. 1997).
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**Note:** This image contains a financial trading screen with various stock quotes, changes, and other financial data. It is not a question or a natural text document. Therefore, it cannot be converted into plain text.
Corporate Sustainability Reporting Flowchart

Share Price

Mutual Fund Managers

Individual Investors

Pension Fund Managers

CSR Research and Rating/Ranking

Sustainability Report

Corporate Departments
Compliance, Marketing, Finance, Env. Health & Safety
Roots: Why does SRI exist at all?

1. Mechanism for investors with moral preferences
   - growth to come

2. Wider self-regulation process / pressure campaign
   - job is nearly done

3. Thematic investment strategy
   - high oil price leads to renewed interest in environmental technologies

4. Outperformance strategy based on the thesis that environmental and social systems are lead indicators of share price performance
   - progress made but work to do

5. Investment community’s response to sustainable development
   - this is just the start...
Present: 7 SRI strategies

1 Ethical / negative screening
   - Avoiding companies that undertake ‘unethical’ activities

1 Positive / best in class screening
   - Investing in companies that lead their peer groups on sustainability

1 Constructive engagement
   - Encouraging management to improve sustainability performance

1 Shareholder activism
   - A confrontational form of engagement – where investors use their shareholding
euro to launch public campaigns against specific corporate practices

1 Sustainability theme investing
   - Thematic investing style based on identifying sustainability trends

1 Integrated analysis
   - Analysis of environmental and social issues contributes to financial analysis by
   identifying additional sources of risk and opportunity

1 Sustainable finance
   - Specialist sustainability research capability enables capital to be allocated to
   companies and projects that lead directly to sustainable development
Companies in context

Ethical context

- Environmental responsibility
  - Viable
  - Liveable
  - Sustainable development
  - Equitable

Economic responsibility

Social responsibility

Delivery of shareholder value
**Charitable giving**

**Demand growth for commodities**

**Black Economic Empowerment**

**Royalties**

**Supply constraints**

**Infrastrucure and logistics costs**

**Environmental/social issues**

- **Carbon constraints and commodity prices**
- **Env/social aspects of regulatory permissioning**
- **HIV/AIDS**
- **Charitable giving**

---

Source: Citigroup
Economic performance

...has been confused with financial performance

...but they are distinct
- Economic performance: contribution to the economy via employment, international competitiveness, local economic contribution etc
- Financial performance: return to shareholders via dividends, growth etc

...and form a key point of influence
- eg economic contribution underpins the aviation sector's argument to government over climate change
## Environmental performance

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<th>Resource efficiency</th>
<th>Pollution / waste prevention</th>
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<td>Supply chain</td>
<td>e.g. local sourcing of product reduces energy consumption in transport</td>
<td>e.g. organic farming reduces nitrification (caused by artificial fertiliser load)</td>
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<tr>
<td>Production processes</td>
<td>e.g. closed loop recycling processes to reduce raw material consumption within factories (e.g. reusing water, using waste offcuts etc.)</td>
<td>e.g. reducing SO₂ and NOₓ from electricity generation</td>
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<tr>
<td>Product output</td>
<td>e.g. lightweight beverage cans use less metal</td>
<td>e.g. installing autocatalysts in cars to reduce emissions through the car’s lifecycle</td>
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<tr>
<td>Product disposal</td>
<td>e.g. recycling of materials (paper, metals, plastics etc.) reduces overall resource consumption</td>
<td>e.g. removing heavy metals from products (e.g. batteries, electronic equipment) reduces their end-of-life impacts</td>
</tr>
</tbody>
</table>

Source: Smith Barney
Social performance: stakeholder model

Is XYZ plc managing each relationship for the long term as well as for the short term?

- Employees
- Local communities
- Suppliers
- Civil society (media, NGOs etc)
- Regulators
- Customers
Social Responsible Investing in the United States • $2.3 trillion in 2005

- Community Investing: 1%
- Screening and Shareholder: 5%
- Shareholder Advocacy Only: 26%
- Social Screening Only: 68%

SOURCE: Social Investment Forum Foundation
FIGURE 1.2


SOURCE: Social Investment Forum Foundation
NOTE: Social screening includes mutual funds and separate accounts.
FIGURE 2.1
Socially Screened Mutual Funds
1995-2005

SOURCE: Social Investment Forum Foundation
Figure 2.5
Mutual Fund Assets by Screen Types

- Tobacco
- Alcohol
- Gambling
- Defense/Weapons
- Community Relations
- Environment
- Labor
- Products/Services
- Faith-Based
- Pornography
- Human Rights
- Animal Testing
- Other

Total Net Assets ($Billions)

Source: Social Investment Forum Foundation
# Performance

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<td>Neuberger Berman Socially Responsive Fund</td>
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<td>SP 500</td>
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Source: Social Funds.com
BWC FORTUNE 500 companies comprise a group of 45
$1000 invested in June 2001 would have become $1341 by end of April 2004
$1000 invested in the S&P 500 would have become $909 by end of April 2004
The BWC portfolio significantly outperformed the S&P index for this three-year period.
Sustainability Research

• Sustainable Asset Management (SAM) and the Dow Jones Sustainability Index.

• Innovest Strategic Value Advisors.

• IC Value: Science Based Conservation Investment.
DJSI – Sustainability Trends

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<td>Scarcity of Natural Resources</td>
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<td>Loss of bio-diversity</td>
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<td>Shorter Product life-cycles</td>
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<td>Speed &amp; Flexibility</td>
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<td>Life-long learning</td>
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<td>Intellectual capital</td>
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<td>Virtual living and working</td>
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DJSI – Criteria
Average Scores for DJSI members and non-members in Assessment 2004 examples
• DJSI World – USD Performance and Risk (I)
December 1993 - November 2005, USD, Total Return Index

DJSI World (in USD) • MSCI World (in USD)
The “Iceberg” balance sheet

Intangible Capital 70%
- Sustainable Governance
  - Strategy
  - Capability/Adaptability
  - Traditional governance practices
- Eco-Value
  - Quality of environmental management
  - Environmental risks & Eco-efficiency
  - Strategic profit opportunities
- Human Capital
  - Recruitment retention strategies
  - Employee motivation
  - Labor relations
  - Innovation capacity
  - Knowledge Development & Dissemination
  - Health & Safety
  - Progressive workplace practices
- Stakeholder Capital
  - Regulators & Policymakers
  - Local communities
  - NGOs
  - Customer relationships
  - Alliance partners
  - Supply chain
  - Social benefits of products & services

Financial Capital 30%
EcoVALUE '21 analyzes over 60 key variables using over 20 data sources:

**Historical Contingent Liabilities:**
- Superfund
- State and hazardous waste sites
- RCRA
- Toxic torts

**Operating Risk Exposure:**
- Toxic emissions
- Product risk liabilities
- Hazardous waste disposal
- Waste discharges
- Supply chain management risk

**Eco-Efficiency and Sustainability Risk:**
- Energy intensity and efficiency
- Raw materials & natural efficiency and intensity
- Product life-cycle durability and recyclability
- Exposure to shifts in consumer values

**Managerial Risk Efficiency Capacity**
- Strategic corporate governance capability
- Environmental management systems strength
- Environmental audit/accounting capacity
- Supply chain management
- Training capacity and intensity
- Generic environmental management protocols
- Industry-specific protocols

**Strategic Profit Opportunities**
- Ability to profit from environmentally-driven industry and market trends

Figure B1: Schematic of Major EcoValue’21® Analysis Factors.

*Source: Innovest*
How Can These Factors Add Value?

Superior Earnings Growth and Share Price Performance

Differentiation and Competitive Advantage

Environmental, Social, and Governance Performance

Stakeholder Relations
Cost / Liability Reduction
Human Capital – Recruitment and Retention

Market Share Growth
Brand Value
Innovation Capacity
Time to Market Reduction
Innovest Rating Model

Analyst assesses company against 100+ factors by assigning a score of 0 – 10 (10 = best in class)

Model computes all scores to generate a normalized figure for the company

A rating from AAA to CCC is assigned to company based on total

Example: Pharmaceutical Sector

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Note: Figures in table above are indicative and not actual.
EcoValue’21 correlation to share price performance

Automotive sector – EcoValue’21

50% outperformance - 7 years (12-96 to 06-05)
Information for Science-Based “Dual Return” Conservation Investments

An Overview of ICValue’s Vision, Methods and Environmental Performance Outcomes
10 major ecosystem functions that provide services
(Loucks 2004)

1) Hydrologic functioning
2) Primary production and biomass accumulation
3) Animal populations and secondary production
4) Biological diversity maintenance
5) Decomposition
6) Soil and sediment building
7) Nutrient and toxic residuals capture and cycling
8) Insect/disease regulation
9) Vegetation succession and disturbance
10) Air and climate self-regulation
36 associated services
(terrestrial and aquatic)
(Loucks 2004)

1) Water supply, groundwater flow, flood mitigation, transportation, hydro-electricity, lake recreation, water quality

2) Energy capture, agriculture, timber, food-chain support, carbon storage

3) Energy flow for fish, wild game, songbirds, other wildlife

4) Species diversity, pollination, aesthetics, food-chain support, medicines, pest control

5) Soil renewal, benthic food-chain

6) Carbon storage, nutrient storage, soil-moisture storage

7) Waste assimilation, groundwater quality, renewal of soil fertility

8) Pest control, biodiversity support, food-chain support

9) Habitat diversity, seed-bank diversity, aesthetics, real-estate value

10) Air purification, moderation of weather extremes, visibility, human health
Environmental performance mean scores (EPMS) by metric cluster for Tier 1 companies compared with Tier 3 and the Low Score Companies
Environmental performance mean scores (EPMS) by metric cluster for all Tier 1 companies compared with all Low Score Companies

**Top performance companies create environmental value**
Environmental Performance Mean Scores (EPMS) of contrasting companies

Some companies degrade environmental value

Agriculture Co. A
3 Yr Total Return: 17.40%

Agriculture Co. B
3 Yr Total Return: 42.10%
Environmental Performance Mean Scores (EPMS) of contrasting companies

Some companies generate dual returns

Bank Co. A
3 Yr Total Return: 71.80%

Bank Co. B
3 Yr Total Return: 64.20%
ICValue Top, 2nd & 3rd Tier Financial Performance

Top Three Tiers % Change in Stock Value vs. S&P % Change

One Year

ICValue Top 3 Tiers: 9.85 (N = 40)
S&P: 8.99

Three Year

ICValue Top 3 Tiers: 27.56 (N = 40)
S&P: 5.56
Valuing Ecosystem Services (Commerce, CV, Deep ecology)

- Avoided Cost
- Replacement Cost
- Factor Income
- Travel Cost
- Hedonic Pricing
- Contingent Valuation
Valuation Context

**Resource Characteristics**
Size, location, substrate, species, seasonal variations, contaminants

**Goods**
Harvests of crops, fish, timber; water supply; recreation

**Services**
Flood control, groundwater recharge, nutrient removal, toxics retention, biodiversity maintenance [headspace]

**Direct Use Values**
*Valuation Techniques:*
Market analysis; productivity loss; hedonic pricing; travel costs; replacement costs; contingent valuation

**Indirect Use Values**
*Valuation Techniques:*
Damage costs; production functions; hedonic pricing; defensive expenditures; replacement and restoration costs; contingent valuation

**Non-Use Values**
(Existence, bequest, philanthropy)
*Valuation Techniques:*
Contingent valuation

**Use Value**

**Non-Use Value**

**Total Economic Value**

Concept adapted from Turner et al. 2000
Value Transfer Methodology

1. Inventory and characterize targeted goods and services
2. Economic Studies
3. Market Values
4. Value Transfer
5. Apply values to Site
6. Depict and interpret results
GIS Mapping
Successful Investing Requires a Process

1. Set Client Objectives
2. Develop Asset Allocation Strategy
3. Select & Evaluate Managers
4. On-Going Review Process
Understanding Risk and Return

Return vs. Risk (Standard Deviation)

Conservative
Conserv/Moderate
Moderate
Moderate/Aggressive
Aggressive

Current Portfolio

Source: Zephyr
Factors Contributing to Portfolio Volatility

- Asset Allocation: 93.60%
- Market Timing: 2.20%
- Individual Stock and Bond Selection: 2.50%
- Undetermined: 1.70%

Annualized Returns
1985 through 2004

- Equity Mutual Fund Investors = Dalbar Associates estimate
- Long-Term Bonds = Lehman Long Gov. Corp. Index
- Inflation = Consumer Price Index
- T-Bills = 90-Day Treasury Bill

Past performance is not a guarantee of future performance and the performance is not indicative of the performance of any particular investment.

Source: Dalbar Associates & Consulting Group
Common Stock Investment Performance

1946 - 2004

58 1-Year Periods

54 5-Year Periods

49 10-Year Periods

45 Up Periods

50 Up Periods

No Down Periods

Periods of Increasing Value

Periods of Decreasing Value

Source: Ibbotson Associates

Past performance is no guarantee of future results
Resources

- www.nyas.org
  - Eco-Investing E-briefing
- www.socialfunds.com
- www.socialinvest.org
- www.responsibleinvesting.org
- fa.smithbarney.com/bkahn