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2014 Page Prize Submission

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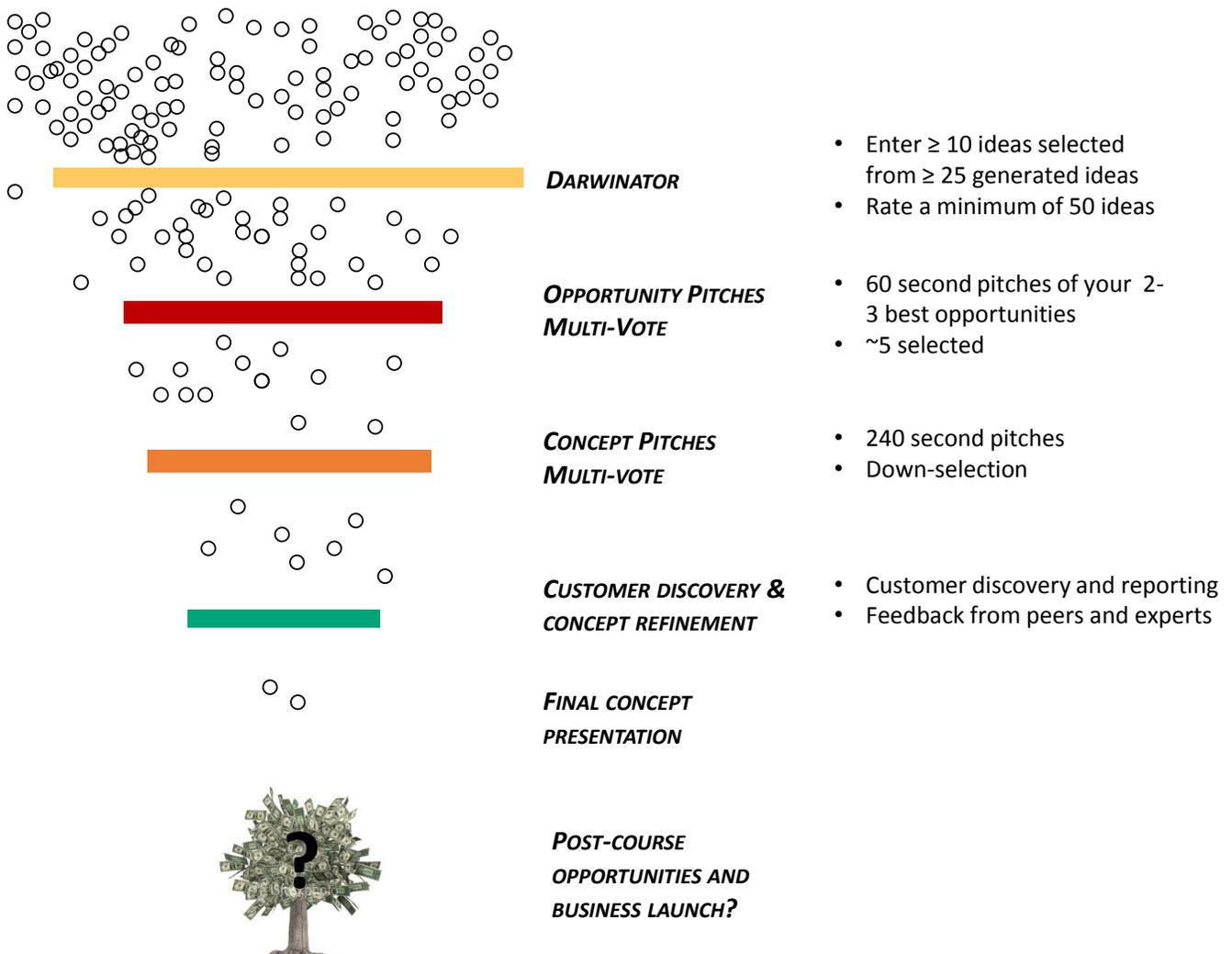
Curricula Vitae

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Focusing on issues that could be categorized as environmental or social sustainability concerns, the course will start with idea tournaments, a process that leverages the wisdom of the crowd for entrepreneurial opportunity generation, selection and refinement. It will continue with the application of basic experimenting/prototyping and business model innovation frameworks, again emphasizing a systematic risk-limiting pathway to realizing entrepreneurial outcomes, with sustainability metrics in mind.

The course is instructor-guided in terms of process and basic tools, but almost entirely student-driven; doing the research, generating the ideas, finding the information and the resources you need at each stage will all be your responsibility. Expect this to be a demanding, but rewarding process. The learning from the process, the research, the feedback and the experience will help you whether you want to capitalize on a business opportunity in your company, or whether you want to strike out on your own one day.

The evolution of the course is depicted below.



Wk	Starts	Topics	Scheduled Readings (NOTE: additional readings as well as guest speakers to be announced as course progresses)	Key Innovation Activities & Assignments
1	Jan 6	<ul style="list-style-type: none"> • Introduction to Course • Global factors driving demand for sustainable innovation • Myths of innovation; tournaments introduction 	Innovation Tournaments ("I.T.") Chapters 1&2	
2	Jan 13	<ul style="list-style-type: none"> • Idea generation • Idea Generation Triggers: products, services 	I.T. Chap. 3; Good Ideas & How to Generate Them (Why Not? Chap. 2)	Generate & upload 5 ideas on T-square
3	Jan 20	<ul style="list-style-type: none"> • Idea Generation Triggers: business model innovations 	Collaborative Economy article & slideshare Top 10 Ways 2013 article <i>Open Innovation at Siemens</i>	Generate & upload >5 ideas on T-square
4	Jan 27	<ul style="list-style-type: none"> • Design Thinking I 	<i>Creating Shared Value</i> <i>Innovation Value Chain</i>	Generate & upload >5 ideas on T-square
5	Feb 3	<ul style="list-style-type: none"> • Design Thinking II 	Biomimicry Ted Talk	Generate & upload >5 ideas on T-square Refine & enter your 5 best ideas in Darwinator Vote for at least 50 ideas in Darwinator
6	Feb 10	<ul style="list-style-type: none"> • Tournament variables • Business concepts • Innovating for developing markets 	I.T. Chap. 4, 9 <i>Making Sustainability Profitable</i>	
7	Feb 17	<ul style="list-style-type: none"> • Opportunity pitches + shopping/voting/feedback 		Make individual opportunity pitches (60 sec) Elimination round
8	Feb 24	<ul style="list-style-type: none"> • Business Model Canvas and Business Model Analysis • PowerPoint secrets: save time and create great presentations 		Initial business model assessment
9	Mar 3	<ul style="list-style-type: none"> • Concept Pitches + Shopping/voting 		Make concept pitches (240 seconds) Elimination round
9	Mar 10	<ul style="list-style-type: none"> • Task Prioritization 		
10	Mar 10	<ul style="list-style-type: none"> • Limiting Venture Risk 		Team feedback rounds
	Mar 17	Spring Break!		
11	Mar 24	<ul style="list-style-type: none"> • Customer discovery and insights 		Executive summary draft
12	Mar 31	<ul style="list-style-type: none"> • Business Model Refinement I 		Customer discovery findings Team feedback rounds
13	Apr 7	<ul style="list-style-type: none"> • Business Model Refinement II 		Innovation Instruction Model assignment
14	Apr 14	<ul style="list-style-type: none"> • Communicating the Business Case • Naming your venture 		Entrepreneurial resources research assignment
15	Apr 21	<ul style="list-style-type: none"> • Final Concept Presentations & Celebration! • Next Steps 	<i>Ten Faces of Innovation</i>	Make business case presentation (in teams of 2-3)

Grading

Your grade will be based on five items, weighted as follows:

- Two individual exercises (see below): 10% each
 - Innovation instruction model, tool, or document
 - Entrepreneurial resources research summary
- Written assignments homework: 10%
- Class participation: 20%
- Innovation Tournament work: 35% (20% instructor evaluation; 20% peer evaluation) – it is the level of effort and quality of feedback to peers that is evaluated; not the ideation content. We will discuss how this will be evaluated during class
- Communications: 15%. This includes all forms of communication – how well you communicate during class participation, the written assignments, and tournament pitches, feedback, and final presentations.

Innovation instruction model, tool, or document: True learning of a subject results in the ability to teach that content yourself. You will create something future students in this or similar classes would find especially instructive about a specific principle, concept, or method related to this course. This should be something that can be stored and reused during this course. Further details and grading guidance will be provided in class.

Entrepreneurial resources research: You will put yourselves in the shoes of a budding entrepreneur, research a selection of resources, assets, and/or opportunities available to such entrepreneurs and document and summarize them. You will be using these as you progress in the course This will provide you an understanding of the needs and resources. I will compile these and share back with the class and also use for future classes. Further details and grading guidance will be provided in class.

Instructions for Idea Generation and Entry Rounds

This the course is instructor-guided in terms of process, basic tools, and certain discussions but also largely student-driven; doing the research, generating the ideas, finding the information and the resources you need at each stage will all be your responsibility. Expect this to be a demanding, but rewarding process. The learning from the process, the research, the feedback and the experience will help you whether you want to capitalize on a business opportunity in your company, or whether you want to strike out on your own one day. Roll your sleeves up and have fun.

1. On four days during weeks 2 – 5 (exact date to be given in class), based on techniques learned in class and your own creativity, generate *at least* five opportunities for a new business that would result in an environmental or social improvement. An opportunity is a novel match between a customer need and a solution to that need. The novelty arises from identifying latent needs, new solutions or superior ways of “delivering” the solution to the need. Because the time frame of the course is limited, I would encourage you to think about business model innovation rather than technology innovation. Some rules of thumb:
 - Try to focus on doing something differently rather than developing a new technology or product.
 - Try to avoid unproven technologies/materials. Any product you want to develop should be simple enough that you can concept and potentially prototype it in a few weeks. You must be able to show or articulate the idea enough to get rich insights from your customer discovery work.
 - Give priority to ideas that require relatively limited capital investment and a few weeks of effort to get to a validated business concept.
 - Give priority to ideas that serve markets that you understand well or can test, and not some hard to access niche market.

2. For each of the opportunities, generate a descriptive title and an exciting 50 word description. The description should identify the novel element – the need, solution or delivery mechanism, as well as the target environmental/social improvement, and make a strong pitch for the business opportunity. Save titles and description. Upload to T-square as indicated in Assignments. Also enter your best 5 ideas to Darwinator right when due.
3. Based on the voting data and comments for the opportunities you identified, your own beliefs and passions, and any additional investigation you have done, select 1-2 (TBD) opportunities to pitch to the group. THESE OPPORTUNITIES MUST NOT BE ONES THAT SOME OTHER CLASSMATE HAS IDENTIFIED, UNLESS YOU OBTAIN PERMISSION FROM A CLASSMATE TO USE THEIRS. You are free to choose an entirely new opportunity that was not identified by any other classmate.
4. Prepare a 60--second pitch and a **single PowerPoint slide** for 2 – 3 opportunities. (The nice thing about a 60-second pitch is that you can practice it 15 times in just 15 minutes. Please do!). Use the presentation to convince your classmates that there is a legitimate, untapped, profitable business opportunity of measureable environmental/social impact. Typically, at this stage you need not make a business case, but you just need to excite the class about the opportunity and your capabilities. A pitch could be direct advertisement of the product/service to the class but you can take whatever approach you feel will be most effective. You will need to upload your pitches to T-square by 10pm 1 day before class so plan accordingly. We will integrate this slide into a single deck for use in class. (Please make sure to include your name on the slide and your last name in the file name.). PLEASE AVOID ANIMATION. Make sure your graphic is attractive and appealing. It will be your main advertisement medium. Communication quality counts.
5. After the pitches, we will ask the class to vote on their favorite opportunities. The opportunity-entrepreneurs who receive the most votes will be selected for further development. We will form teams at that point. Regardless of who originated the ideas that are remaining towards the end of the course, you are still responsible for being a productive part of your team. The ability to become an engaged and useful part of a new team is requires a skillset important to any aspiring entrepreneur. This team formation exercise will help build these skills.

The rest of the tasks will proceed in a similar stage-gate fashion, with logistical details provided later. The concept pitch will require an articulation of the business model using the business model canvas (to be introduced). The customer discovery stage will require you to identify the key uncertainties/assumptions, and develop a way of learning more about them (a systematic approach to customer discovery will be introduced). Based on these insights, you will proceed to refine the concept, focusing in particular on value proposition, customer segments and product-market fit, and obtain input from other groups to further refine. Special attention should be given to environmental benefits and how they tie in to the value proposition. The class will end with an “investor pitch” that builds on the information you acquired and other research you have done in the interim.

Students who have entrepreneurial passions will be encouraged to take these concepts forward with a team of classmates, possibly in independent study format in the subsequent semesters

Class Presentation Policies

- You will have multiple opportunities to convince your classmates of the potential of your business idea.
- For each of these opportunities, I will follow a very strict time limit.
- You are required to submit PowerPoint for these presentations the day before the class. I will announce a random presentation schedule at the start of class. Smooth and timely set up is part of the grade; take time to explore the class room technology and practice as needed.

- You bear final responsibility for ensuring the presentation works, and dealing with any unexpected events. I will strongly advise to not use proprietary software, animation, etc. in the early rounds of the tournament. In later rounds, when you have more time for presentation you are encouraged to use videos, role plays, etc. In any case, take into account the available technology and reliability.

Context and Current Events

Some days we will take time to discuss current events in the news and how they relate to sustainability or innovation. Please keep this in mind, bring them up in class, or reach out to me if you see specific items you think would be valuable in class. Your grade will not be influenced by this component.

Respecting Intellectual Property and Ethical Behavior

- The ideas generated and shared are assumed to be the property of those who submit them. The originator may enter any mutually agreed contract with other team members.
 - Of course, basic ethical behavior is assumed.
 - These ideas should not be shared outside of the class without the permission of the originator.
 - No idea should be replicated within the class.
- In the event of a breach of these rules, disciplinary action under the rules prescribed by Georgia Tech student policies may be initiated.
- My colleagues report that in their experience with similar courses at INSEAD, Wharton, and MBAs here at Georgia Tech, they have not seen any breach of the above expectations; nevertheless, I cannot guarantee that if these expectations are breached there will be water-tight legal protection. Any intellectual property rights are the sole responsibility

Student Expectations

I expect everyone to come to class prepared to contribute to the discussions and having completed all the required readings for that day. I do not allow mobile phones or other personal communication technology in the classroom. Please your phones away for class and do not take them out. I do not have a policy on laptops other than you should only have them open if you are using them specifically for class and I request your full attention and engagement. I also request your attendance at all class sessions. Points will be deducted for excess absences or a lack of participation.

A bit about your professor

I joined the Scheller College of Business at Georgia Tech in 2013 and, in addition to teaching, am the director of the new Center for Business Strategies for Sustainability here at the business school. For the past 15 years I have worked in several roles in the corporate sector focusing primarily on how companies create and measure value with particular interest in this evolving area of environmental and social sustainability. Having held positions in management consulting, manufacturing/consumer products, and investment management, I will bring insights and experiences relevant to our discussion in the classroom.

management consulting, manufacturing/consumer products, and investment management, I will bring insights and experiences relevant to our discussion in the classroom.

Course Outline

The first five to six weeks we will focus on project management and sustainability through readings, in class exercises, guest lecture, and assignments. During this time I will be sharing information on the project opportunities with you and we will jointly develop some of the initial project documents. During this time you will bid on projects and I will assign project teams.

You will then begin your projects and a regular cadence of status reports and check-ins so we can ensure your project remains on track. During the core project period, the readings and assignments workload will reduce as more time will be dedicated to your project work. We will spend time in class balanced between project management skills, sustainability topics related to the projects and exploring and solving team challenges.

The final weeks of the semester will focus on driving your projects to successful completion and final presentations.

Student Expectations

I expect everyone to come to class prepared to contribute to the discussions and having completed all the required readings for that day. I do not allow mobile phones or other personal communication technology in the classroom. Please your phones away for class and do not take them out. I do not have a policy on laptops other than you should only have them open if you are using them specifically for class and I request your full attention and engagement. I also request your attendance at all class sessions. Points will be deducted for excess absences or a lack of participation.

Role of Professor

For your projects, I will serve as an aide, counselor, and advisor for the teams. I will not conduct analysis or create content, but will provide feedback on approaches and brainstorm with you both in class and during office hours. We will also determine a schedule for individual team-professor meetings as we kick off the projects. I do not serve as the team liaison or representative to your sponsor during your project (your team will clarify internal roles and expectations) but I will be here to assist as needed to ensure any bumps can be smoothed out, issues resolved, and projects can be successful.

Role of Team

Teams will likely consist of three to four students but final determination will be based on project needs and students' interests. In addition to class time and contact with your project sponsor, successful projects will require research, work, and team meetings outside of class. We will learn and practice skills required for successful engagement with your sponsor and management of your project in class and I expect teams to present themselves professionally when interacting with your sponsors or any other resources required for your project.

Meeting with your sponsor at their location may be a valuable and insightful experience. I suggest exploring this when and where it is conducive to project needs and the availability of the team and liaison.

Grading:

Your final grade will be based on the following. Guidance regarding what constitutes excellent, good, fair, and poor versions of each of these will be provided and/or discussed in class.

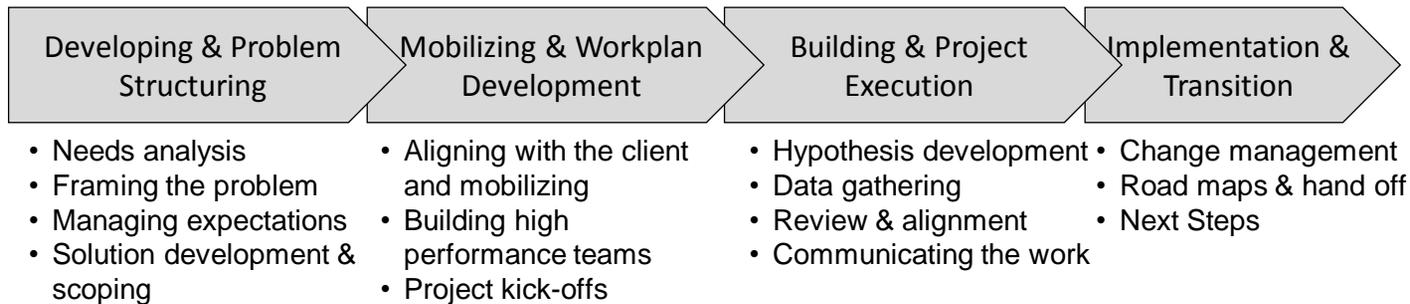
Detailed project plan and participation leading to it	10%
Written assignments including in-class exercises	15%
Project status reports and related interactions with your sponsor; check-in meetings with professor	15%
Mid-Term project deliverable	10%

Final project deliverable(s) and presentation	25%
Individual and team assessments (from professor & classmates; includes in-class and project participation)	10%
Sponsor company evaluation of the team, engagement management, and results	15%

Graphical Layout of Course Content

Course Introduction

Project Management & Consulting



Sustainability, Frameworks, & Tools



Sustainable Business Projects

Course Format

Due to the nature of this course and the inherent complexity that can arise in aligning sponsors, projects, teams, and class cadence, there may be alterations to the schedule. As much as possible, I will stick to dates for any graded components and will announce all changes in class and broadcast via T-square/email.

Required Project Deliverables to Client:

1. Letter
of Engagement (LOE) **Target due date:** Jan 31
 To be prepared jointly by teams and professor. Development will include guided in class discussion and assignments as well as input from the company project sponsor. The final letter will include:
 - What the team will accomplish
 - Methods to be used including anticipated levels of interaction and communication
 - Resources required and planned process for any complex issues (e.g., budget, interview scheduling)
 - Work products, reports, and/or briefings to be delivered
 Grading will be discussed further in class but will include your in-class participation and assignments.

2. Detail
ed Project Work Plan: **Target due date:** Feb 17
 We will complete a high-level work plan in preparation for project kick off. Once the projects begin and you talk with your sponsor, you will complete a more detailed project plan reflecting how the work will be completed including steps by phase, due dates for milestones, and projected interim and final deliverables. You will be provided a template to use.

3. Mid-
Term Presentation to the Client: **Target due date:** week of Mar 10
 This serves to assure the project is on track, the team and sponsor are aligned on remaining activities, and the insights and anticipated deliverables meet expectations. Client preferences regarding content, location, and so forth will be taken into account and we will discuss in class. In some cases, enough insights may have been developed at this point to discuss – at a high level – what the final results and output may look like with the liaison.

4. Final
Report and Presentation: **Target due date:** week of Apr 21
 The team will present their findings in a formal presentation to the sponsor in class. The team will also provide a final deliverable as well as all other interim deliverables and presentation materials to the client as well as to me.

5. Status
Updates: **Ongoing:** every other week during project phase; to be discussed in class

Context and Current Events

Some days we will take time to discuss current events in the news and/or your projects and how they relate to sustainability, especially in the context of companies, consulting, running a business, and the economy. Please keep this in mind, bring them up in class, or reach out to me if you would like to have a slot of time in class. Your grade will not be influenced by this component.

W	Begins	Consulting Topics	Sustainability Topics	Scheduled Readings <i>(Italics = course pack; blue = T-square)</i>	Major assignments (A) and Project Status (P)	
					#	= Project Week
1	Jan 6	<ul style="list-style-type: none"> Introduction to Course 	<ul style="list-style-type: none"> Global factors driving demand for sustainable solutions Introduction to 3 sustainability frameworks 	Chapter 1		
2	Jan 13	<ul style="list-style-type: none"> Resources for aspiring consultants The Consulting Framework The Trusted Advisor 	<ul style="list-style-type: none"> Sustainability frameworks in-class exercises 	Chapters 3 Chapters 4 – 5		(P) Stage 1 needs assessment & framing the problem (professor led, discussed in class)
3	Jan 20	<ul style="list-style-type: none"> Needs Analysis Framing the Problem Managing expectations 	<ul style="list-style-type: none"> Shared Value 	Chapter 10 <i>Creating Shared Value</i>		(A) Sustainability framework (A) Shared Value exercise
4	Jan 27	<ul style="list-style-type: none"> Solution development & scoping Aligning & Mobilizing High performing teams 	<ul style="list-style-type: none"> Linking sustainability and corporate strategy I 	Checklist to Assess Client Readiness <i>Discipline of Teams</i> <i>The Performance Frontier: Innovating for a Sustainable Strategy</i>		(P) Finalize Letters of Engagement (A) Team expectations exercise
5	Feb 3	<ul style="list-style-type: none"> Project kick offs Hypothesis development Professionalism, Rapport, & Accountability 	<ul style="list-style-type: none"> As needed based on projects 	<i>Necessary Art of Persuasion</i> <i>Taking the stress out of stressful conversations</i>		(A) Team contract exercise (P) Initial project plans (P) Team contracts
6	Feb 10	<ul style="list-style-type: none"> Project management best practices Data gathering Ongoing reviews & alignment 			1	(A) Status update exercise
7	Feb 17	<ul style="list-style-type: none"> Topics and activities based on project needs; likely to include status reporting, managing project dynamics, communication, and structuring documents 	<ul style="list-style-type: none"> Linking sustainability and corporate strategy II 	<i>Captain Planet</i>	2	(A&P) Detailed project plan due (P) Status update to client (cc me)
8	Feb 24		<ul style="list-style-type: none"> Footprints and lifecycle analysis 	<i>Carbon Footprints: Methods and Calculations</i>	3	
9	Mar 3				4	(P) Status update to client (cc me)
9	Mar 10		<ul style="list-style-type: none"> As required for projects 	Top Ten Reasons Why Businesses Aren't More Sustainable	5	(A&P) Mid-term presentation

10	Mar 10				6	(P) Status update to client (cc me)
W	Begins	Consulting Topics	Sustainability Topics	Scheduled Readings <i>(Italics = course pack; blue = T-square)</i>	Major assignments (A) and Project Status (P)	
	Mar 17	Spring Break!				
11	Mar 24	<ul style="list-style-type: none"> • Topics and activities based on project needs 	<ul style="list-style-type: none"> • As required for projects 		7	
12	Mar 31				8	(P) Status update to client (cc me)
13	Apr 7	<ul style="list-style-type: none"> • Consultant-client dynamics • Excellence in project wrap up and hand-off 		<ul style="list-style-type: none"> Influence and power dynamics in client-consultant teams 	9	
14	Apr 14	<ul style="list-style-type: none"> • Preparing for final presentations and hand off 			10	(P) Status update to client (cc me)
15	Apr 21	<ul style="list-style-type: none"> • Final presentations • Debrief 				

**MGT 3744: Managing Product and Service Development
Special Instructions –Project Theme for Spring 2013**

All student projects –be they ideas for products or services –should pertain to the following theme:

Improving Sustainability in the Commercial Food Industry

Why have a theme?

One of the objectives of the course is for you to learn to work with each other and learn from each other. Having a common theme provides a unifying line for all teams to give/receive feedback from classmates as all of us will be thinking about related issues during the course. Further, it will also provide a common buffet of issues (pun intended!) from which each group can choose a “pain” to address. Your choice should be based on contacts you are able to establish, the research you conduct, and most importantly, what you are passionate about.

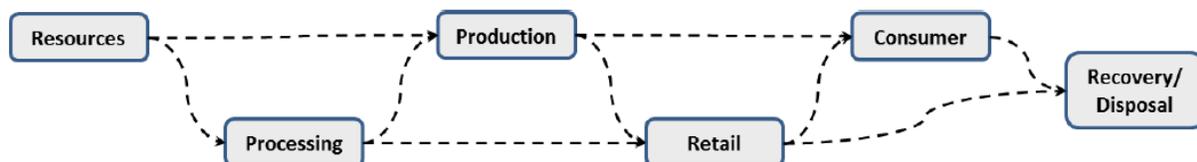
Why this theme?

Food is one of the foundational requirements of our planet that is threatened by growing environmental concerns. More specifically,

- All of you interact with the commercial food industry (as consumers) and are aware of their operations. That would make it easier to establish contacts and observe operations from a close distance.
- The commercial food industry is rife with possibilities to improve environmental impact at all levels of the supply chain.

What fits the theme?

The typical food supply chain looks like this:



Common dimensions of environmental impact are:



Focus on one of the dimensions above in one of the areas of the supply chain above to identify useful opportunities!

What resources can you use?

There are several resources that are available for research, discovery and planning.

- First and foremost, use the course material. The materials have been selected and sequenced to lead you systematically through the critical business aspects of designing and developing a product or service.
- Metrics: To create a business case for your product or service, you will need to have a clear idea of the eventual contribution. Several metrics are available depending on your focus. Example: <http://www.thesra.org/> and <http://foodalliance.org/handler>
- The consumer: You will need to find a “representative consumer” of your product. That is, you should try to identify someone you will hypothetically sell the product/service to when you complete its development. Identify this consumer early in the process: their pain is what you will address in the project. They will help you define the pain, refine it, support research on it down the line, and eventually use the product/service.
 - Example 1: A cooperative grocery store that desires to procure local foods.
 - Example 2: A café that wants to distribute older –but not yet stale –donuts to homeless shelters.
 - Example 3: A restaurant at Georgia Tech that wants to reduce hot water used in food preparation and dish-washing.
- Georgia Tech: The institute is teeming with great ideas and well-informed folks who can help you find a solution. But if you want to find a problem, you might start looking at some simpler places like <http://dining.gatech.edu/locations/index.html>
- Your team: In my experience, your team’s collective experience is an irreplaceable source for finding projects that you will be *passionate* about. In a semester-long project, there is no substitute for passion.
- Your Professor: If you are not sure whether the scope of what you pick is sufficiently important and/or feasible, contact the professor as a group.

Search boldly. Aim high. Do good!

Business Plan Output from MGT 3744 (Spring 2013)

Business Plan Title	Problem Statement	Proposal	Conclusion
<i>Inventory Storage and Dispensing Unit</i>	Create a standardized process for large-scale pizza food-chains to help inventory process optimization, reduce ingredient variability, reduce waste, and save time.	Create a sauce dispenser and container, foot pedal operator, and sensor alert system.	Modeled a practical and feasible dispensing system that could be implemented into pizza franchises around the world to reduce ingredient variability and effectively reduce inventory uncertainty.
<i>Smart Tray</i>	Improving sustainability and efficiency in the commercial food industry through increasing efficiency to save resources such as water and time.	Create a modular bin, plate caddy, dish alert, and pre-wash drop for most efficient design.	Developed an initial prototype of a new bus tray to help make cleanup and waste disposal process in restaurants more efficient. Provides the user with an inexpensive, modular way to collect dishes, cups, and silverware.
<i>Local Seasons</i>	What are the small farmer's needs and what do they need assistance with?	Create a resource for farmers to communicate through in order to work together to improve the industry.	A website prototype was created in an attempt to address some of the key concerns of the farmers.
<i>Eliminate Milk Waste in Stores</i>	25% of milk products are thrown away in stores nationally when they approach the "Sell By" date.	Algorithm based price changes with updated network, electronic tracking features, and tracking labels on the milk.	Track and notify "old" milk, adjust prices based on approaching due date, and update app/email users.
<i>Schwan's</i>	To discover waste-reducing opportunities that also cut costs in the Schwan's plant in Atlanta, GA.	Through improved communication flow and variance analysis leadership will be able to pinpoint problems in the production process.	Create a strict employee communication chain of command and by installing status lights on processing lines, shut down times will be shorter and line workers are more prepared to handle fluxes in product flow.
<i>Find a Need, Fill a Need</i>	Create a solution to increase sustainability in the commercial food industry.	Through improved communication between homeless shelters/food banks, commercial grocery stores and restaurants can have improved processes to reduce waste.	Created a website that tracks commercial waste and notifies organizations in need of the food to begin organizing pick-up times for effective transportation of the excess food to those in need.

Business Plan Output from MGT 3744 (Spring 2013)

<i>Compost Xchange</i>	Create a solution to reduce produce/food expiration through improved communication between the end seller and the producer.	Create a website which acts as an online marketplace for buyers and sellers or perishable items.	Create a website that establishes an online marketplace for buyers and sellers and provides product shipment tracking to reduce time and cut down on waste.
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MGT 6359: BUSINESS STRATEGIES FOR SUSTAINABILITY

Professor: L. Beril Toktay, Brady Family Chair and ADVANCE Professor
Office: Suite 4426 – Center for Business Strategies for Sustainability
E-mail: beril.toktay@scheller.gatech.edu
Phone 404 385 0104
Time: Wed 6:05 – 8:55pm
Location: Room 221
Availability: by appointment or via e-mail

Course Description:

Environmental product differentiation opens new markets. Green procurement and total quality environmental management significantly reduce input and operating costs. Product innovation and eco-entrepreneurship are ways of doing well while doing good. These are some of the opportunities.

Global warming is changing the way governments and businesses need to think about carbon. Consumers are asking for more accountability in sourcing sustainably. European and Japanese legislation on product take-back and waste exports concerns many US manufacturers. Communities are demanding higher standards of air, water and soil quality. Rising fuel prices make fuel-efficiency a competitive factor. These are some of the challenges.

This course takes a holistic view of the interaction of businesses with the environment. It outlines reasons why businesses would want to care about environmental issues, introduces environmental assessment and management tools, and visits topics from various business functions. Topics that will be covered include:

- Fundamental environmental challenges
- Environmental assessment and management tools
- Corporate environmental strategy
- Sustainable operations and supply chains
- Marketing and sustainability
- Finance and sustainability
- Circular economy and product stewardship
- Sustainable technology adoption
- Stakeholder management & working with NGOs

Current issues such as global warming, energy and e-waste will be discussed in the context of a number of cases. Guest speakers from a variety of industries and backgrounds will bring their experience to the classroom.

A novel feature of the course is innovation tournaments for sustainability. I will guide you through a systematic process for idea generation, selection and improvement that will culminate in an investor pitch. While this may seem daunting if you have never flexed your entrepreneurial muscles, I guarantee you will have a lot of fun and learn a lot from it.

Who Should Take this Course?

If you've ever asked "What do I need to know about environmental issues to make my company more successful?" this course is for you. If you've said "I'd love to develop a high potential idea that addresses a sustainability need, but don't know where to start," this course is for you, too.

Readings

The course pack containing the cases and HBR articles for the course is available for purchase from Harvard Business Publishing. Please note that HBS tracks who registers with them and compares that to the class roster as every student is expected to purchase their own course pack - copying another's is a copyright violation.

Background Readings

There are no required textbooks for this course. Below are some suggested background readings and relevant journals for your information.

Books:

Silent Spring, Carson

Collapse, Diamond

Measuring Corporate Environmental Performance, Epstein

Making Sustainability Work, Epstein

Ecology of Commerce, Hawken

In Earth's Company, Frankel

Enviro-Capitalist: Doing Good While Doing Well, Anderson and Leal

Cannibals with Forks, Elkington

Capitalism at the Crossroads, Hart

Industrial Ecology, Graedel and Allenby

Environmental Economics: An Elementary Introduction, Turner, Pearce and Bateman

Measuring Corporate Environmental Performance, Epstein

The Skeptical Environmentalist, Lomborg

Mid-course Correction, Anderson

Journals:

Scientific American: <http://www.sciam.com/earth-and-environment>

Scientific American's November 26, 2007, special report on climate change at <http://www.sciam.com/article.cfm?id=special-report-climate-change>

Nature: <http://www.nature.com/climate/index.html>

New Scientist: <http://environment.newscientist.com/home.ns>

Science: www.sciencemag.org/

Course Outline

#	Date	Topics	Cases/Guest Speakers/Assignments (speakers subject to change)	Innovating for Sustainability Activities & Due Dates
Fundamentals				
1	1/8	Introduction to class The environmental context Corporate environmentalism	Read: Framing the Elusive Concept of Sustainability	
2	1/15	Fishbanks Simulation Idea Generation I	Read: Fishbanks instructions Skim: Historical Overview of Climate Change Science	
3	1/22	Fishbanks Debrief Idea Generation II	Read: Green and Competitive Read: Creating Shared Value	Generate & upload 5 ideas by class
4	1/29	Environmental Reporting and Management Tools - LCA Analysis - GHG Accounting and Water Footprinting - ISO 14000	Prepare: IHP case Read: Carbon Footprints: Methods and Calculations	Generate & upload 5 ideas by class
Integrating Sustainability into Business Functions				
5	2/5	Eco-Efficiency in Operations and Supply Chains	Prepare: Walmart case Prepare: Genzyme case Upload: Individual Exercise 1	Generate & upload 5 ideas by class Enter your 5 best ideas in Darwinator
6	2/12	Individual pitches + shopping/voting Business Model Canvas lecture	Guest speaker: Alan Flury, Adjunct Professor of Management and Entrepreneurship	Make individual pitch (60sec) Elimination round
7	2/19	Eco-Effectiveness in Operations and Supply Chains	Prepare: Polyface Farms case Prepare: Cook Composites case Upload: Individual Exercise 2	
8	2/26	Concept Pitches + Shopping/voting "Customer Discovery" Lecture	Guest speaker: Paul Freet, Principal, Venture Lab	Make initial concept pitch (in teams of 2, 240 seconds) Elimination round
9	3/5	Marketing and Sustainability	Prepare: Fiji Water Case Javier Rodriguez Merino, Coca Cola Upload: Fiji Water case write-up by class (teams of 2)	
10	3/12	The Circular Economy	Prepare: Herman Miller case Prepare: Xerox case	
11	3/26	Finance and Sustainability	Prepare: The Equator Principles Case Upload: Customer discovery findings and evolving exec summary of your green venture concept (team)	Obtain intermediate feedback from another team
Innovating for Sustainability				
12	4/2	Sustainability Consulting	Prepare: InterfaceRaise Case Jim Hartzfeld (case protagonist) Upload: Customer discovery findings and evolving exec summary of your green venture concept (team)	Obtain intermediate feedback from another team
13	4/9	Sustainable Technologies	Prepare: Cape Wind case Anthony Coker, Suniva	
14	4/16	Environmental Advocacy and Stakeholder Engagement	Prepare: Aspen Skiing Company case Allie Kelly, Georgia Conservancy	
15	4/23	Wrap-up Final Team Presentations	Upload: Written (team) executive summary of final concept pitch	Final concept pitch presentation (in teams of ~3)

Participation

Except for a few sessions, this class is based on cases and open-ended case discussion. Because this is a case-based class, it lives or dies by the quality of participation. As a result, you should be well prepared to participate in the discussion. This means reading the materials for that session, thinking about the discussion questions and being creative and entrepreneurial in finding and digesting other relevant material from whatever sources you like to use. To ensure fairness, I will try to grade in-class participation after each session as follows: -1(absent), 0(present but silent), 1(good comment(s)), 2(excellent comment(s)). I may cold call at times to make sure everybody has a chance to participate or to jumpstart a discussion. I allow one "grace" session for unexcused absences. If you foresee missing more than one class for work, please contact me to schedule make-up work.

Expectations regarding the Innovation Tournament portion are given separately below.

Guest speakers

We will have a number of guest speakers throughout the semester who will share their experience with us. I request that you show the utmost courtesy to our guest speakers. Dress code is business casual (<http://www.career.vt.edu/Jobsearc/BusCasual.htm>) when we have speakers. Asking tough questions is fine as long as it's done respectfully.

Grading

Your grade will be based on three items, weighted as follows:

- Two individual exercises: 10% each
- One 2-person team case write-up: 20%
- Class participation: 25%
- Innovation Tournament work: 35% (20% instructor evaluation; 15% peer evaluation) – it is the level of effort and quality of feedback to peers that is evaluated; not the ideation content.

Exercises, Assignments and Write-ups

All exercises and assignments should be uploaded to T-square prior to the session in which they are due. If it's a team document, it is sufficient that one person uploads it.

Exercise 1: This will be a 1-page quantitative analysis (+ appendix, if needed) of a case preparation question and will be posted on T-square (due by the beginning of Session 5).

Exercise 2: This will be a 1-page quantitative analysis (+ appendix, if needed) of a case preparation question and will be posted on T-square (due by the beginning of Session 7).

Case Assignment: Fiji Water case writeup (due by the beginning of Session 9 – upload to T-square). Conduct a case analysis of the case based on the discussion questions in the course pack. This assignment is to be submitted in groups of 2. It should be at most 3 pages long (12pt font, 1.5 spaced, 1-in. margins) + appendix for any figures or citations. I will be looking for a well-reasoned, structured analysis, supported by well-cited outside sources where appropriate.

Please provide proper citations for any outside materials used to avoid accidental plagiarism. If you're not sure about what plagiarism is or how to include proper citations, you can find out from the web (e.g. gervaseprograms.georgetown.edu/hc/plagiarism.html) or ask me. I will

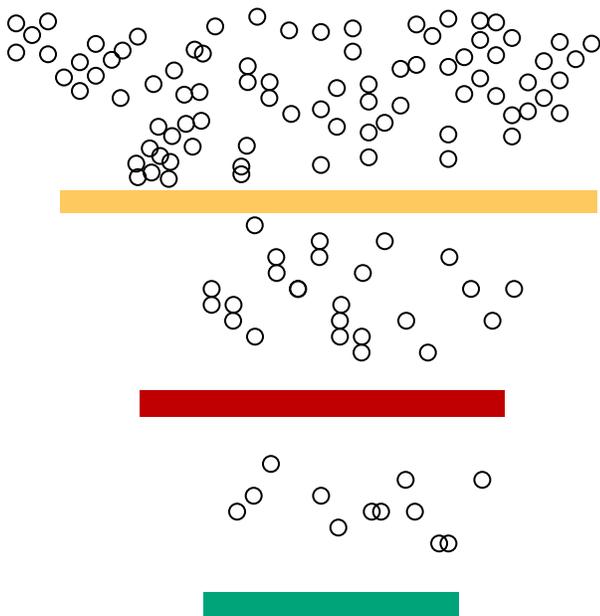
follow up on any Academic Integrity violations by using the Faculty Resolution option outlined on the Dean of Students website.

Innovation Tournament Write-ups: These will focus on the Value Proposition, Customer Segments and Product-Market Fit elements of the Business Model Canvas in particular. You will use the information and insights you obtain from customer discovery to iteratively refine your hypotheses and value proposition pitch. The first two write-ups are graded on a 0/1 basis only (submitted or not) and are for inter-team feedback. The last one is the one that will be graded: the quality of the customer discovery work and insight, how convincing the value proposition arguments are, and the depth of the environmental benefit analysis (including how it ties into the value proposition) will be evaluated.

Innovation Tournaments for Sustainability Overview and Preliminary Logistical Details²

This portion of the course will start with idea tournaments, a process that leverages the wisdom of the crowd for entrepreneurial opportunity generation, selection and refinement. It will continue with the application of basic experimenting and business model innovation frameworks, again emphasizing a systematic risk-limiting pathway to realizing entrepreneurial outcomes.

This portion of the course is instructor-guided in terms of process and basic tools, but almost entirely student-driven; doing the research, generating the ideas, finding the information and the resources you need at each stage will all be your responsibility. Expect this to be a demanding, but rewarding process. The learning from the process, the research, the feedback and the experience will help you whether you want to capitalize on a business opportunity in your company, or whether you want to strike out on your own one day.



DARWINATOR

Enter 5 ideas selected from 15+ generated ideas
Rate a minimum of 100 ideas

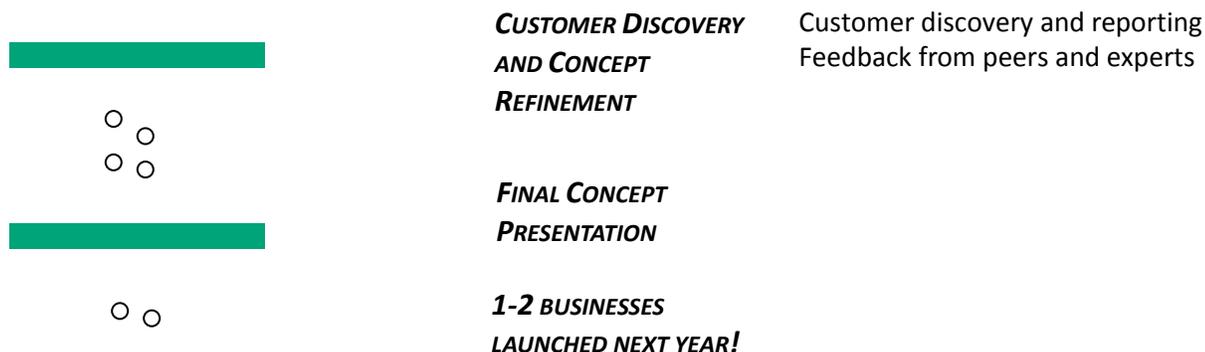
**OPPORTUNITY PITCHES
MULTI-VOTE**

60 second pitch of 1 business opportunity
~12-20 selected; team up on remaining ideas

**CONCEPT PITCHES
MULTI-VOTE**

240 second pitch of 1 concept
~6-10 selected; team up on remaining ideas

²This material is adapted from Innovation Tournament classes developed by Karl Ulrich and Christian Terwiesch at Wharton; and Identifying New Business Opportunities classes developed by Karan Girotra and Serguei Netessine at INSEAD. I am grateful for their generous assistance.



Two books I recommend:

- *Innovation Tournaments: Creating and Selecting Exceptional Opportunities*, Terwiesch and Ulrich
- *Why Not?: How to use everyday Ingenuity to solve problems Big and Small*, Nalebuff and Ayres.

Class Presentation Policies

- You will get as many as 3 opportunities to convince your classmates of the potential of your business idea.
- For each of these opportunities, I will follow a very strict time limit (including your setup time).
- You are required to submit powerpoints for these presentations the day before the class. I will announce a random presentation schedule at the start of class. Any time you take to setup will be deducted from your presentation time.
- You bear final responsibility for ensuring the presentation works, and dealing with any unexpected events. I will strongly advise to not use proprietary software, animation, etc. in the early rounds of the tournament. In later rounds, when you have more time for presentation you are encouraged to use videos, role plays, etc. In any case, take into account the available technology and reliability.

Respecting Intellectual Property and Ethical Behavior

- The ideas generated and shared are assumed to be the property of those who submit them. The originator may enter any mutually agreed contract with other team members.
 - Of course, basic ethical behavior is assumed.
 - These ideas should not be shared outside of the class without the permission of the originator.
 - No idea should be replicated within the class.
- In the event of a breach of these rules, disciplinary action under the rules prescribed by Georgia Tech student policies may be initiated.

- My colleagues report that in their experience with similar courses at INSEAD and Wharton, they have not seen any breach of the above expectations; nevertheless, I cannot guarantee that if these expectations are breached there will be water-tight legal protection.

Team Formation

- The course starts with individual work, we re-organize in teams of two after the first pitch and again into teams of three after the second pitch; the team remains the same thereafter.
- This process is designed to identify the most promising opportunities and to re-allocate our resources to these opportunities.
- If your idea is not eliminated, you will be responsible for finding new members of your team. Put differently, you are now given the right to integrate more team members to work on your idea. If your idea is eliminated, you will need to pair up with a surviving project/team.
- Learning Objective: I understand that some of you may not be able to find your ideal team mates and partners. However, I think the ability to recruit talent after your idea has been granted more resources, and the ability to become a productive and useful part of a new startup team are all necessary skills for any aspiring entrepreneur. This team formation exercise will help build these skills.

Instructions for Idea Generation and Entry Rounds

1. After Sessions 2, 3, and 4, based on techniques learned in class and your own creativity, generate *at least* five opportunities for a new business that would result in an environmental or social improvement. An opportunity is a novel match between a customer need and a solution to that need. The novelty arises from identifying latent needs, new solutions or superior ways of “delivering” the solution to the need. Because the time frame of the course is limited, I would encourage you to think about business model innovation rather than technology innovation. Some rules of thumb:
 - Focus on doing something differently rather than developing a new product.
 - Try to avoid unproven technologies/materials. Any product you want to develop should be simple enough that you can prototype it in a few weeks.
 - Give priority to ideas that require relatively limited capital investment and a few weeks of effort to get to a validated business concept.
 - Give priority to ideas that serve markets that you understand well or can test, and not some hard to access niche market.
2. For each of the opportunities, generate a descriptive title and an exciting 50 word description. The description should identify the novel element – the need, solution or delivery mechanism, as well as the target environmental/social improvement, and make a strong pitch for the business opportunity. Save titles and description. Upload to T-square before Sessions 3, 4 and 5. Also enter your best 5 ideas to Darwinator right after Session 5. This will yield 300+ ideas.

3. Based on the voting data and comments for the opportunities you identified, your own beliefs and passions, and any additional investigation you have done, select one opportunity to pitch to the group. THIS OPPORTUNITY MUST NOT BE ONE THAT SOME OTHER CLASSMATE HAS IDENTIFIED, UNLESS YOU OBTAIN PERMISSION FROM A CLASSMATE TO USE THEIRS. You are free to choose an entirely new opportunity that was not identified by any other classmate.
4. Prepare a 60--second pitch and a **single PowerPoint slide** for one opportunity. (The nice thing about a 60-second pitch is that you can practice it 15 times in just 15 minutes. Please do!). Use the presentation to convince your classmates that there is a legitimate, untapped, profitable business opportunity of measureable environmental/social impact. Typically, at this stage you need not make a business case, but you just need to excite the class about the opportunity and your capabilities. A pitch could be direct advertisement of the product/service to the class. You will need to upload your pitch to T-square 1 days before class so plan accordingly. We will integrate this slide into a single deck for use in class. (Please make sure to include your name on the slide and your last name in the file name.). PLEASE AVOID ANIMATION. Make sure your graphic is attractive and appealing. It will be your main advertisement medium.
5. After the pitches, we will ask the class to vote on their favorite opportunities. The opportunity-entrepreneurs who receive the most votes will be selected for further development. These participants will pair up with one whose idea was eliminated and continue as a team.

The rest of the tasks will proceed in a similar stage-gate fashion, with logistical details provided later. The concept pitch will require an articulation of the business model using the business model canvas (to be introduced). The customer discovery stage will require you to identify the key uncertainties/assumptions, and develop a way of learning more about them (a systematic approach to customer discovery will be introduced). Based on these insights, you will proceed to refine the concept, focusing in particular on value proposition, customer segments and product-market fit, and obtain input from other groups to further refine. Special attention should be given to environmental benefits and how they tie in to the value proposition. The class will end with an "investor pitch" that builds on the information you acquired and other research you have done in the interim.

Students who have entrepreneurial passions will be encouraged to take these concepts forward with a team of classmates, possibly in independent study format in the subsequent semesters.

Course Pack Materials* and Discussion Questions

*Also check course wiki for additional materials. Materials may be added up to one week prior to each session.

Session 1

Framing the Elusive Concept of Sustainability:

http://www.people.hbs.edu/mtoffel/publications/Marshall&Toffel_2005_EST.pdf

Session 2

Fishbanks simulation instructions

Historical Overview of Climate Change Science:

<http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-chapter1.pdf>

Session 3

Green and competitive, Porter and van der Linde, HBR Article

Creating shared value, Porter and Kramer, HBR Article

Session 4

Carbon Footprints: Methods and Calculations, Toffel and van Sice, HBS Note

International Hardware Products, Inc., World Resources Institute.

1. What are the benefits and costs associated with implementing an ISO 14001 environmental management system at IHP specifically and more generally?
2. Which considerations would be most important to IHP corporate executives in deciding whether to fund ISO certification at the Tennessee facility?

Session 5

Walmart's Sustainability Strategy, Stanford Case OIT-71

1. At a high level, how is Walmart creating value from its sustainability strategy?
2. Critique the success of two of the networks. What explains the success (or lack thereof) these networks?
3. How is Wal-Mart motivating its suppliers to share information about and reduce the environmental impacts of products and processes?
4. How can Wal-Mart stimulate the development of disruptive, breakthrough innovation? Do you see any trade-off against continuous improvement?

Genzyme Center (A), HBS Case 9-610-008

1. If you were a major shareholder of Genzyme, what would you think of Genzyme's interest in green building?
2. If you were Rick Mattilla, would you recommend that Genzyme make the additional investments required to enable Genzyme Center to achieve LEED Platinum status?
3. If yes, what criteria should drive which features to select? Based on these criteria, which features would you choose?

4. Looking ahead to other building projects, what green building policy should Genzyme adopt? Should the policy differ for offices, labs, and manufacturing sites? Should the company adopt the same policy globally?

Session 7

Polyface, The Farm of Many Faces, HBS Case

1. Reflect on the differences between Polyfaces operations and the industrial model of food production. How would you characterize the key differences between the two?
2. What are the challenges of selecting and growing economies of scale and economies of scope operations?
3. How would you measure the productivity of Polyface Farm?

Cook Composites and Polymers Co., HBS Case

CCP faces three options for addressing its rinse styrene waste stream:

- a) Continue with business as usual, sending it rinse styrene to cement kilns;
 - b) Sell it rinse styrene on a waste exchange; or
 - c) Proceed with developing the concrete coating that uses its rinse styrene (BPS).
1. What criteria should Mike Gromacki be considering when deciding whether to pursue the waste exchange or concrete coating by-product? If you're Mike Gromacki, what would you recommend to management to address its rinse styrene waste stream?
 2. Compared to business-as-usual, what are the financial implications of selling its rinse styrene to a waste exchange or of producing the concrete coating by-product (BPS)?
 3. What is the environmental impact of CCP's implementing BPS? Consider just the impact on carbon dioxide (CO₂) emissions. Note that diverting 1 pound of styrene from cement kiln disposal to reuse in concrete coating increases the kiln's emissions by 1.2 pound CO₂. Producing concrete coating with 1 pound of rinse styrene emits 1.9 fewer pounds CO₂ than conventional production of the same amount of concrete coating. Producing one pound of styrene results in 2.5 pounds of CO₂ emissions.

Session 9

Cradle-to-cradle design at Herman Miller: Moving Toward Environmental Sustainability, HBS Case 9-607-003

1. Do you think Herman Miller should use PVC or TPU in the Mirra Chair arm pad?
2. Why is the PVC vs. TPU decision so difficult for the company to resolve?
3. What are the elements of C2C? How does C2C differ from traditional business approaches to environmental issues?
4. What process and organizational changes did Herman Miller make to implement C2C? What resources were required?

Xerox, Design for the Environment, HBS Case 794022

1. How did Xerox develop an objective of 0% product waste and 0% factory waste? Is it an appropriate goal?

2. What must Xerox do to its product delivery system if the goal is to be achieved? What changes will Xerox have to make in goals and incentives to achieve this?
3. Without legislation, will this ever pay off for Xerox? Will it, in fact, be possible for Xerox to achieve?
4. Should Xerox price remanufactured products at a discount?

Session 10: Marketing and Sustainability

Fiji Water: Carbon Negative?

1. When the Resnicks acquired FIJI Water in 2005, the bottled water industry was very crowded. Yet, FIJI Water soon became the bestselling imported bottled water in the United States. What accounts for FIJI Water's success?
2. What is greenwashing, and why do companies engage in greenwashing? How do you know when a claim is greenwashing?
3. In light of the lawsuit, what should FIJI Water do? Should it amend its carbon negative strategy?
4. Suppose FIJI Water hired you to develop a negotiation strategy to use with the Fijian government. What strategy would you recommend?

Session 11

The Equator Principles

1. What problem are the banks trying to solve by adopting the Equator Principles? How do banks contribute to this problem? Will the Principles solve the problem?
2. Why are the NGOs criticizing the Equator Principles? Is their criticism valid?
3. What should the Equator banks do now: marketing, implementation or damage control?
4. If you were a banker, would you adopt the Equator Principles?

Session 12

InterfaceRAISE: Sustainability Consulting, HBS Case

1. What is InterfaceRAISE's value proposition?
2. InterfaceRAISE had three objectives. Which appears to be driving its strategy? Can all three be achieved simultaneously?
3. What would you recommend to CEO Dan Hendrix with respect to strategy, service offering, pricing, structure/staffing? What would you request from Interface Inc. in terms of time and/or investment?
4. If you were to advise Interface Inc. regarding InterfaceRAISE, what would you recommend?

Session 13

Cape Wind

1. Why should Americans be enthusiastic about offshore wind?
2. What are the costs/benefits associated with this Cape Wind project?
3. Why is there so much opposition to the Cape Wind Project? What behavioral forces are at work?

4. What should Jim Gordon have done differently?
5. How likely is Cape Wind to get built?

Session 14

Aspen Skiing Company

1. Is Aspen Skiing Company serious about reducing its environmental impacts? On what basis do you assess this?
2. If you took over as Aspen Skiing Company's next director of sustainability, what would your priorities be? How would you manage differently than Auden Schindler?
3. How should Aspen Skiing Company respond to the request to join the Kleercut boycott?

L. Beril Toktay

Professor of Operations Management and Brady Family Chair
Faculty Director, Center for Business Strategies for Sustainability

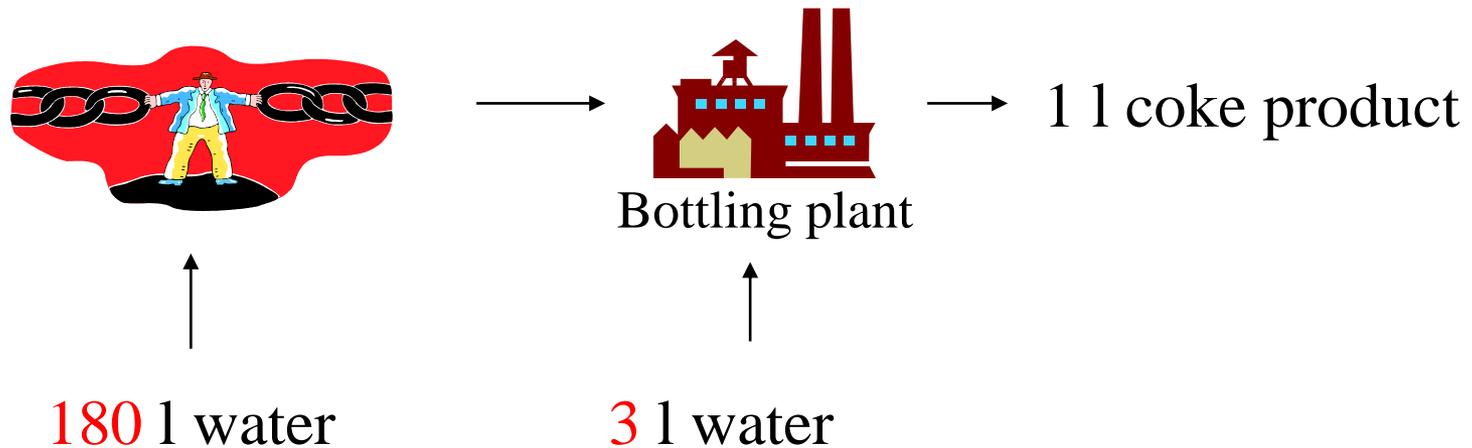
Business Strategies for Sustainability: Introduction

Agenda

- What motivates firms to reduce negative environmental and social impact?
- What is sustainability?
- What does it mean to develop and execute a sustainability strategy?

- What are learning objectives of this course?
- What will it take to excel in this course?

Coca-Cola's Evolution



Coca Cola sells >1B beverage servings per day worldwide.

Water Use

- Agricultural, industrial (inc. energy) and municipal
- Need for water expected to grow by 40% in 20 years
- 2.8billion people live in areas of high water stress

Headlines to the Bottom Line



Business' Thirst for Water Is Unsated
August 23, 2004



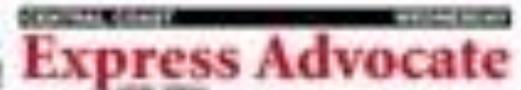
Water Crisis Hits Africa the Hardest
April 1, 2005



India: Fluid State of Water Battles
January 31, 2005



On World Water Day, One Billion People Still Lack a Clean Supply
March 23, 2005



-Central Coast, Australia
Bottled Water Plant Runs into Opposition
April 7, 2005



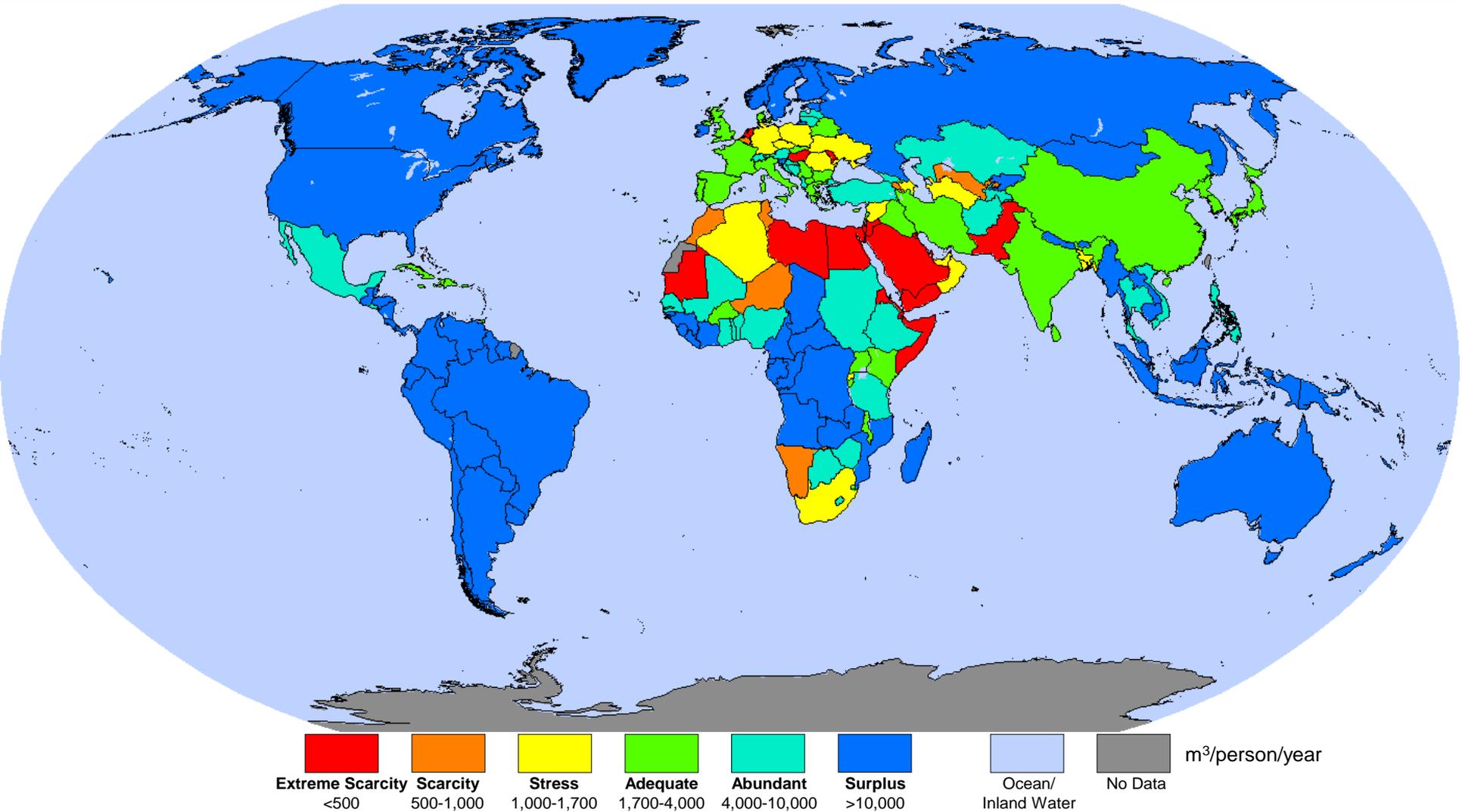
Nine million Chinese Face Drinking-Water Shortage
April 3, 2005



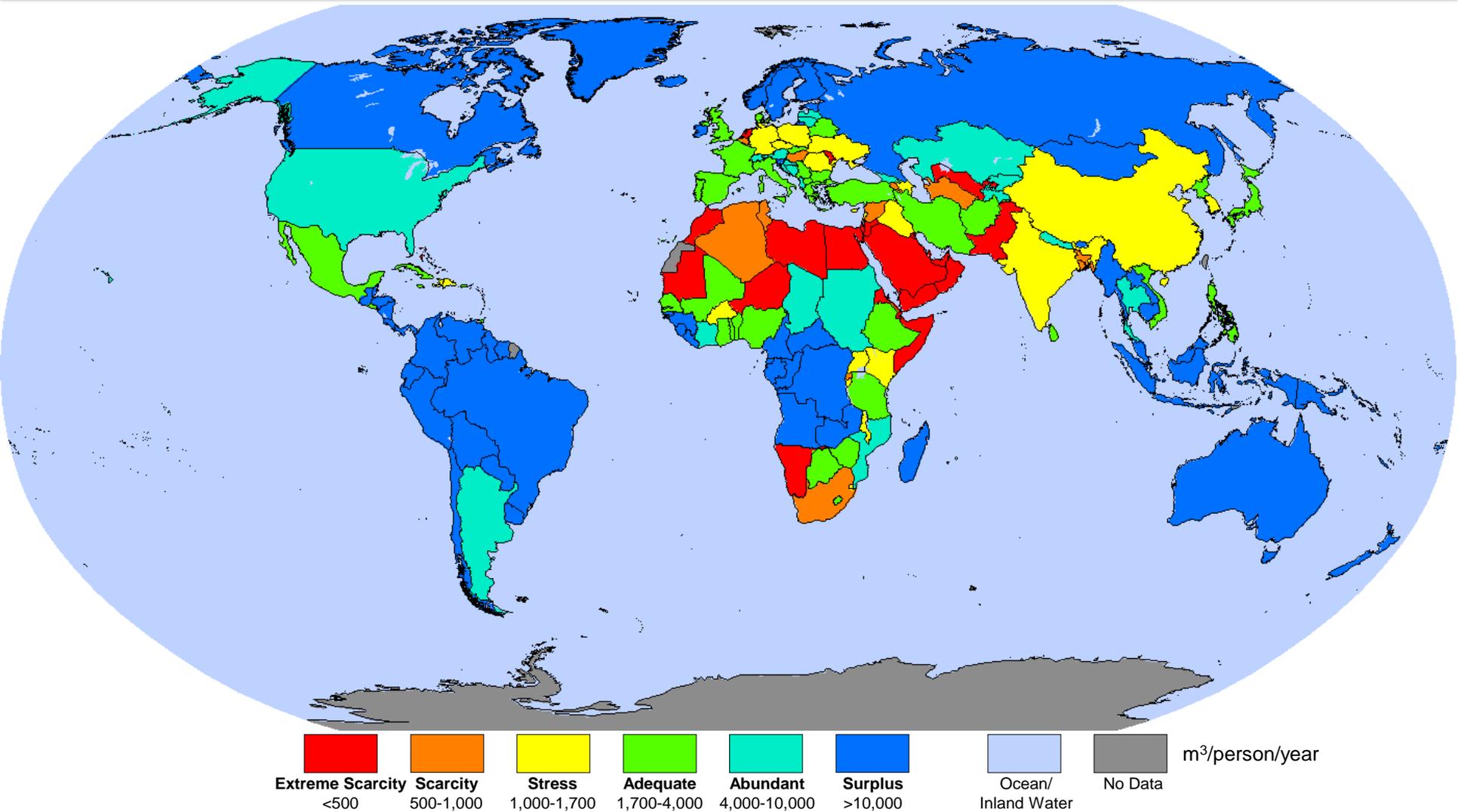
Water Scarcity: a looming crisis?
December 19, 2004

Times of India
Coca-Cola Leaves Chennai Thirsty
April 25, 2005

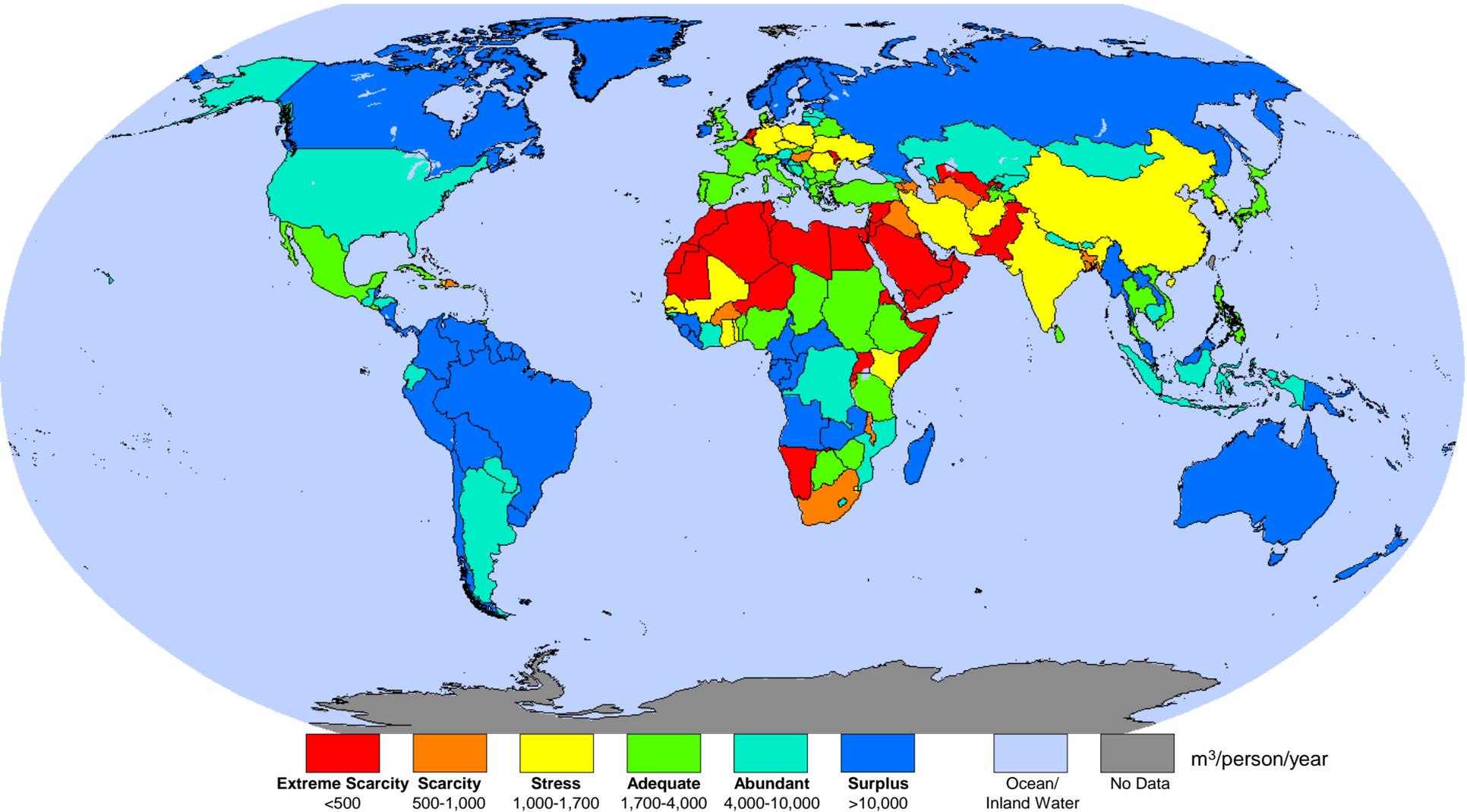
National Water Availability: 1975



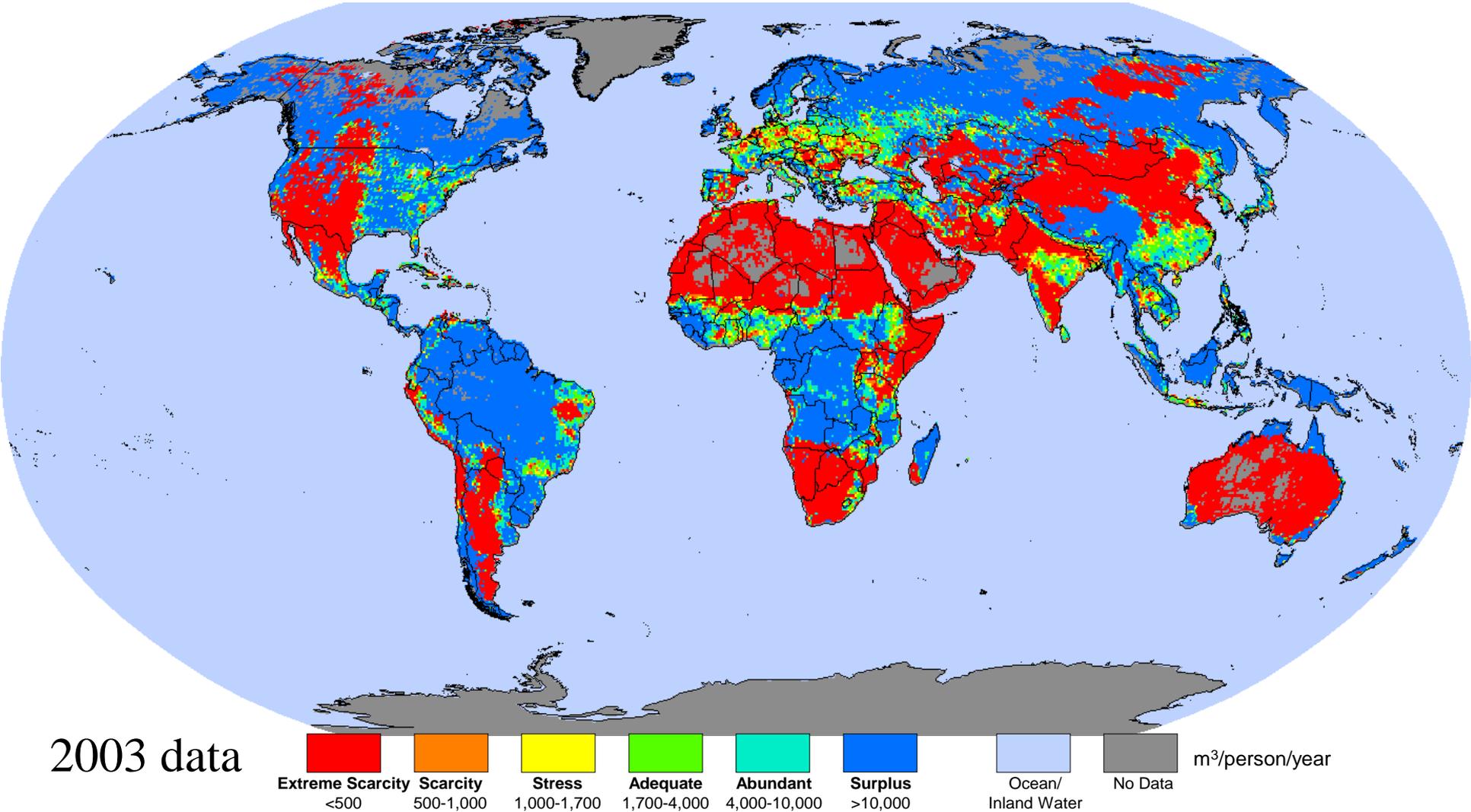
National Water Availability: 2000



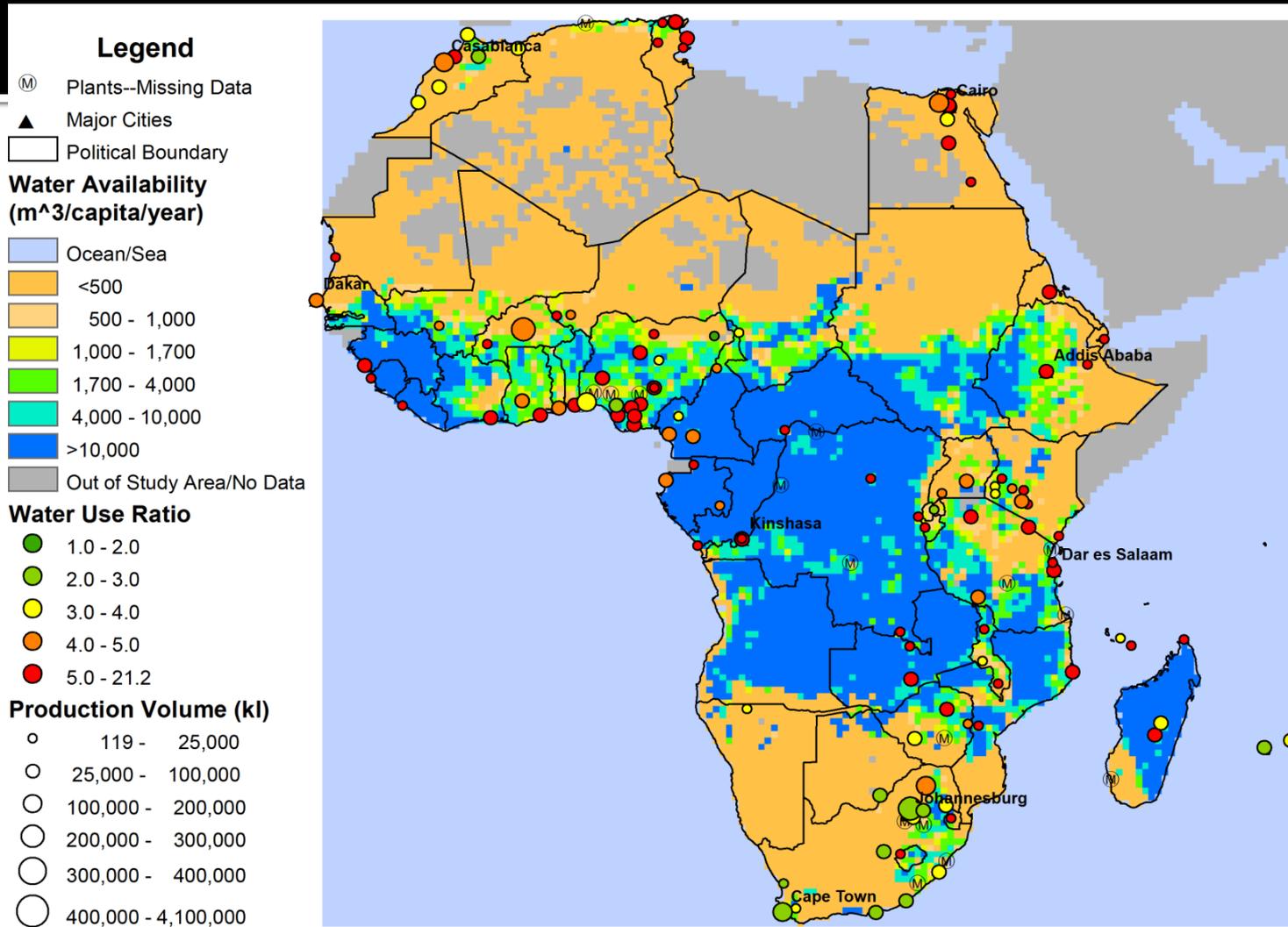
National Water Availability: 2025



Subnational Water Availability



Geospatial Analysis of Bottling Plants



Many of Coca-cola's bottling plants in Africa are located in high distress areas.

Coca-Cola's strategy

- Comprehensive Water Stewardship strategy developed over the last 8 years
- <http://www.coca-colacompany.com/sustainabilityreport/performance-highlights.html#section-waterstewardship>

Interface's Evolution

“1.2 billion pounds of material extracted from the earth so the company could produce \$800 million worth of products. The number made me want to throw up...”

“No one is accusing me, I stand convicted by me, myself, alone, and not by anyone else, as a plunderer of the earth.”

-- Ray Anderson, Founder and CEO, Interface

<http://www.youtube.com/watch?v=DghetZuPzS4>

Sustainability Transformation

1. Established a sense of urgency
 - Used full range of his own emotions
 - “Power of one” message
2. Created the guiding coalition
 - “Eco Dream Team”
 - R&D Arm to provide intelligence and support to units
 - Sustainability Council

Toktay, L.B., L. Selhat and R. Anderson
“Doing Well by Doing Good: Interface’s Vision of
Being the First Industrial Company in the World to
Attain Sustainability”

Sustainability Transformation

3. Developed a Vision and Strategy

“To be the first company that, by its deeds, shows the entire industrial world what sustainability is in all its dimensions: People, process, product, place and profits — by 2020 — and in doing so we will become restorative through the power of influence.”

Toktay, L.B., L. Selhat and R. Anderson

“Doing Well by Doing Good: Interface’s Vision of Being the First Industrial Company in the World to Attain Sustainability”

Sustainability Transformation

4. Developed a comprehensive strategy and implementation (“the 7 faces of mount sustainability”)

- QUEST
- Closing the loop
- Resource-efficient transportation
- Renewable energy
- Design for environment
- Redesign commerce
- Sensitivity hookup

Toktay, L.B., L. Selhat and R. Anderson
“Doing Well by Doing Good: Interface’s Vision of Being the First Industrial Company in the World to Attain Sustainability”

Sustainability Transformation

5. Communicated the vision
 - Relentless internal and external communication campaign
6. Empowered others to act
 - QUEST + PLETSUS
7. Generated short-term wins
 - QUEST + measurement + communication

Toktay, L.B., L. Selhat and R. Anderson
“Doing Well by Doing Good: Interface’s Vision of
Being the First Industrial Company in the World to
Attain Sustainability”

Sustainability Transformation

8. Consolidated gains and create even more change
 - Evergreen Lease
 - Cool Carpet
 - Carpet Recycling
 - Bio-based product research
9. Institutionalized new approaches in culture
 - Education & incentives at all levels
 - Inextricable part of the brand

Toktay, L.B., L. Selhat and R. Anderson
“Doing Well by Doing Good: Interface’s Vision of
Being the First Industrial Company in the World to
Attain Sustainability”

A Shifting Landscape

93% of CEOs believe that sustainability issues will be critical to the future success of their business.

72% of CEOs cite “brand, trust and reputation” as one of the top three factors driving them to take action on sustainability issues. Revenue growth and cost reduction is second with 44%.

91% of CEOs report that their company will employ new technologies (e.g., renewable energy, energy efficiency, information and communication technologies) to address sustainability issues over the next five years.

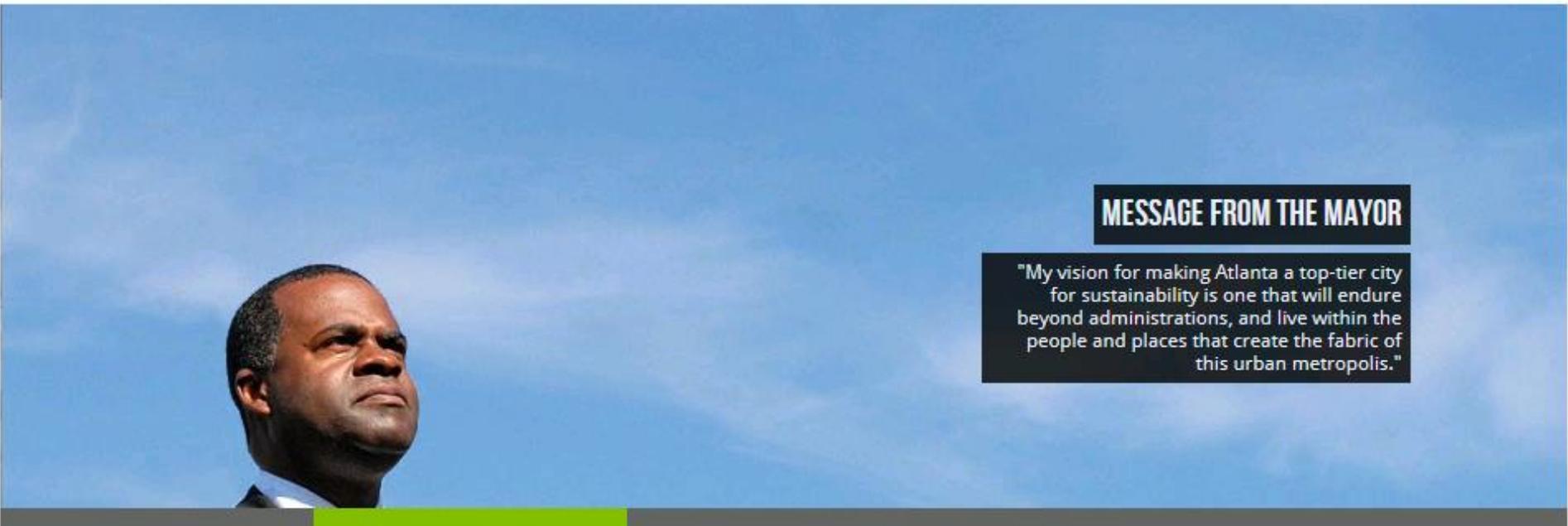
Source: A New Era of Sustainability, UN Global Compact-Accenture CEO Study 2010

A Shifting Landscape



ready.set. realize

about p2c i'd like to... green initiatives green policies



MESSAGE FROM THE MAYOR

"My vision for making Atlanta a top-tier city for sustainability is one that will endure beyond administrations, and live within the people and places that create the fabric of this urban metropolis."

What motivated these firms?

What stakeholders mattered?

What drives these stakeholders?

- What are underlying trends/concerns that either directly or indirectly push companies to develop a sustainability strategy?

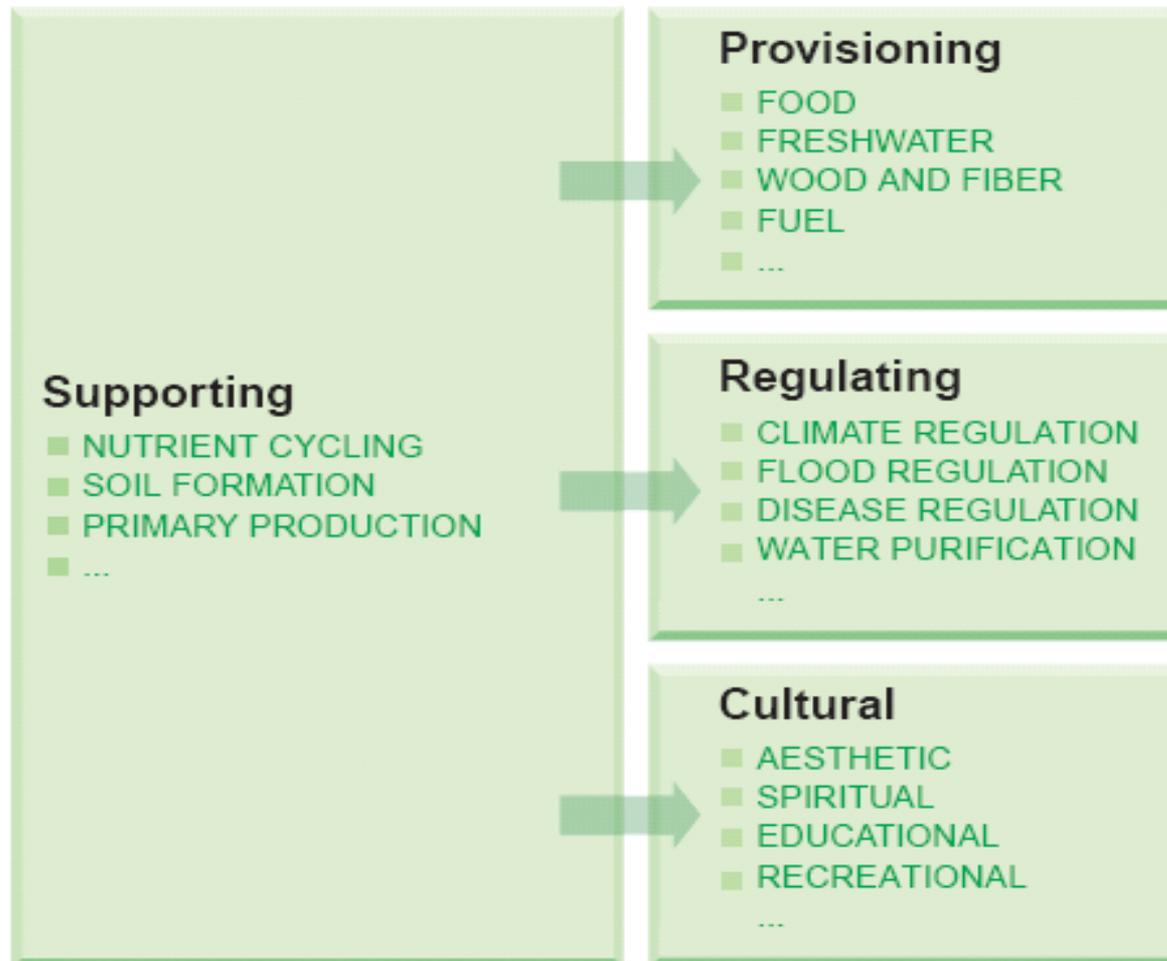
Environmental Trends



"So that's where it all goes! Well, I'd like to thank you fellows for bringing this to my attention."

What Value does Nature Provide?

ECOSYSTEM SERVICES

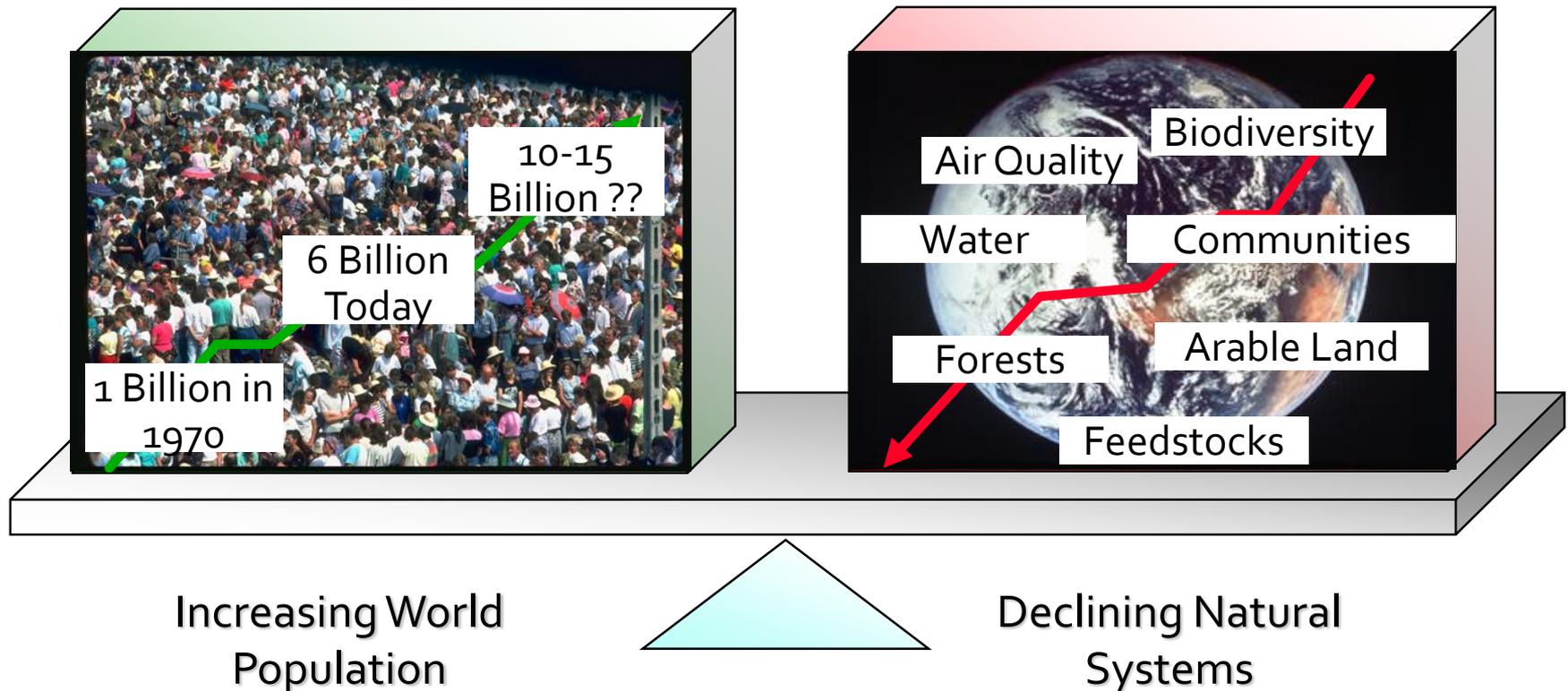


Value of Ecosystem Services

- Value of Ecosystem Services = \$33 trillion
 - range: 16 - 54 trillion
 - 1.8 x Global GNP
- Majority of the value of these services is outside the market system

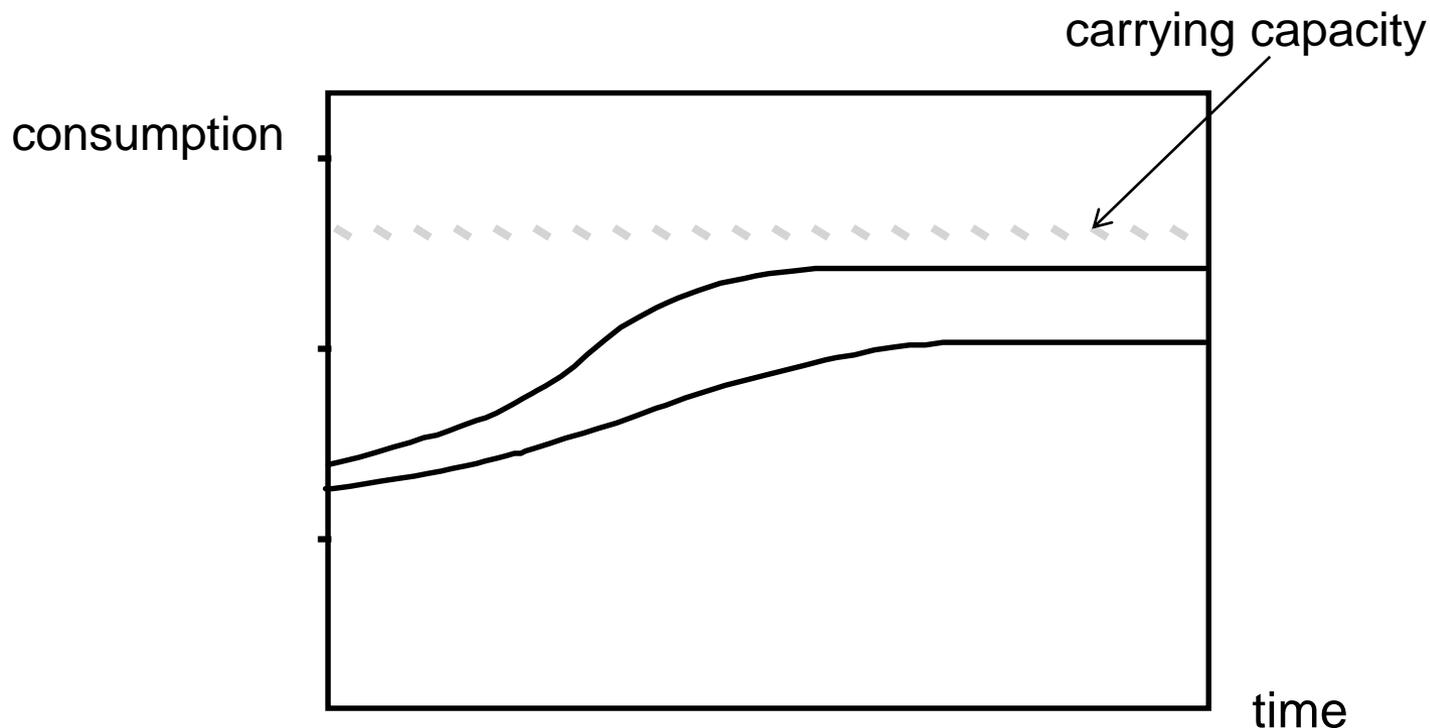
UN Millennium Ecosystem Assessment Findings

- Over the past 50 years, humans have changed ecosystems more rapidly and extensively than ever (world population doubled and economy grew six-fold). The degradation of ecosystem services could grow significantly worse during the first half of this century



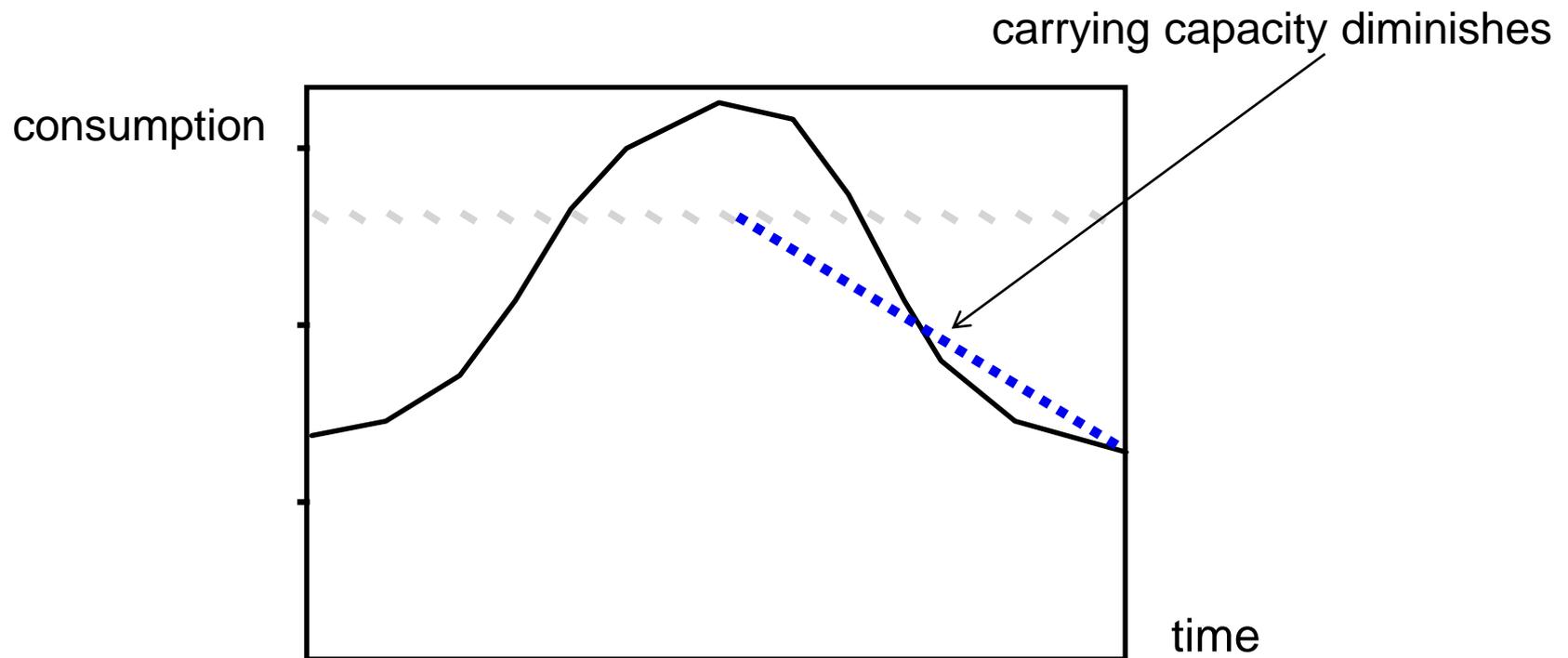
UN Millennium Ecosystem Assessment Findings

- The majority of ecosystem services are degraded and at increased risk of **nonlinear change**.

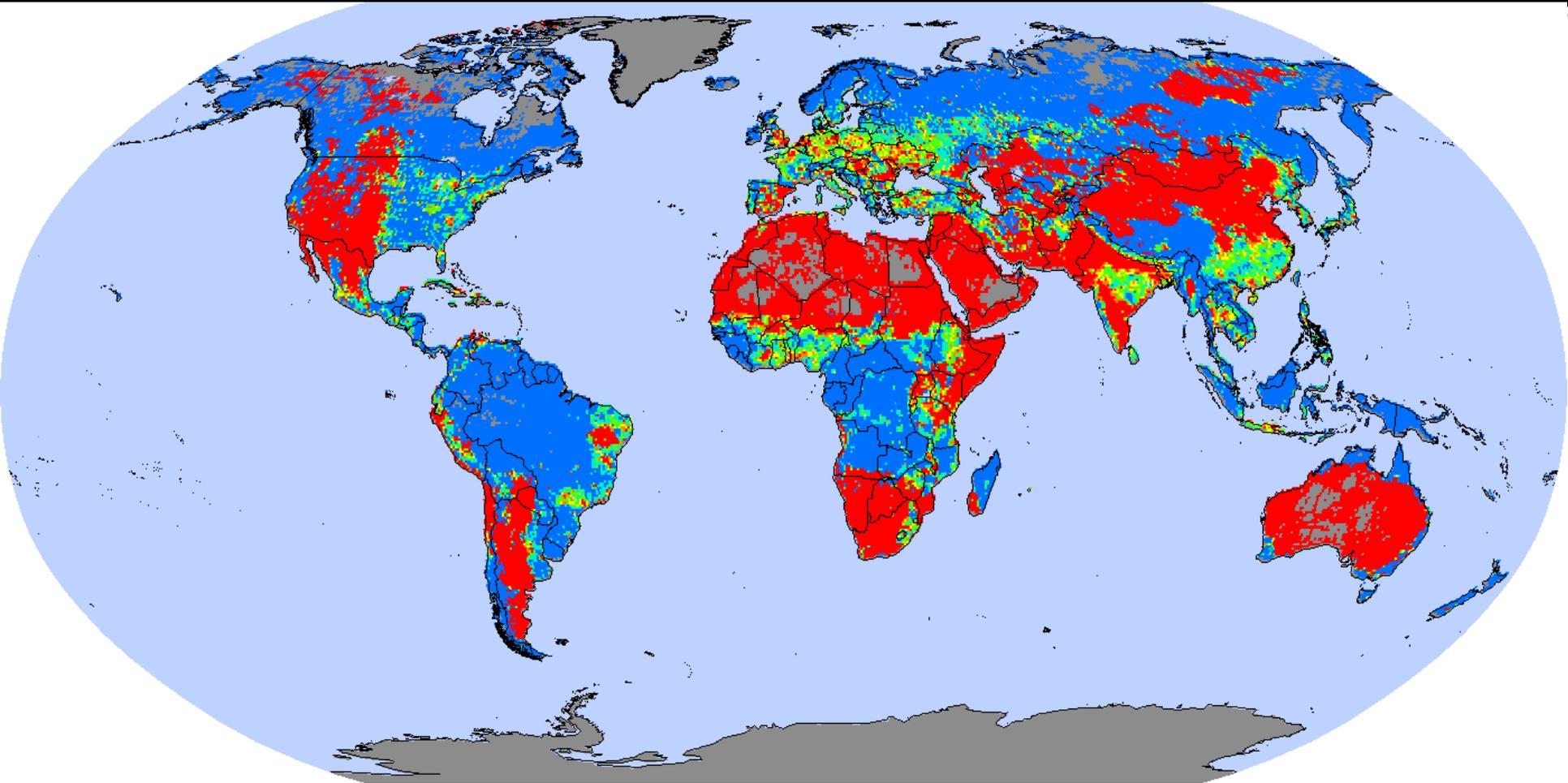


UN Millennium Ecosystem Assessment Findings

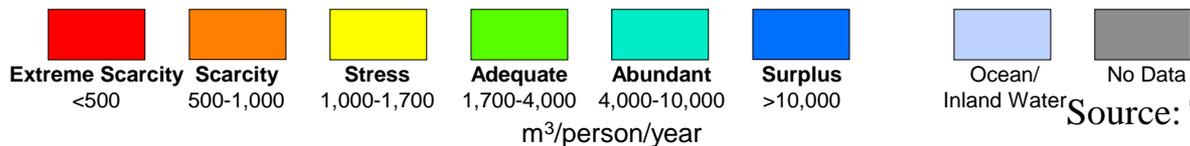
- The majority of ecosystem services are degraded and at increased risk of **nonlinear change**.



Irreversible Groundwater Depletion



2003 data



Source: The Coca-Cola Company

Global Warming: How Warming Begets more Warming

Ocean Carbon Uptake: A warmer ocean absorbs less CO₂ from the atmosphere.

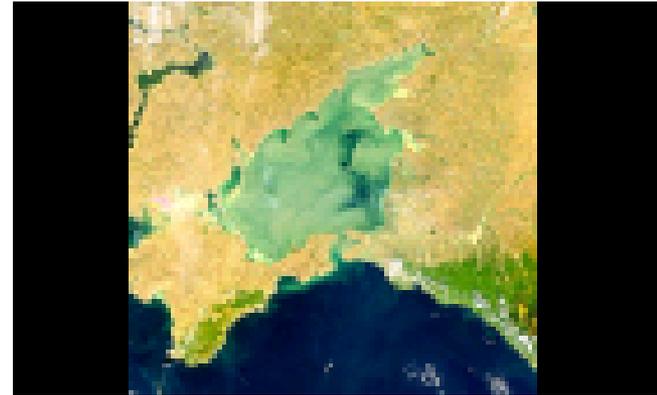
Soil Respiration: Warming increases microbial activity in soils and hence the rate of release of CO₂. Also releases methane from permafrost.

Water Vapor: A warmer atmosphere holds more water vapor, which is a greenhouse gas and amplifies warming.

Ice-Albedo: White areas reflect sunlight and dark areas absorb it. Warming melts ice and snow, which decreases the reflectivity of the planet, and causes further warming.

Eutrophication: A Tipping Point Phenomenon

- ❑ Result of high “nutrient” loading (e.g. phosphates from fertilizers)
- ❑ Abrupt and extensive change to freshwater and coastal eco-systems
- ❑ At the extreme, oxygen depletion kills all animal life

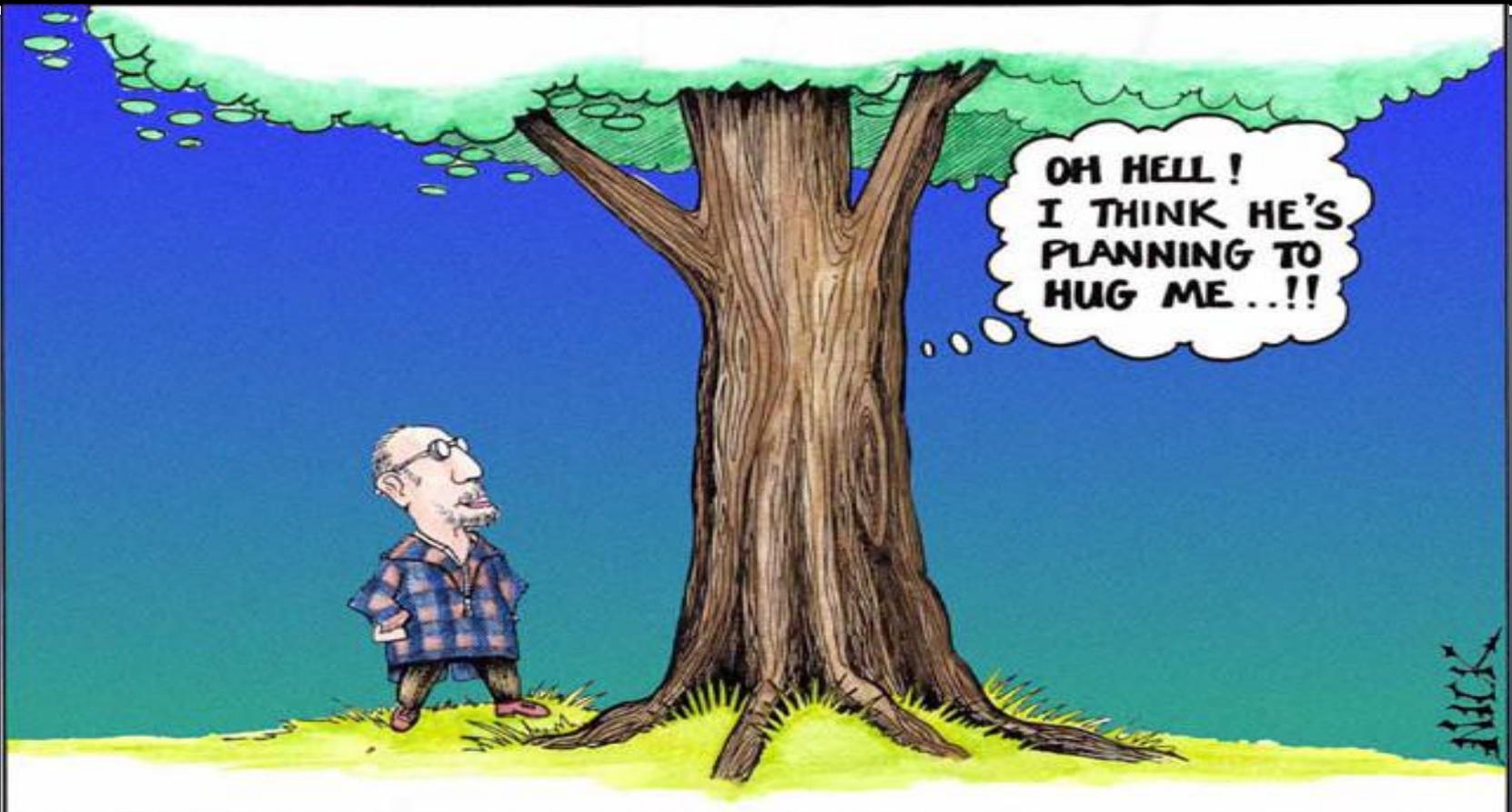


Eutrophication in the Sea of Azov
(http://visibleearth.nasa.gov/view_rec.php?id=1326)

UN Millennium Ecosystem Assessment

- ❑ Reversing the degradation of ecosystems while meeting increasing demands for their services is partially feasible
- ❑ .. but these involve significant changes in policies, institutions and practices, that are not currently under way

The Business Perspective



Reasons for Beyond Compliance Behavior

- Business reasons
 - Potential for cost/risk reduction
 - Reputation/consumer good will/right to operate
 - Marketing opportunities
 - Innovation opportunities
- Legal reasons
 - Liability
 - Current and impending regulation
- Ethical reasons
 - Personal or institutional culture

Water & Coca Cola

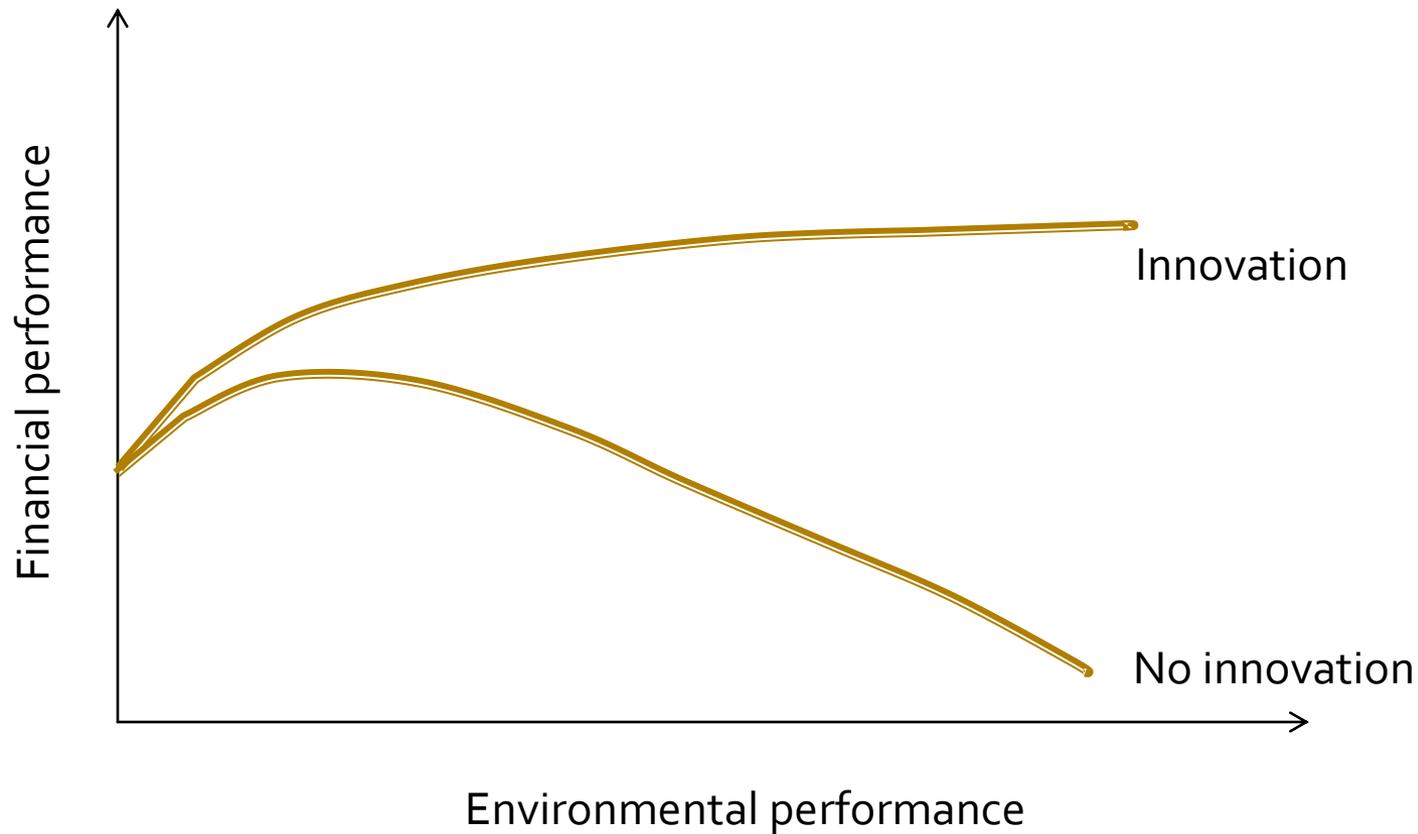
- Business issues
 - assurance & quality of supply
 - reputation & the right-to-operate
- Ethical/social justice issues
 - Dehydration/access to safe drinking water
- Legal issues
 - Highly local patchwork of water regulation

Reasons for “Dragging Feet”

Barriers

- Real or perceived trade-offs
- Short-term Incentives
- Shortage of expertise
- Capital budgeting limitations
- Investor pressure

About Trade-offs



Source: Eccles and Serafeim, *The Performance Frontier*

Sustainability Strategy

- A strategy that simultaneously boosts financial performance and environmental/social performance

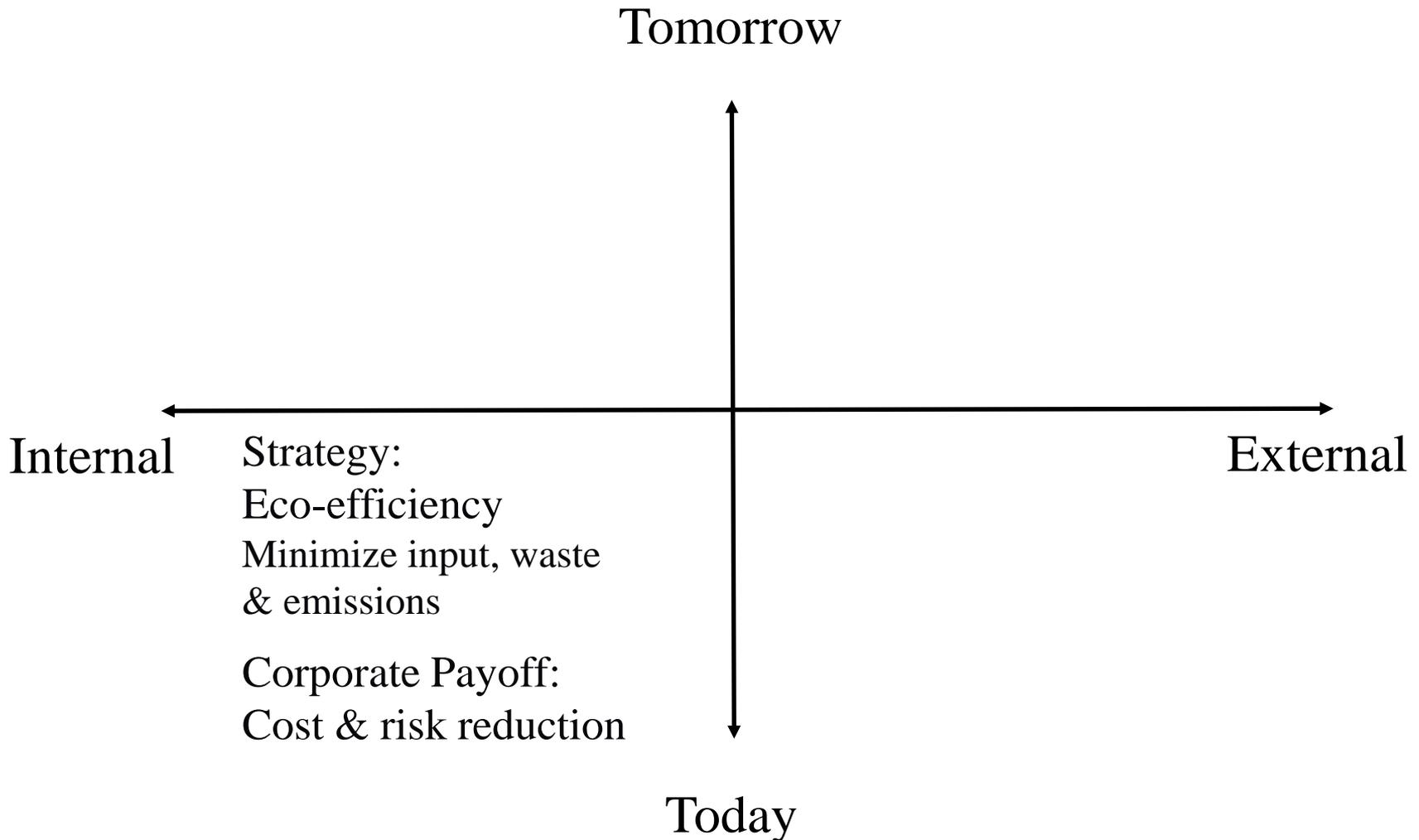


A strategy that focuses on “material” issues and produces major product, process or business model innovation



A mish-mash of sustainability tactics not directly relevant to strategy and operations

Sustainable Value Framework



Source: Hart, *Capitalism at the Crossroads*

Eco-Efficiency

- Don't put your efforts in the back-end



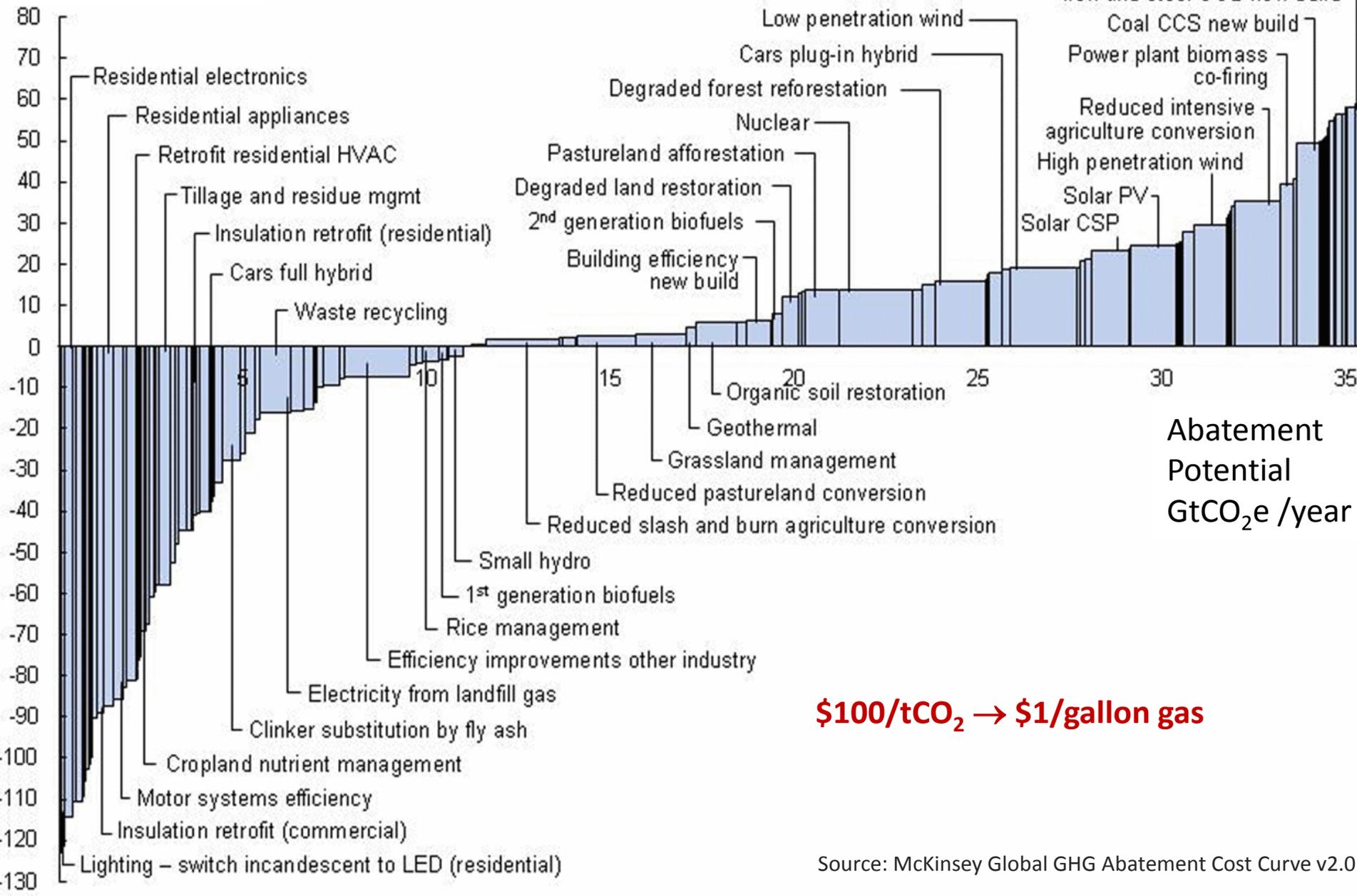
➤ Fewer inputs,
less waste,
less emissions
for the same
level of output =
cost savings!

Eco-Efficiency

- Example: 3M Pollution Prevention Pays (3P)
 - Launched in 1975
 - 7400 projects prevented more than 2.9b lbs of pollutants and saved nearly \$1.2b
 - 80% improvement in energy efficiency at 3M's U.S. operations since 1973 and 43 percent improvement in energy efficiency at 3M's operations worldwide since 1998
 - Reduced absolute greenhouse gas emissions by 50% from 1990 base

Abatement Cost

\$/tCO₂e

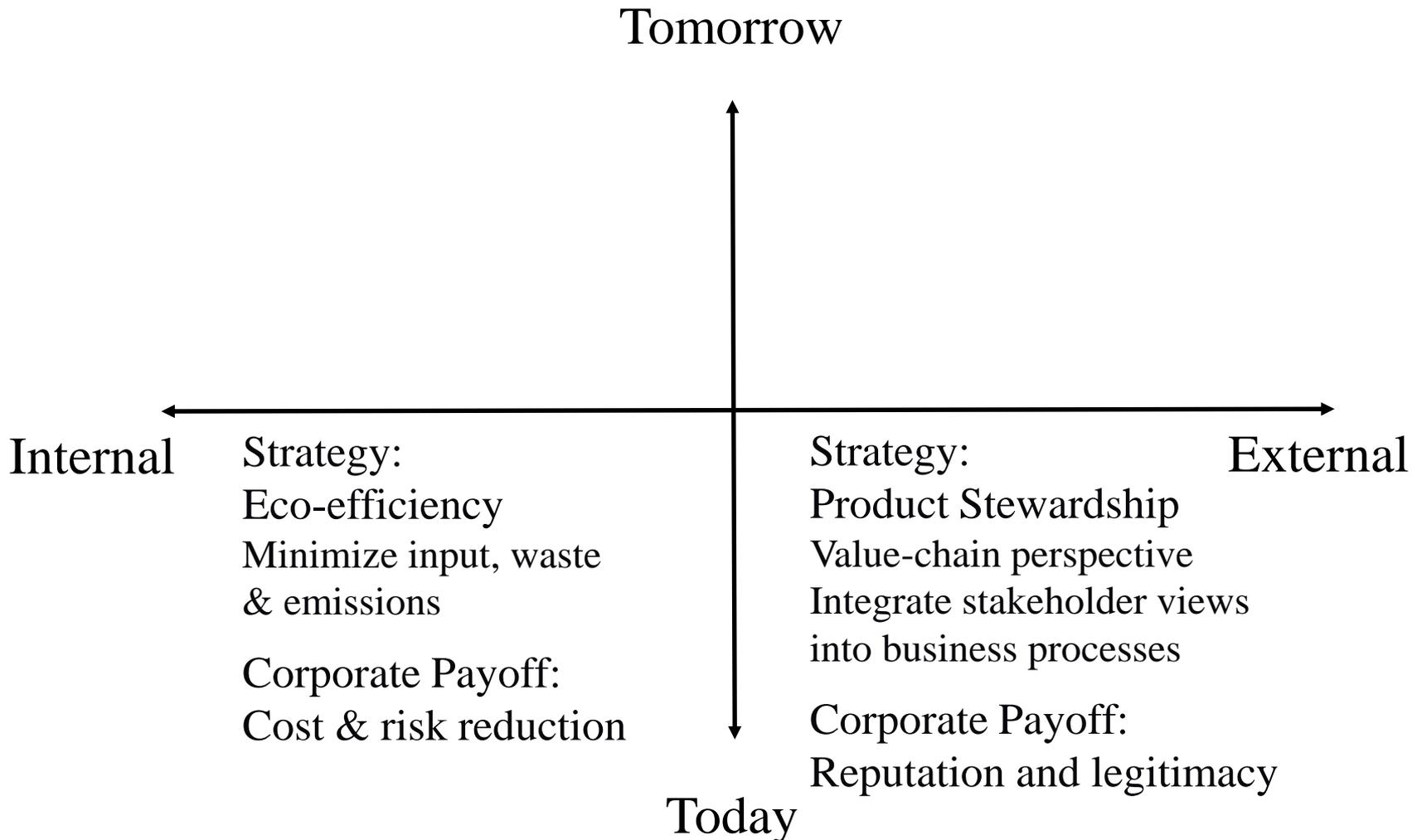


Abatement Potential
GtCO₂e /year

\$100/tCO₂ → \$1/gallon gas

Source: McKinsey Global GHG Abatement Cost Curve v2.0

Sustainable Value Framework

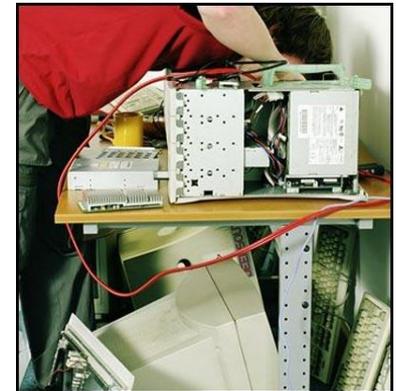


Source: Hart, *Capitalism at the Crossroads*

IBM Global Asset Recovery

Some Figures:

- Annual collection volume > 1M machines
- 85% reutilized, refurbished, resold
- Annual end-of-life + waste volume processed > 50,000t
- Annual recycling volume > 18,000t
- Billions \$ of revenues from equipment, parts, and material sales



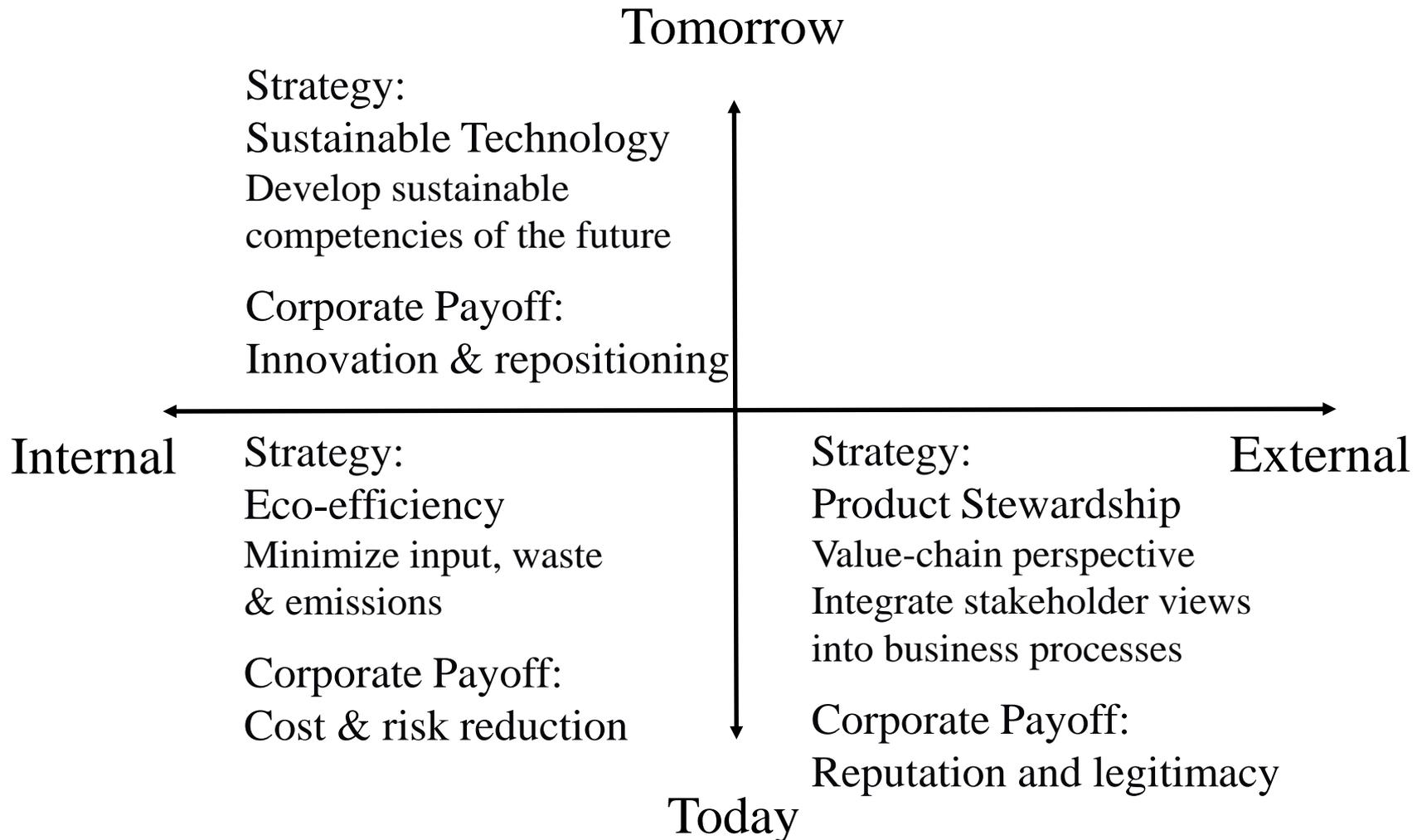
Caterpillar Remanufacturing Division

Remanufacturing Business Model:

- 200 dealers keep close tab on customers
- Customers get 50% discount for returning an old part
- Receives about 2M old parts per year
- Approximately \$2B in sales per year
- The remanufacturing division is Caterpillar's fastest growing division



Sustainable Value Framework



Source: Hart, *Capitalism at the Crossroads*

GE Eco-Imagination

“Ecomagination is GE's commitment to build innovative solutions for today's environmental challenges while driving economic growth.”

“Ecomagination helps our customers save billions of dollars and reduce their environmental impact.”

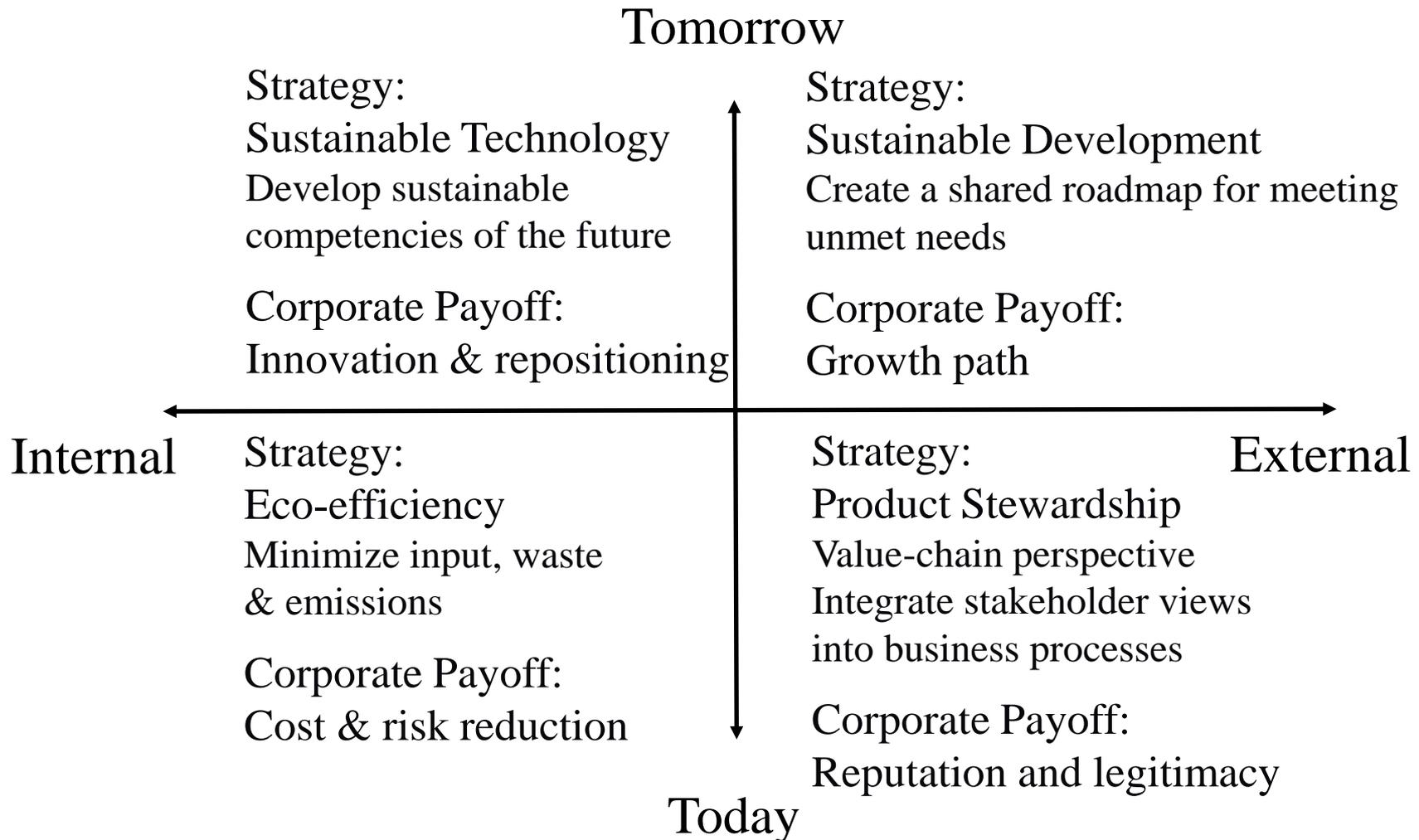
4 See how data and software models helped us build our cleanest next-gen locomotive yet.



5 GE Power & Water's wind technology is reaching new heights.

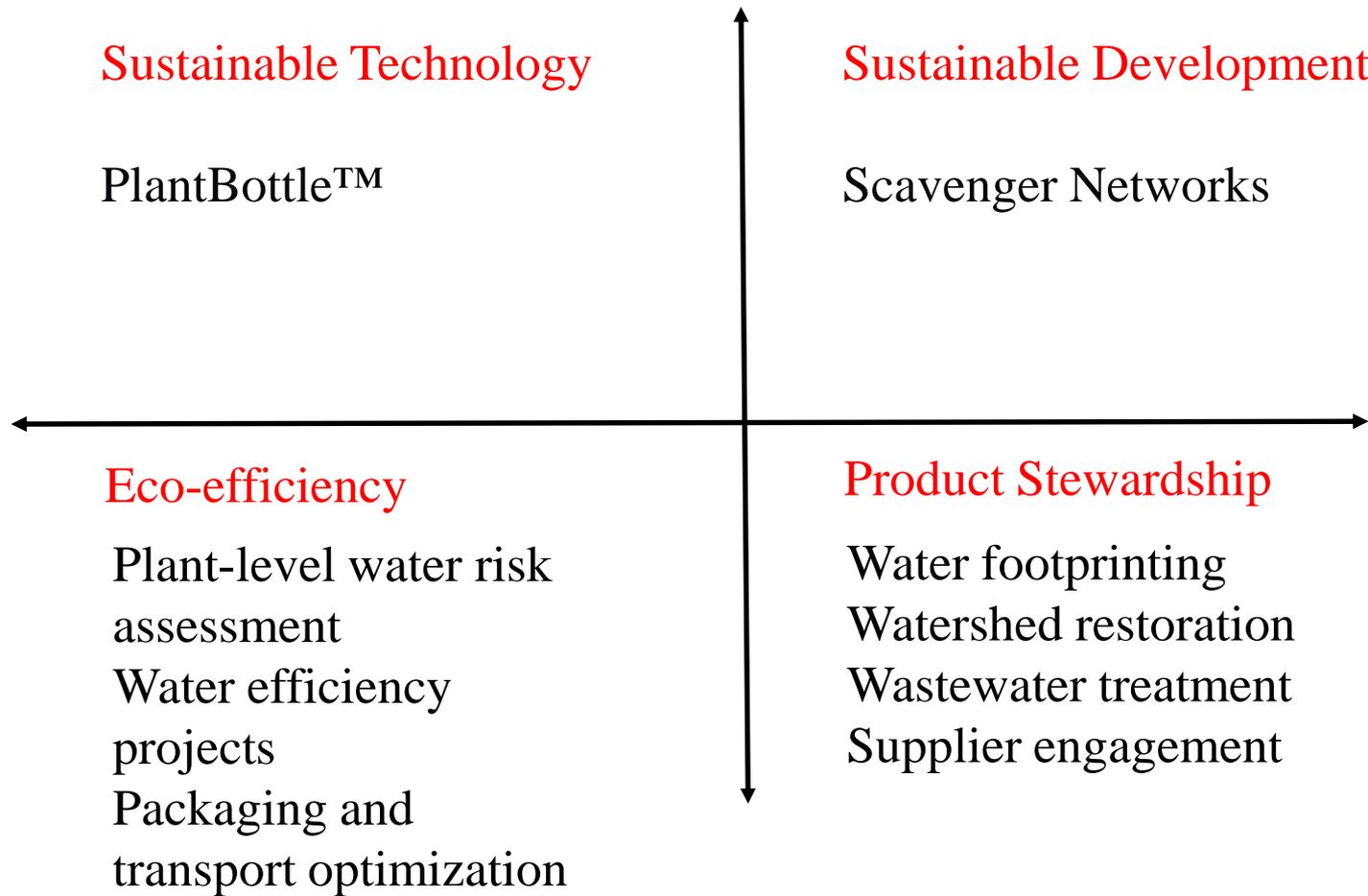


Sustainable Value Framework

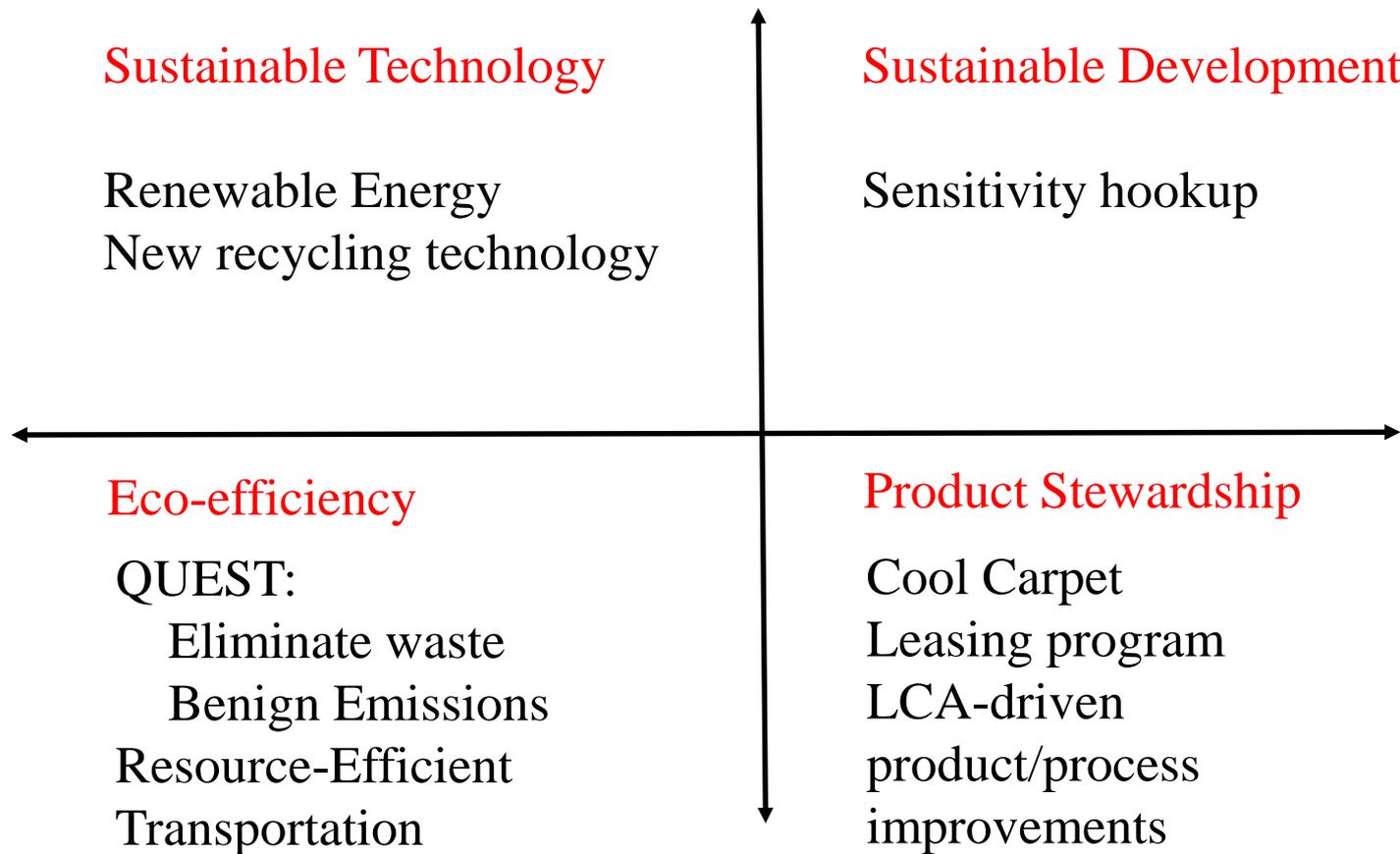


Source: Hart, *Capitalism at the Crossroads*

Coca-Cola's Sustainability Strategy



Interface's Sustainability Strategy



Main Take-Aways

- Industry evolution: compliance resistant /blind spots → compliant → beyond compliance → comprehensive value-add sustainability strategy
- An effective sustainability strategy is one that focuses on “material” issues and produces major product, process or business model innovation

About this Class



Learning Objectives

- By the end of this course, you should
 - Be aware of the environmental and regulatory context within which businesses operate today
 - Know about major business strategies and best practices for addressing environmental challenges
 - Be positioned to take a lead in formulating an effective sustainability strategy for your firm
 - Have experienced developing a high potential business idea that addresses a sustainability need

How will we get there?

1. Awareness. “Fundamentals” module
2. Understanding the parts: “Integrating Sustainability into Business Functions” module
3. Integration and synthesis: Last module + sustainability consulting class next semester.
4. Innovation: Innovation Tournament for Sustainability

Aligned with Business Needs

96% of CEOs believe that sustainability issues should be **fully integrated into the strategy and operations** of a company (up from 72% in 2007).

49% of CEOs cite complexity of **implementation across functions** as the most significant barrier to implementing an integrated, company-wide approach to sustainability. Competing strategic priorities is second with 48%.

88% of CEOs believe that they should **be integrating sustainability through their supply chain**. Only 54% believe that this has been achieved within their company. An almost identical performance gap is seen for subsidiaries.

86% of CEOs see “**accurate valuation by investors** of sustainability in long-term investments” as important to reaching a tipping point in sustainability.

Source: A New Era of Sustainability, UN Global Compact-Accenture CEO Study 2010

What will it take to excel in class?

- High quality preparation and participation, 25%
 - Participation grading: -1 (absent), 0 (present but mostly silent), 1 (good comments), 2 (excellent comments)
- Well-reasoned analyses, supported by facts
 - 2 individual assignments, 10% each + 1 team case assignment, 20%
- Engagement in innovation tournament
 - 20% instructor evaluation (effort, quality, analysis)
 - 15% peer evaluation (participation, feedback value)

Resources @ Scheller

- Center on Business Strategies for Sustainability
 - http://scheller.gatech.edu/news_room/news/2013/articles/sustainablebusinesscenter.html
 - http://scheller.gatech.edu/news_room/news/2013/articles/howardconnell.html

Center-Affiliated Faculty



Beril Toktay
Faculty Director



Lucien Dhooge



Atalay Atasu



Omar Rodriguez-Vila



Howard Connell,
Managing Director



Ravi Subramanian



Sudheer Chava



Manpreet Hora

Course Outline (see page 5 for detailed course schedule)

The first three weeks will focus on readings, lecture, project “pitch” presentations from the sponsor company liaisons, and the consulting skills you will use at the start of your projects. I will introduce three foundational sustainability frameworks that we will revisit throughout the semester from multiple angles.

In week four, you officially kick off your projects and begin weekly status reports. For the next several weeks we’ll dive deeper into consulting skills and sustainability frameworks and resources in line with your project timelines.

In week 8 or 9, the reading requirements and class content will slow down while you focus on your projects and we all collaborate and share insights or issues on them. Class time for the rest of the semester will be balanced between topics specific to the projects and team challenges, strategic sustainability issues at top of mind for leaders today, and a few guest speakers. During this time I will ask some individual students or teams to share insights or experiences from your projects that the class as a whole would find valuable.

The final 2 weeks will focus solely on driving your projects to successful completion.

Readings

Please come to class prepared to contribute to the discussions. Although there is no required textbook or pre-compiled course packet for purchase, there are many required readings listed in the course schedule. All readings should be available for no charge via the online databases and research services available at the Georgia Tech library website and possibly via standard internet searches. You are responsible for finding and – if desired – printing them on your own. I cannot post direct links to them due to potential copyright violations. If you cannot find them after a bit of diligent searching, please let me know. I will shift the schedule and timing of some assignments as needed during the semester. In these cases I will inform you in advance in class and via T-square/email.

Course Format

Due to the nature of this course and the inherent complexity that can arise in aligning sponsors, projects, teams, and class cadence, there may be alterations to the schedule. As much as possible, I will stick to dates for any graded components and will announce all changes in class and broadcast via T-square/email.

I suggest the final presentation to your sponsor be in class during the final class sessions of the semester if conducive to your client’s needs and availability (which will not be the case in some instances). If the team and sponsor determine a different arrangement is preferred, please keep me informed. Regardless of when and where your final meeting is with your sponsor, each team is required to present the findings and project summary to the class during those final two sessions.

NOTE on Weekly Project Status Updates:

During the 12 weeks of your projects, each team will be required to submit a project status report as indicated on the detailed schedule below and as follows:

- “E” – On alternating weeks during the projects. Submit electronic (email) status report template to me and your client liaison by Sunday at midnight; just before the Monday indicated on the syllabus. For example, the first one is listed on Monday, Sept. 9th. Submit this status report to me no later than the preceding day, Sunday, Sept. 8th. The suggested template format will be provided no later than class time on Sept. 4th.
- “P” – On the other alternating weeks during the projects. Each team (at least one representative) will meet with me in person during that week. For example, the first one is listed on Sept. 16th. The meeting should occur sometime Sept. 16 – 20. Each team can schedule these with me in advance based on availability, which I recommend. I prefer these occur on Mon – Wed if possible. These should last 15 – 30 minutes and cover the basic project update and allow us to discuss any project concerns, brainstorm on

challenges, or test ideas. You may request a 30 minute extension if you would like and have a specific agenda or concern.

Required Project Deliverables to Client and Professor:

1. Letter of Engagement (LOE) **Target due date:** Sept. 9
To be prepared by the team following the initial discussion(s) with the project liaison. Sharing completed drafts and making revisions in consultation with your project liaison are entirely appropriate. The final version must be approved by the project liaison in writing (email is fine). It should include:
 - What the team will accomplish
 - Methods to be used including anticipated levels of interaction and communication
 - Resources required and planned process for any complex issues (e.g., budget, interview scheduling)
 - Work products, reports, and/or briefings to be delivered

2. Detailed Project Work Plan: **Target due date:** Sept. 13
To be completed based on LOE; I suggest considering starting the work plan in parallel to the LOE as it is due only a week later and is typically an iterative process that can take longer than anticipated. It will likely be in a Gantt chart or similar timeline format with detailed steps by phase, due dates for milestones, and projected interim and final deliverables.

3. Mid-Term Presentation to the Client: **Target due date:** Oct. 18
This serves to assure the project is on track, the team and liaison are aligned on remaining activities, and the insights and anticipated deliverables meet expectations. Client preferences regarding content, tone, location, and so forth should be honored as much as possible. In many cases, enough insights will have been developed at this point to discuss what the final results and output may look like with the liaison.

4. Final Report and Presentation: **Target due date:** week of Dec. 2
The team will present their findings in a formal presentation to the client as well as to the class. These may either be combined wherein you invite your client liaison to come to class or alternatively you may have a formal meeting with the client liaison and give a “report out” to the class. The team will provide a final deliverable and all other interim deliverables and presentation materials to the client as well as to me. Please schedule the in-class presentation in consultation with me.

5. Weekly Status Updates: **Ongoing:** Sept. 8 – Nov 29
As indicated on page 2 and on detailed schedule

Role of Professor

I will serve as an aide, counselor, and advisor for the teams. I will not conduct analysis or create content, but will provide feedback on approaches and brainstorm with you. I do not serve as a team liaison or representative to your client during your project. The team must organize itself and identify such a liaison.

Role of Team

I anticipate each will consist of three to four students although a team of more or less could be suggested based on project needs and student interest. In addition to class time and client meetings, successful projects will typically require extensive independent or client-guided research and meeting extensively outside of class. Please be mindful of your client’s time and goals (e.g., be well prepared for meetings, clear on who’s leading each part of the discussion vs. who is taking notes, have a designated team contact-lead with your liaison for scheduling meetings, requesting information, etc.). I also suggest you manage your client’s expectations and ensure they are engaged, informed, and aligned. Over-communication is likely better than under-communication. I also recommend each team (students only) consider developing a team contract in order to set expectations and processes.

Meeting with your client or others at their location could be a valuable and insightful experience. I suggest exploring this when and where it is conducive to project needs and the availability of the team and liaison.

Grading:

Your final grade will be based on the following. Guidance regarding what constitutes excellent, good, fair, and poor versions of each of these will be provided and/or discussed in class.

Final project deliverable(s)	25%
Sponsor company evaluation on the team, engagement management, and results	15%
Timing and quality of weekly status reports and bi-weekly meetings with professor	15%
Written assignments	15%
Letter of engagement and initial project plan	10%
Mid-Term presentation deliverable	10%
Final presentation in class	10%

Written Assignments

Personal career and class expectations memo should be ~1 page and summarize your career experiences, considerations, what you hope to gain from the MBA program and more specifically this class, and any concerns or questions you may have regarding it. Grading will be on a 0 (not submitted) – 4 (insightful, thoughtful, concise, introspective) scale.

Observations and opportunities memos offer you a change to examine a particular subject or consider opportunities within an industry, a specific area of sustainability, or in relation to your career planning. These should be ½ - 1 page in length and should not take a significant investment of time, but I do expect thoughtful effort. Grading will be on a 1 – 4 scale.

WWW/EBI memos stand for “what went well” and “even better if”. These can be as short as ¼ page and up to 1 full page in which you share quick thoughts on what is going well in this class and how I could make it even better, either this semester or for future classes. The only grade you will receive on WWW/EBI memos is full or no credit based on handing it in, but I do expect thoughtful input.

These and any other written assignments will be discussed in class before they are due.

Class collaborative

From time to time we will take time to learn from each other and improve our collective project work. This may include full class discussions, breaking into groups, a workshop format, or team pairing up to review each other’s work and offer constructive suggestions. Feel free to reach out to me if you have recommendations or requests relating to this that you feel would be valuable to the projects as a whole.

Context and Current Events

Some days we will take time to discuss current events in the news and/or your projects and how they relate to sustainability, especially in the context of companies, consulting, running a business, and the economy. Please keep this in mind, bring them up in class, or reach out to me if you would like to have a slot of time in class. Your grade will not be influenced by this component.

	Proj. Week	Required Status Updates	Key Activities c = by class eod = end of day e = electronic or by appt.	Topics	Readings to be completed before class	
19-Aug				<ul style="list-style-type: none"> • Introductions • Course Overview • Context & current events 		
21-Aug			Personal career and class expectations memo due (c) Projects Presentations from Sponsors, session 1	<ul style="list-style-type: none"> • Client engagement and problem structuring 	-Creating Shared Value, Porter & Kramer, Harvard Business Review, Jan/Feb 2011 -Net Positive Strategy: Where Environmental Stewardship Meets Business Innovation, Steiman, MIT Sloan Management Review, Summer 2013 -Checklist to Assess Client Readiness, Schaffer, Consultants News, May 1992	
26-Aug			Projects Presentations from Sponsors, session 2 Project bid sheets due 8/27 (eod)	<ul style="list-style-type: none"> • Sustainability and frameworks intro 	-Top Ten Reasons Why Businesses Aren't More Sustainable, Laughland & Bansal, Ivey Business Journal Online, Jan/Feb 2011 -Financial Performance: An Integral Piece of the Sustainability Pie, Leavoy & Phyper, EHS Today, Oct 2010.	
28-Aug			Frameworks exercise due (c) Teams and projects assigned 8/29 (eod)	<ul style="list-style-type: none"> • Resources and tools for effective projects and teams • Project scoping and engagement letters 	-Forward looking or looking unaffordable?, Mason & Simmons, Business Ethics: A European Review. Apr2011, Vol. 20 Issue 2, p159-176	
2-Sep			Labor Day (no Monday classes)			
4-Sep			Class collaborative: engagement letter review and feedback Engagement letters due 9/6 (eod)	<ul style="list-style-type: none"> • Client relationship management • Project management tools • Saving time and staying sane 	-Conducting a high-quality consulting engagement, Kudla, Ohio CPA Journal, Jul-Sep 1998 -Influence and power dynamics in client-consultant teams, Journal of Strategy and Management, Nikolova & Devinney, 2009	
9-Sep			1	E	Class collaborative: work plan review and feedback Observations and opportunities memo 1 due (c)	<ul style="list-style-type: none"> • Structure and logic • Rigor with ambiguity, messy data, and other challenges
11-Sep			Project work plan due 9/13 (eod)	<ul style="list-style-type: none"> • Ecoplays Framework 		
16-Sep	2	P		<ul style="list-style-type: none"> • Lifecycle Thinking • Heat Mapping 		

	Proj. Week	Required Status Updates	Key Activities c = by class eod = end of day e = electronic or by appt.	Topics	Readings to be completed before class
18-Sep				<ul style="list-style-type: none"> Applying the 3 Pillars - Environmental, Social, Economic Putting it all together 	-The Social Responsibility of Business is to Increase its Profits, M. Friedman, New York Times Magazine, September 13, 1970 -Sustainability and the Bottom Line, R.C.Anderson, Journal of Values Based Leadership, Vol.2, Issue 1, Winter/Spring 2009
23-Sep	3	E	Class collaborative	<ul style="list-style-type: none"> Context & current events Touch base and problem solve on projects 	
25-Sep				Guest Speaker TBD	
30-Sep	4	P	Project WWWEEE memo 1 due (c)	<ul style="list-style-type: none"> Challenges and complexity in measuring impacts Boundaries and assumptions 	-Sustainability of Compostable Products, Yepsen, Rhodes. BioCycle, Sep 2009
2-Oct			Class collaborative	<ul style="list-style-type: none"> Context & current events Touch base and problem solve on projects 	
7-Oct	5	E	Observations and opportunities memo 2 due (c)	<ul style="list-style-type: none"> The Circular Economy Guest Speaker TBD	-Towards the Circular Economy, Vol. 1, Executive Summary, Ellen MacArthur Foundation web site
9-Oct			All week: mid-term meeting advising & feedback as need and requested by teams (email / phone only)	Guest Speaker TBD	
14-Oct	6	P	Fall Break (no Monday or Tuesday classes)		
16-Oct			Deadline for mid-term meeting with client and turning in the deliverable: 10/18 (eod)	<ul style="list-style-type: none"> Context & current events Touch base and problem solve on projects 	-Collaborating for a More Sustainable Supply Chain, Laseter & Gillis, Supply Chain Management Review, Sept/Oct 2012
21-Oct	7	E	Class collaborative	<ul style="list-style-type: none"> Workshop and shared learning Project success and challenges 	
23-Oct				<ul style="list-style-type: none"> Brands, sustainability, and the mass consumer 	

28-Oct	8	P	Project WWW/EBI memo 2 due(c)	<ul style="list-style-type: none"> • Context & current events • Touch base and problem solve on projects 	
30-Oct					
4-Nov	9	E			-Sustainability Rising, Lajoux & Martel, NACD Directorship. Mar/Apr2013, Vol. 39 Issue 2
6-Nov			Class collaborative: work plan review and feedback		
11-Nov	10	P	Observations and opportunities memo 3 due(c)	• Career management: My 2 cents	
13-Nov					-Sustainability Nears a Tipping Point, MIT Sloan Management Review, Winter 2012
18-Nov	11	E	<ul style="list-style-type: none"> • Touch base and problem solve on projects • Context & current events • Possible guest speaker 		
20-Nov					-Towards the Circular Economy, Vol. 2, Executive Summary, Ellen MacArthur Foundation web site
25-Nov	12	P			
27-Nov				<i>(Thanksgiving: Thursday 11/28)</i>	
2-Dec			Project WWW/EBI memo 3 due(c)	• <i>Project Presentations</i>	
4-Dec				• <i>Project Presentations</i>	
9-Dec				<i>FINALS (Good Luck!)</i>	
11-Dec					

**Sustainability-themed Cases Written by Frank Rothaermel
Used in MGT 6125 – Strategic Management**

Case Title: Tesla Motors (in 2009) and the U.S. Auto Industry (Case A)

Unique ID: MHE-FTR-002-0077645065

Abstract: After a series of entrepreneurial successes, Elon Musk invested and took a leadership role in Tesla Motors, a company dedicated to commercializing the fully electric car for the mass market. Tesla's current product, the Tesla Roadster, is considered the first fully electric vehicle capable of replacing a gasoline-powered automobile due to its high performance and acceptable range. As other companies, including the traditional vehicle manufacturers and new entrants, develop their own electric vehicles, Musk must decide what to do with Tesla Motors as a company. Should he sell to a larger manufacturer, take the company public to generate the capital for growth, or remain a private niche company? Could Tesla expand their product line to compete with the traditional players in the market?

Concepts: Mission/Vision, Strategic Planning, External Analysis, Competition, Internal Analysis, Business Strategy, Operations, Innovation, Technology, International Strategy, Strategic Leadership, Sustainability

Context:

- Protagonist: Elon Musk, CEO
- Country: USA
- Sector: Automobile Manufacturing
- Company Employee Count: 514
- Company Revenue: \$126.8 million
- Ticker Symbol: private in 2009 (now TSLA)
- Event Year Begin: 2009
- Event Year End: 2009

Teaching Note: Available

Case Title: Tesla Motors (in 2011) and the U.S. Auto Industry (Case B)

Unique ID: MHE-FTR-003-0077645065

Abstract: Now a public company, Tesla Motors has grown from an IPO and partnerships with Daimler and Toyota. Tesla has forgone the traditional dealership business model to sell directly to the public, creating a unique customer experience. Now faced with negative press and reports from analysts that Tesla vehicles are too expensive, Elon Musk must decide what the next steps for Tesla Motors are.

Concepts: Strategic Planning, External Analysis, Competitive Advantage, Strategic Alliance, Mergers & Acquisitions, International Strategy, Organizational Structure, Strategic Leadership

Context:

- Protagonist: Elon Musk, CEO
- Country: USA
- Sector: Automobile Manufacturing
- Company Employee Count: 800+
- Company Revenue: \$116.7 million
- Ticker Symbol: TSLA
- Event Year Begin: 2010
- Event Year End: 2010

Teaching Note: Available

Case Title: InterfaceRAISE (in 2010): Raising the Bar in Sustainability Consulting

Unique ID: MHE-FTR-005-0077645065

Abstract: Following Ray Anderson's guidance and vision, Interface, a modular carpet and commercial broadloom company, had implemented a business model focused on sustainability. The results had been not just good for the environment but also for Interface's costs and bottom line. When larger companies such as Walmart came to see Interface's sustainability practices in person to learn how sustainability could benefit their companies, Anderson started InterfaceRAISE, a sustainability consulting company, and made Jim Hartzfeld Managing Director. Now faced with growing the business, Jim must consider what he will need to do to increase InterfaceRAISE's influence for sustainable business on the corporate world

Concepts: Stakeholders, Mission/Vision, Strategic Planning, External Analysis, Competition, Internal Analysis, Competitive Advantage, Branding, Social Responsibility, Business Strategy, Corporate Strategy, Organizational Culture, Organizational Structure, Strategic Leadership, Sustainability

Context:

- Protagonist: Jim Hartzfeld, Managing Director
- Country: USA
- Sector: Carpets and rugs; environmental consulting
- Company Employee Count: <50
- Company Revenue: < \$1 million (2010)
- Ticker Symbol: TILE
- Event Year Begin: 1994
- Event Year End: 2011

Teaching Note: Available

Case Title: Siemens Energy (in 2010): How to Engineer a Green Future?

Unique ID: MHE-FTR-011-0077645065

Abstract:

The global sentiment toward energy has focused on reducing fossil fuel dependence. This move to alternative energy represents an opportunity for the world's largest energy technology companies, such as Siemens, to lead the future with a disruptive innovation. There are many new and developing technologies vying to unseat fossil fuels. Wind, solar, geothermal, hydropower, and nuclear are the most mature technologies. Siemens Energy has a hand in each of these technologies with its greatest focus in wind and solar, although the time has come to choose which alternative it will focus on to disrupt the industry. This decision comes down to anticipating the most successful technology for the future. Should Siemens wait to acquire a smaller company with an innovative product in order to limit its risk? Or should Siemens partner with competitors despite its bad history?

Concepts: Strategic Planning, External Analysis, Competition, Competitive Analysis, Social Responsibility, Innovation, Technology, Corporate Strategy, Strategic Alliance, Mergers & Acquisitions, International Strategy, Organizational Structure, Sustainability

Context:

- Ticker Symbol: SI
- Protagonist: Wolfgang Dehen, CEO
- Country: Germany
- Sector: Conglomerate—electrical equipment
- Company Employee Count: 420,800 (2009)
- Company Revenue: \$76.7B (2009)
- Event Year Begin: 2009
- Event Year End: 2009

Teaching Note: Available

SUSTAINABILITY & MARKETING

Prof. Omar Rodriguez-Vila

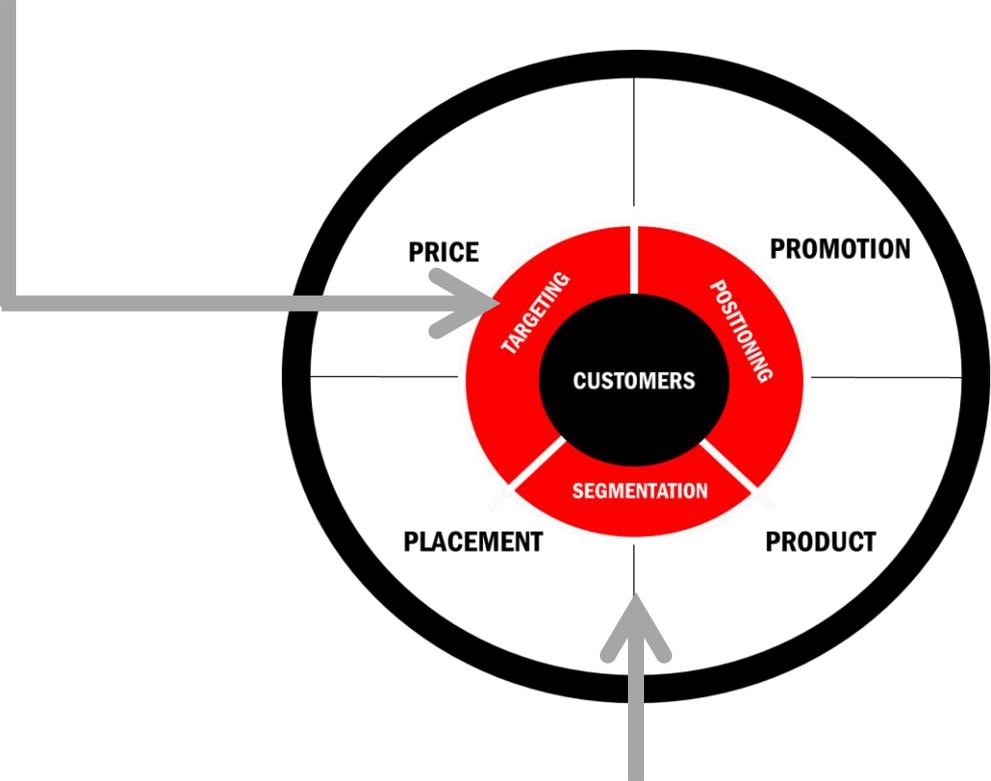
Sustainability and Marketing

- Can “sustainability” be used to drive consumer demand?
- What are the key factors?
- What are the risks?

Agenda

8:30-9:30	Background and Case
9:30-10:00	Break + Team Discussion
10:00-11:15	Key Drivers
11:15-11:30	Break
11:30-12:30	Risks and Reflections

MARKETING STRATEGY



MARKETING TACTICS

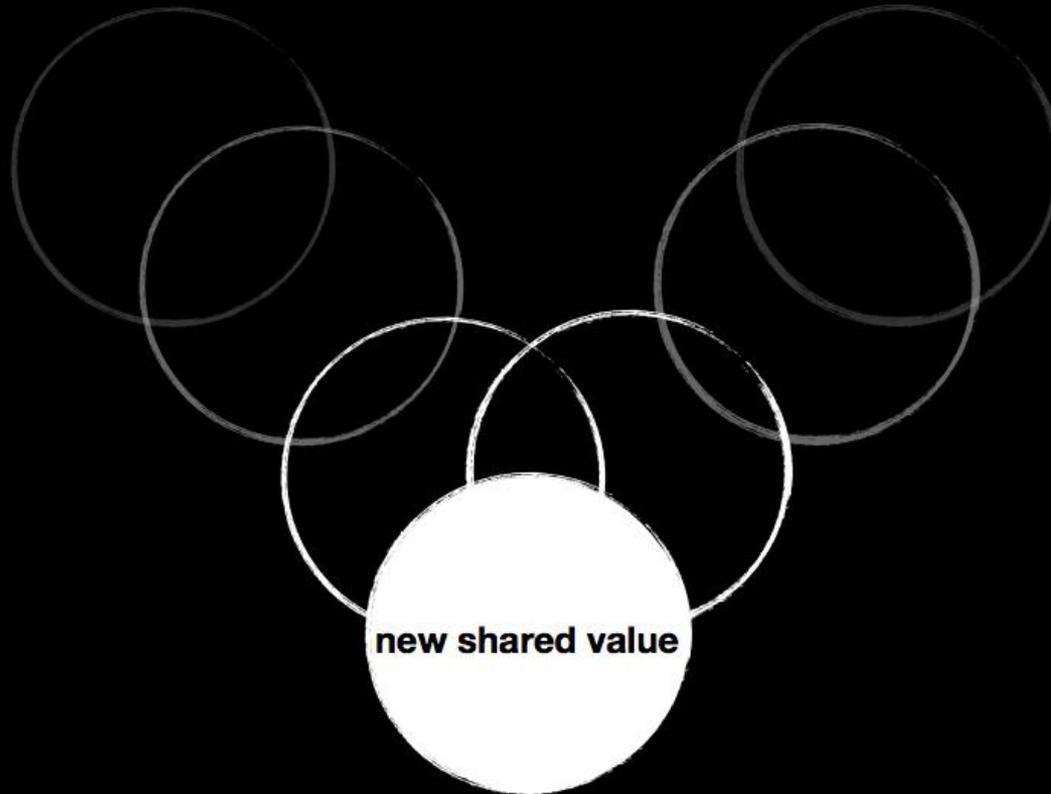
**What is
Sustainability?**

What is the scope of “Sustainability”

- *social*, to address conditions that affect us all, including poverty, violence, injustice, education, public health, and labor and human rights
- *economic*, to help people and businesses meet their economic needs—for people: securing food, water, shelter, and creature comforts; for businesses: turning a profit
- *environmental*, to protect and restore the Earth—for example, by controlling climate change, preserving natural resources, and preventing waste
- *cultural*, to protect and value the diversity through which communities manifest their identity and cultivate traditions across generations

business value

social value

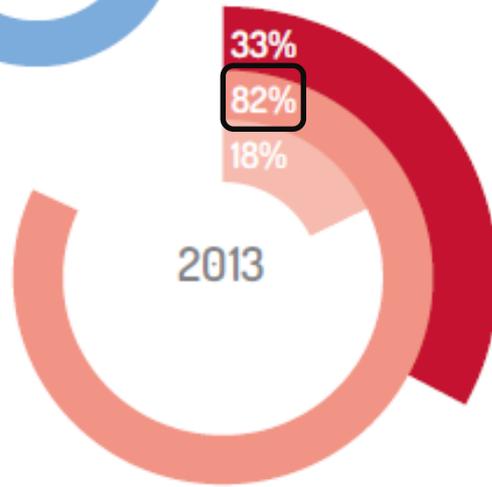
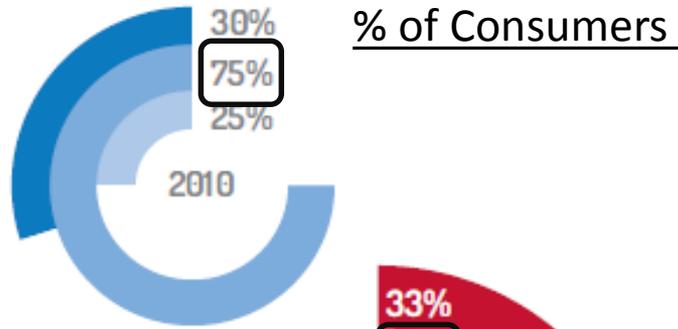


<http://www.youtube.com/watch?v=34pYHEofaSE>

Shared Value

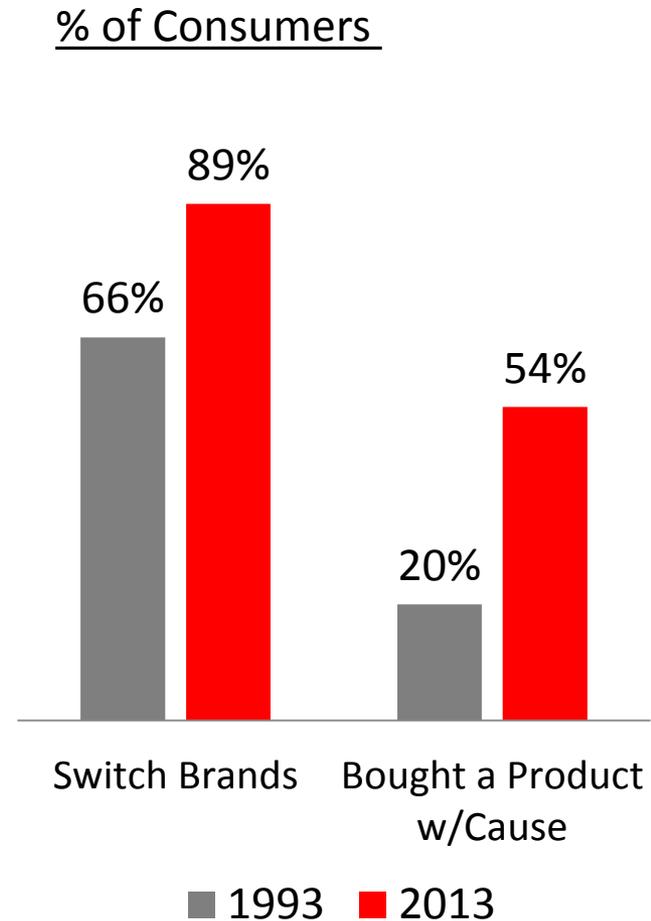
- What are the main ideas?
 - Firm growth from solving societal needs
 - Reconceiving products
 - Redefining productivity
 - Enabling local clusters
 - Different from CSR: integral to competition
 - Self-value vs. Shared-value
- Why is this an opportunity?

Surveys Suggest Consumers Care About Sustainability



What to buy or where to shop

- VERY Important
- VERY/SOMEWHAT Important (Net)
- NOT VERY/NOT AT ALL Important (Net)
- VERY Important
- VERY/SOMEWHAT Important (Net)
- NOT VERY/NOT AT ALL Important (Net)



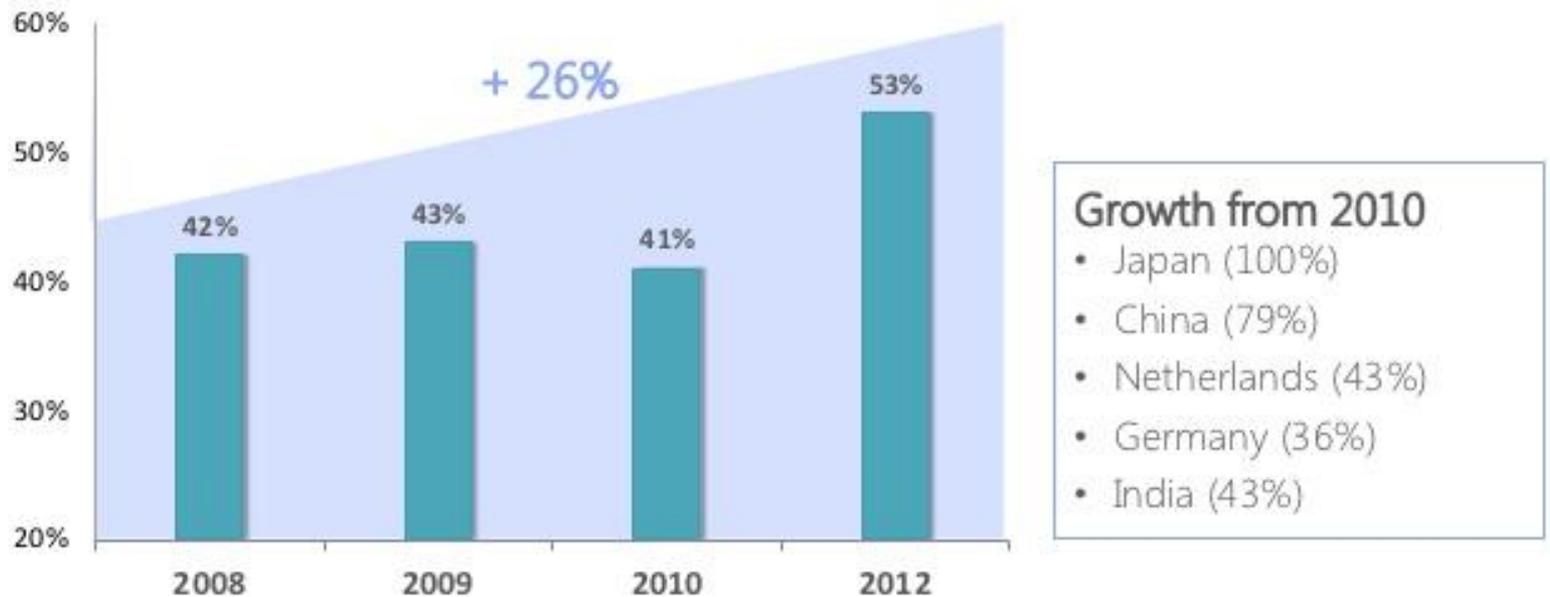
Source: 2013 Cone Communications Social Impact Study

*Assuming price and quality is the same

Surveys Suggest Consumers Care About Sustainability

Social Purpose as Purchase Trigger

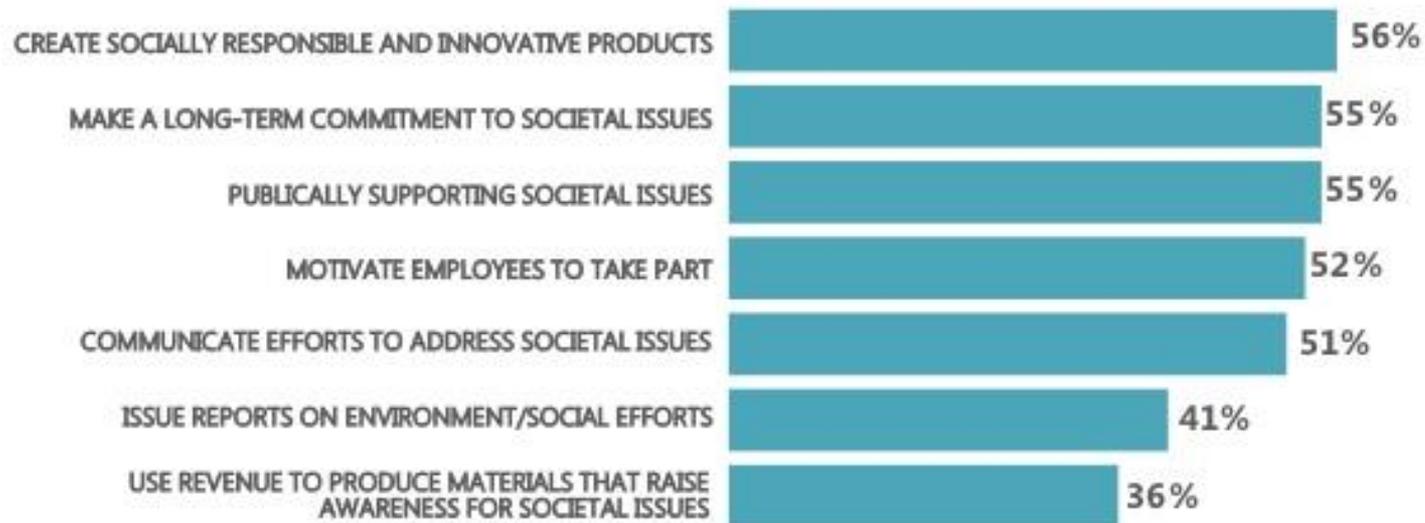
When quality and price are the same, Social Purpose most important factor



Surveys Suggest Consumers Expect Companies to Take Action

The Role of the CEO

CEOs must think proactively about using their business to address issues









pepsi refresh project

Thousands of ideas. Millions in Grants.



We want to touch and improve the lives of more customers, in more parts of the world, more completely.

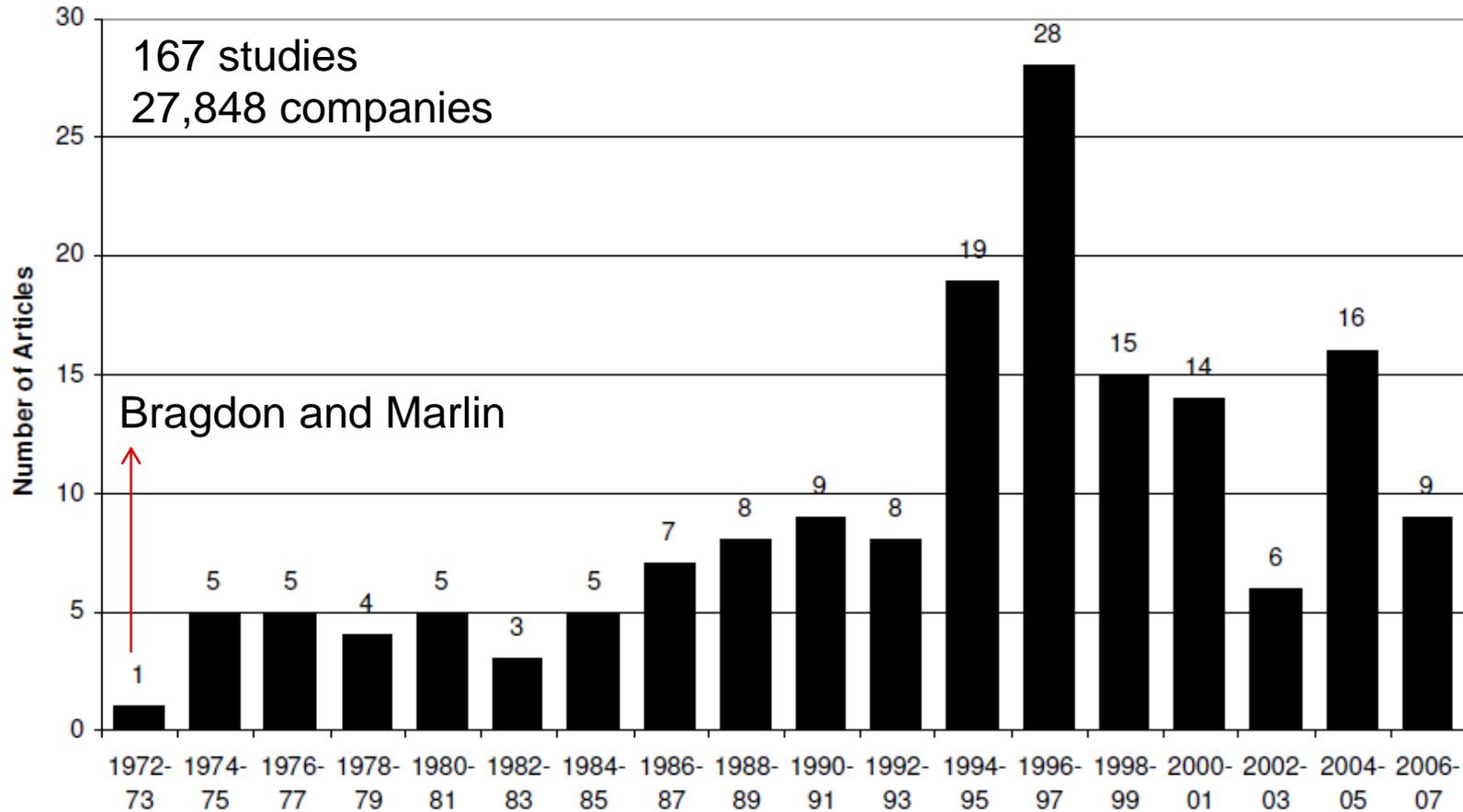
"There was a vision -- the problem was it didn't work. *Touching and improving lives* lacked clarity and left employees unsure whether they should lower prices or innovate more.

Ali Dibadi
AllianceBernstein stock analyst

Sustainability and Marketing

- Can “sustainability” be used to drive consumer demand?
- What are the key factors?
- What are the risks?

History Of Scientific Studies

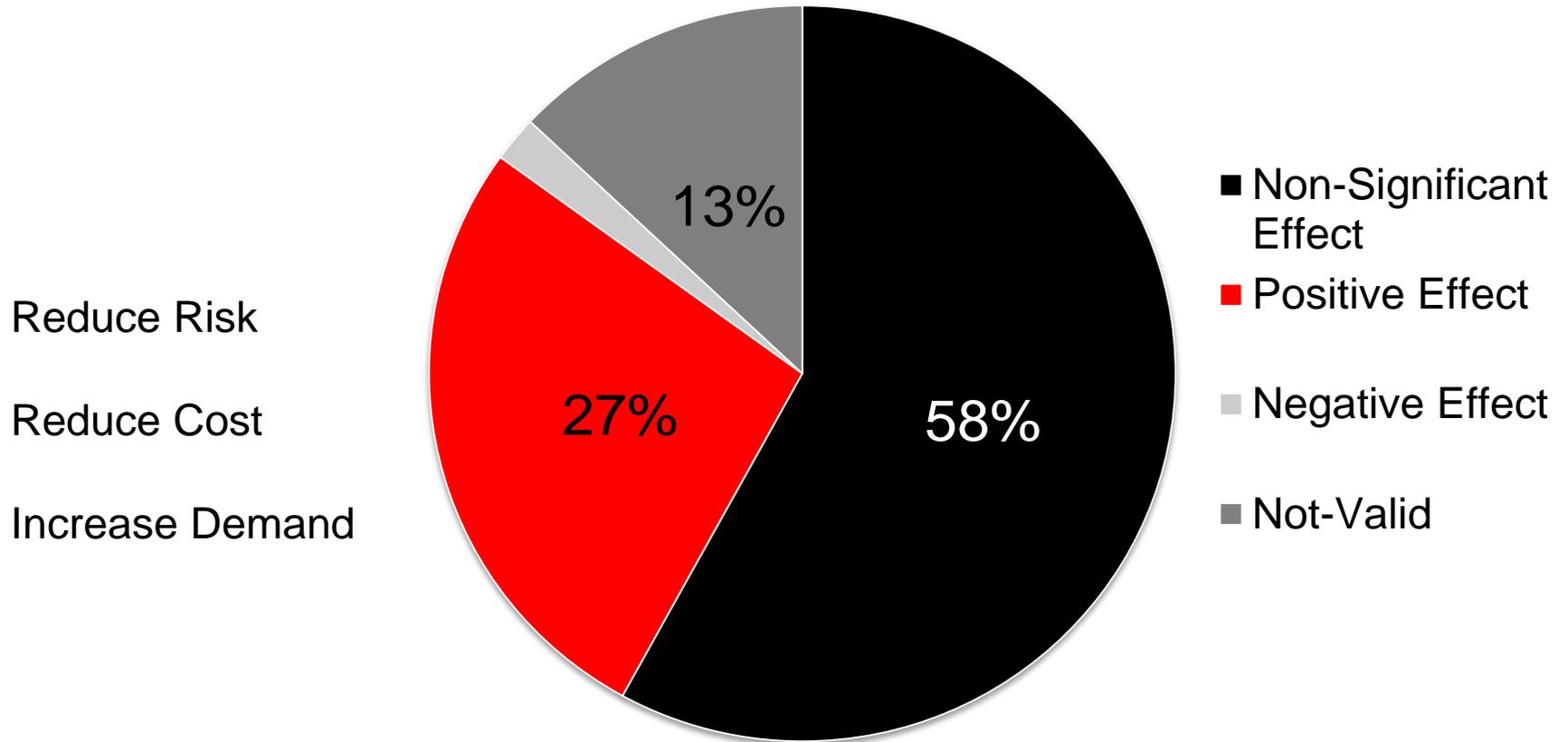


Margolis, Efenbein and Walsh 2007

Prof. Omar Rodriguez-Vila

Mixed Results

% of Studies by Performance Type



Overall effect: $r = 0.10$



Prof. Omar Rodriguez-Vila

Examples

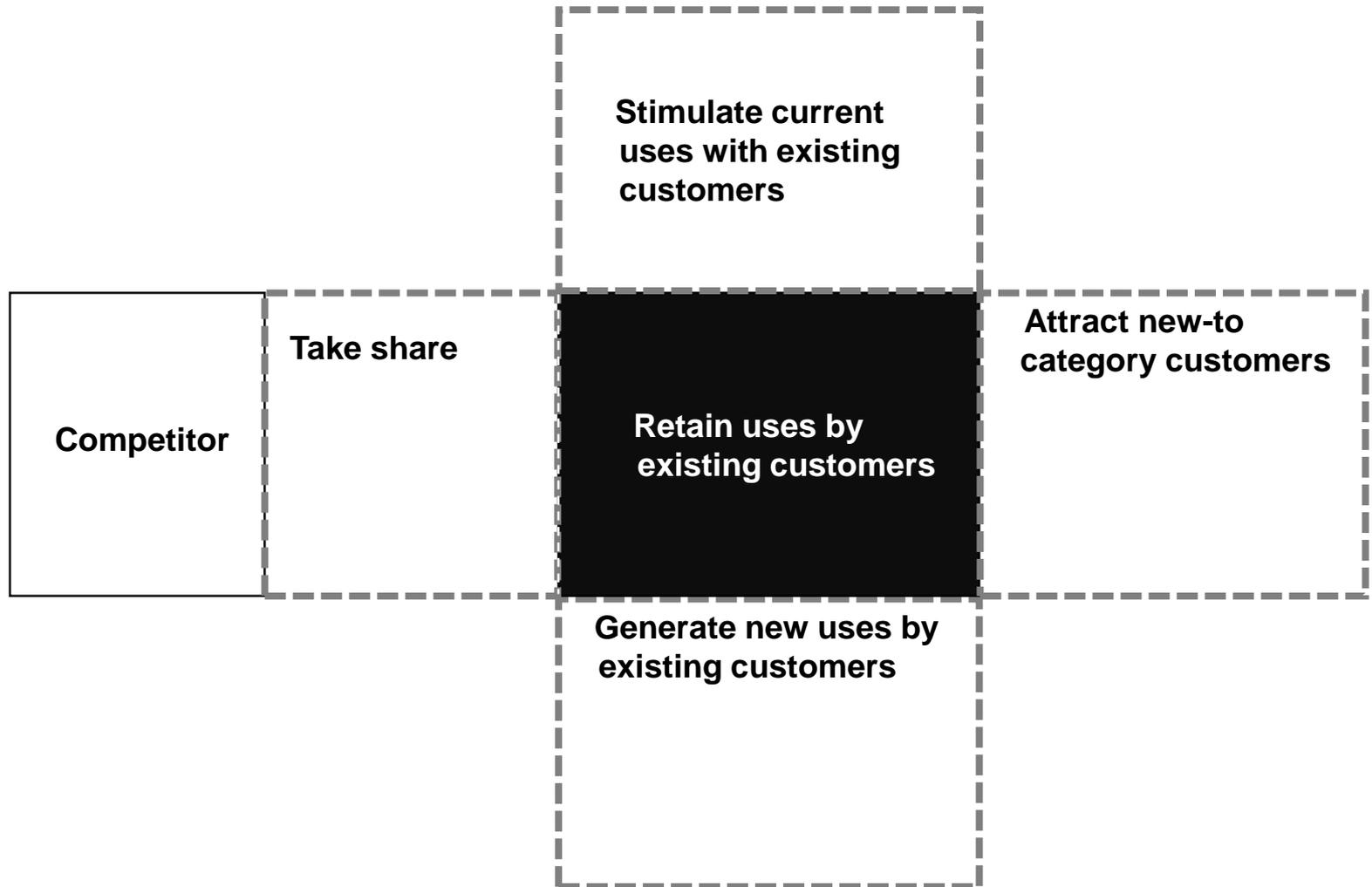


Work In Groups Of 4-5 people

20 minutes

- Pick a line of business: Brita / GreenWorks / BurtBees
- Discuss and develop answers to 3 questions:
 - Should they make changes in their strategy?
 - Who is the customer?
 - What do they need?
 - What should we offer?
 - Why will it be better?
 - Should they make changes in their marketing tactics?
 - Product / Price / Placement / Promotion
 - What challenges / risks will they have to manage?
- Come back ready to present your team's views

Where Will Growth Come From?



Source: The Monitor Group

How Will They Drive Growth?

3D: Significant Progress During Centennial

DESIRE

- Digital Capability
- Non-traditional spend up
- Multiple industry awards



DECIDE

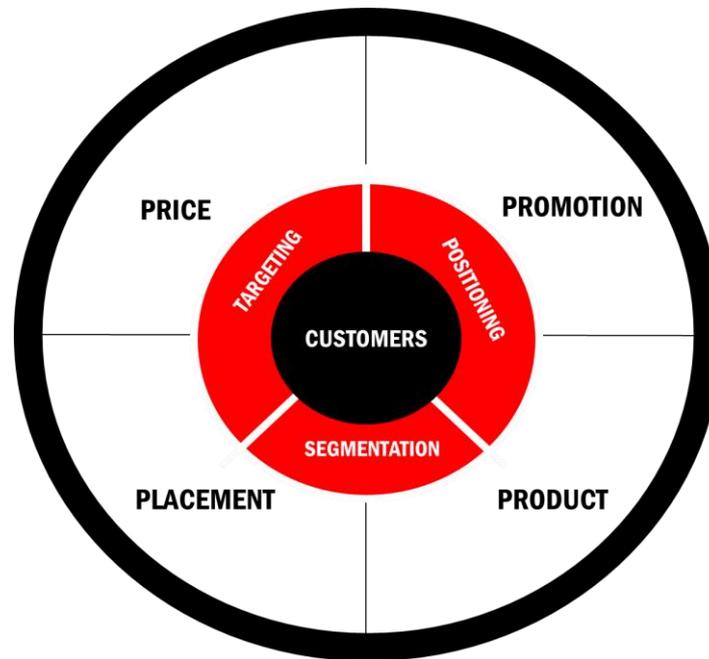
- Category captaincies
- Value added services
- e-commerce growth

DELIGHT

- 60/40 Wins
- Growth from Innovation



Brita: Why were they successful? What did they change?



GreenWorks: Why Is It Not Growing?

- Soft economy?
- Trend was a fad?
- Marketing was suboptimal?

GreenWorks: Why Is It Not Growing?

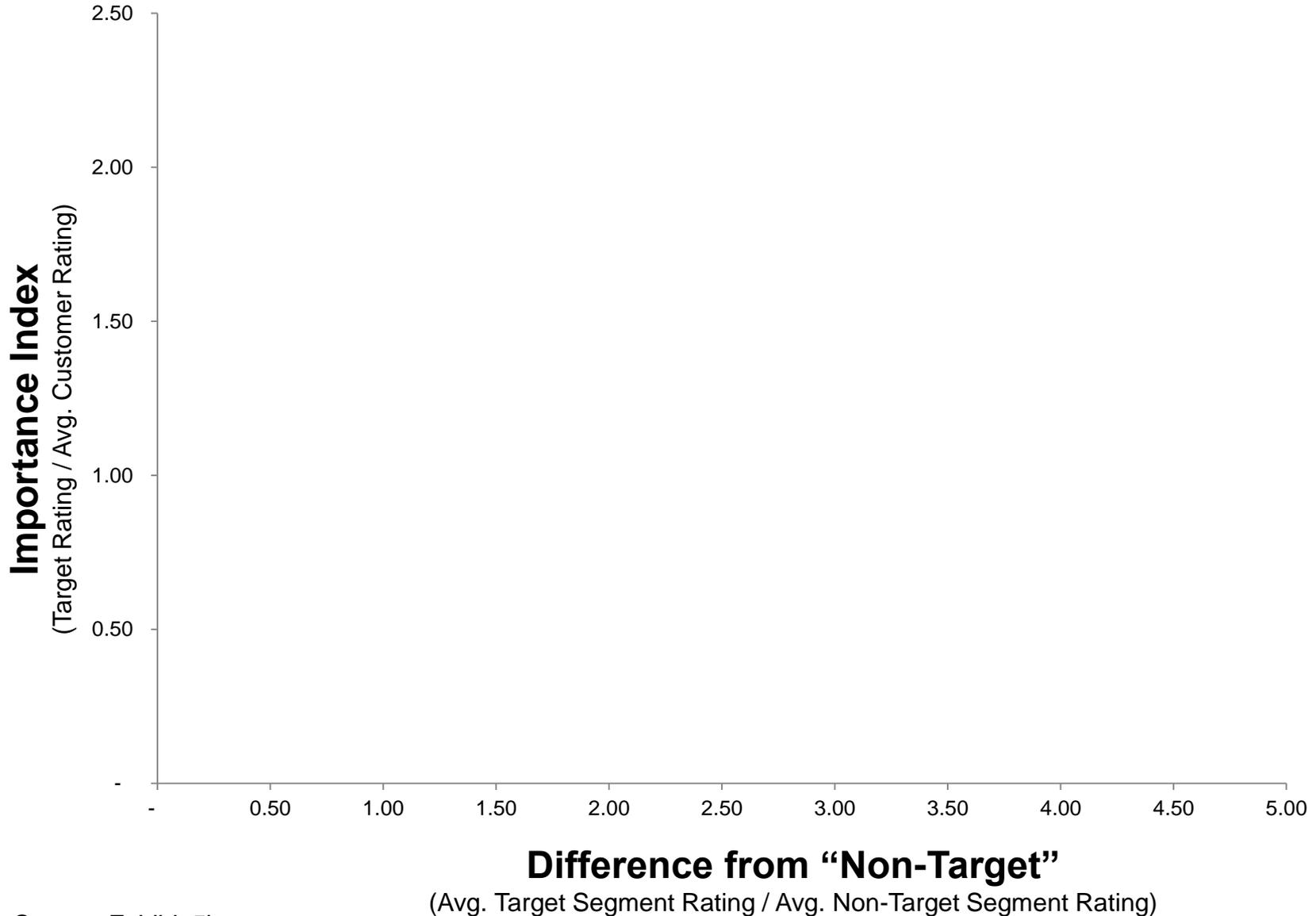
- Who is the customer? What do they need?
 - *43% of consumers claiming to want more natural cleaning product*
 - *No compromise on effectiveness*
- What did they offer?
 - *Natural cleaning, with the efficacy of Clorox*
- Why was it better?

Exhibit 5B

*Top Benefits Sought by Segment
(% in Top 3 Benefits Sought)*

	Total	Eco Committed	Emerging Eco Guardians	Personal Purists	Eco Confused	Eco Uninvolved	Eco Skeptics
% of Sample	100%	15%	20%	12%	19%	16%	18%
Efficacy							
Is highly effective	28	21	23	20	27	38	38
Safety							
Is safer for myself and my family	27	26	37	20	37	17	18
Has ingredients that are non-toxic	17	27	23	7	18	16	11
Is safe to put on my skin	16	14	17	15	19	14	17
Kills germs/disinfects	11	5	13	13	15	7	12
Does not harm the quality of my home's air/water	11	14	14	6	10	10	8
Does not pose a threat if mishandled or ingested	8	8	10	5	10	6	5
Has 100% all-natural ingredients	5	12	8	7	3	2	1
Neutralizes or removes harmful chemicals or contaminants that can enter my home	5	6	6	4	6	5	4
Does not harm my home's surfaces, such as floors or countertops	5	4	3	4	5	5	6
Has no petroleum-based ingredients	3	5	3	2	2	3	1
Has organic ingredients	2	5	3	2	1	1	0
Cost-Effectiveness							
Is less expensive	24	6	16	22	29	32	36
Helps me reduce my home's energy costs	4	4	4	4	5	4	4
Allows me to reduce or reuse the products I am buying to care for my family and home	3	5	4	5	2	4	2
Convenience							
Is available where I shop	19	13	13	15	20	25	29
Is easy to use and fits into my routine	10	5	6	7	10	14	17

Where Would You Need To Focus?



Source: Exhibit 5b

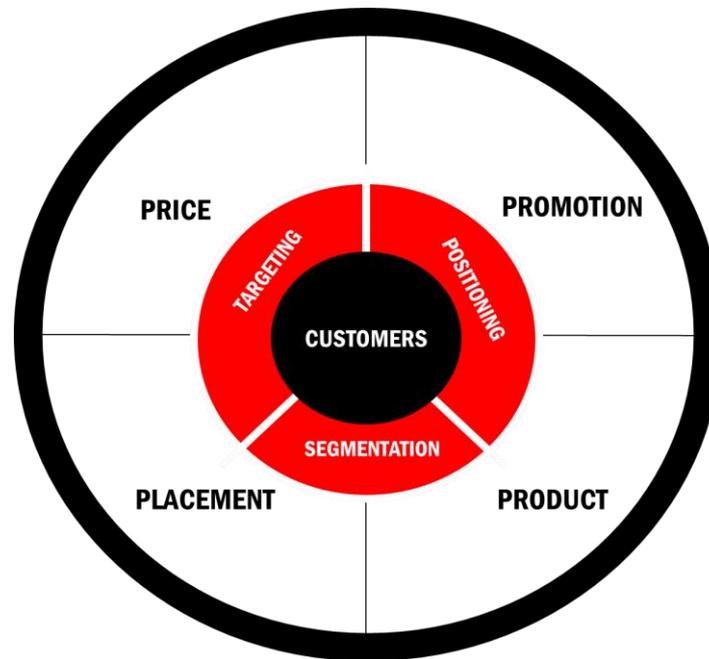
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Greenworks



<https://www.youtube.com/watch?v=Mac8reC5O8U>

What Could They Have Done?



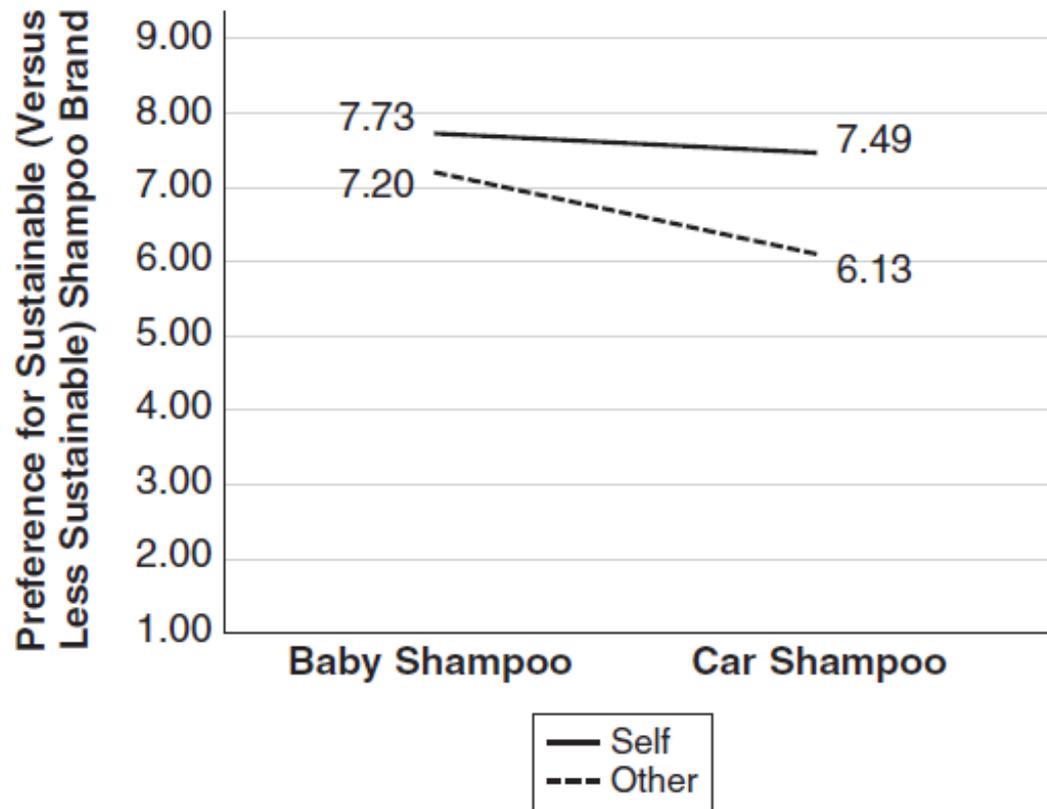
organic



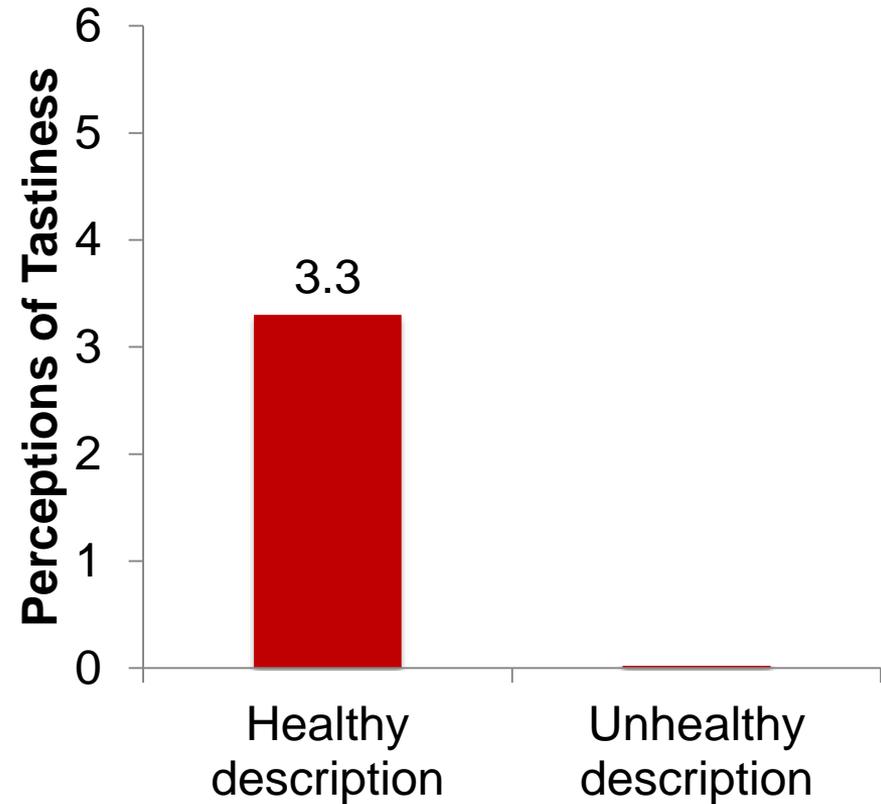


Sustainability Liability

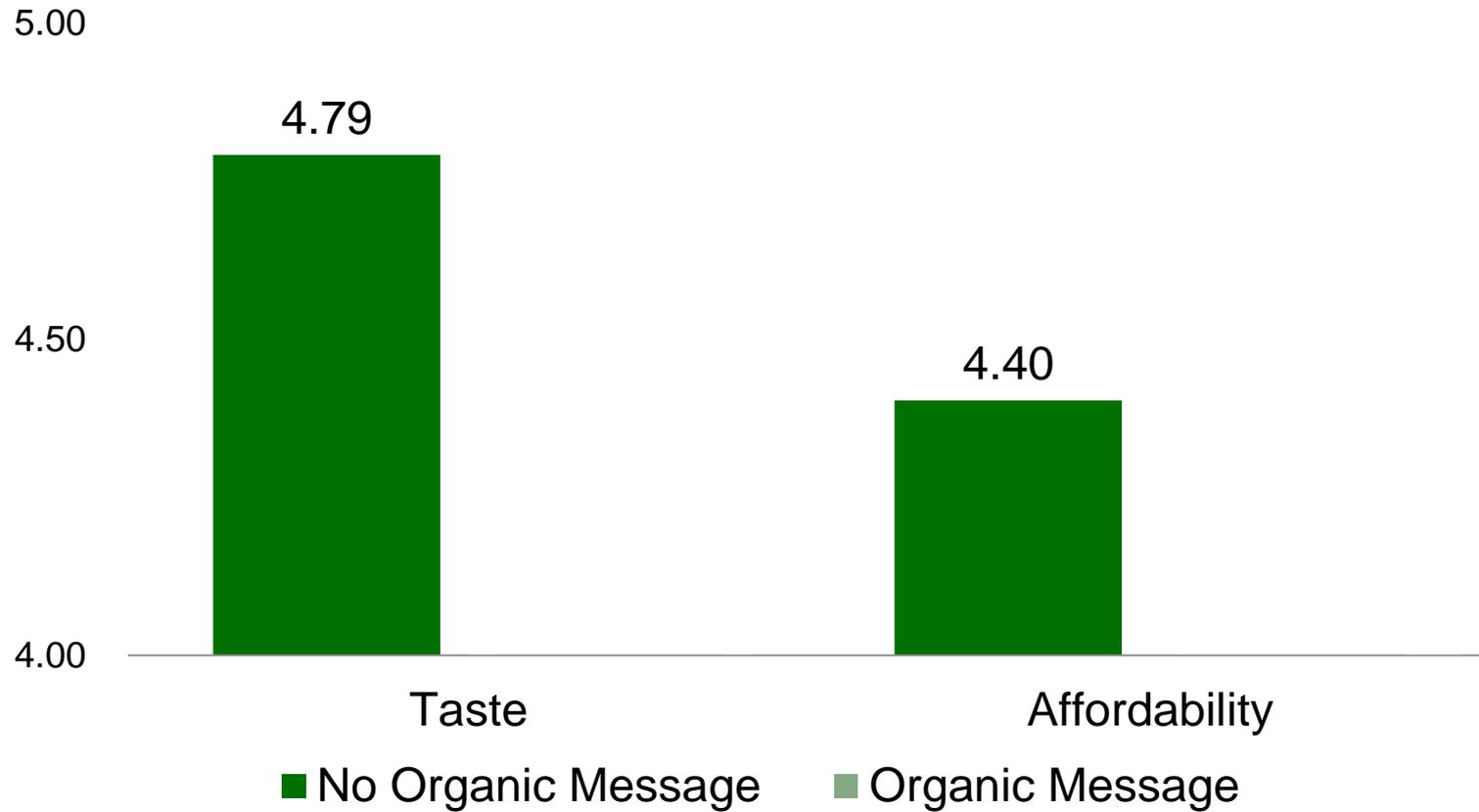
FIGURE 2
Study 2: The Influence of Point of View on Relative Preference for a Sustainable Versus Less Sustainable Baby Shampoo and Car Shampoo



Healthiness/Tastiness Inferences



Effect on Core Attributes



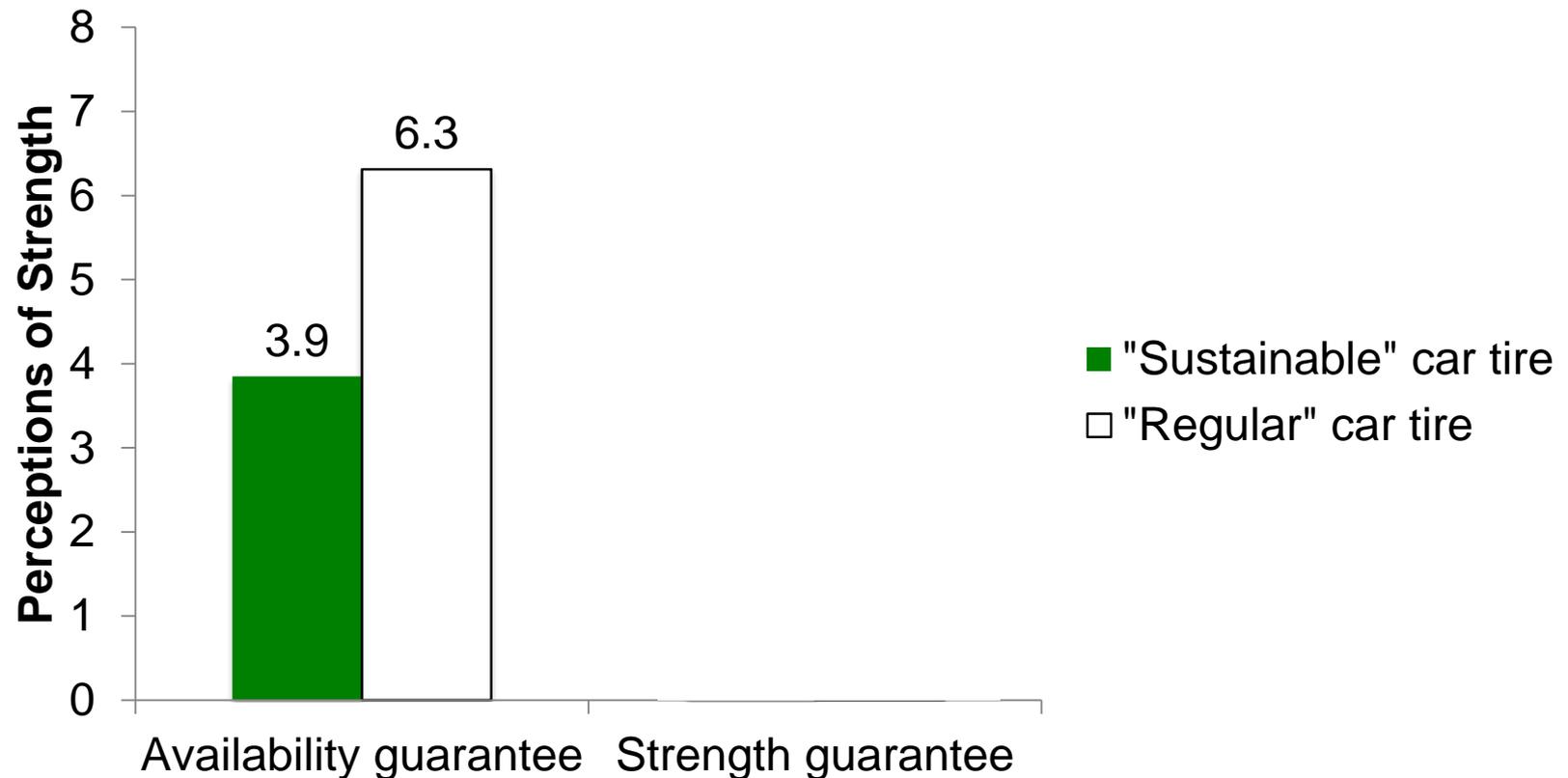
Purchase Intent ($p = 0.031$) / Customer Satisfaction ($p=0.032$)

$n = 812$

Prof. Omar Rodriguez-Vila

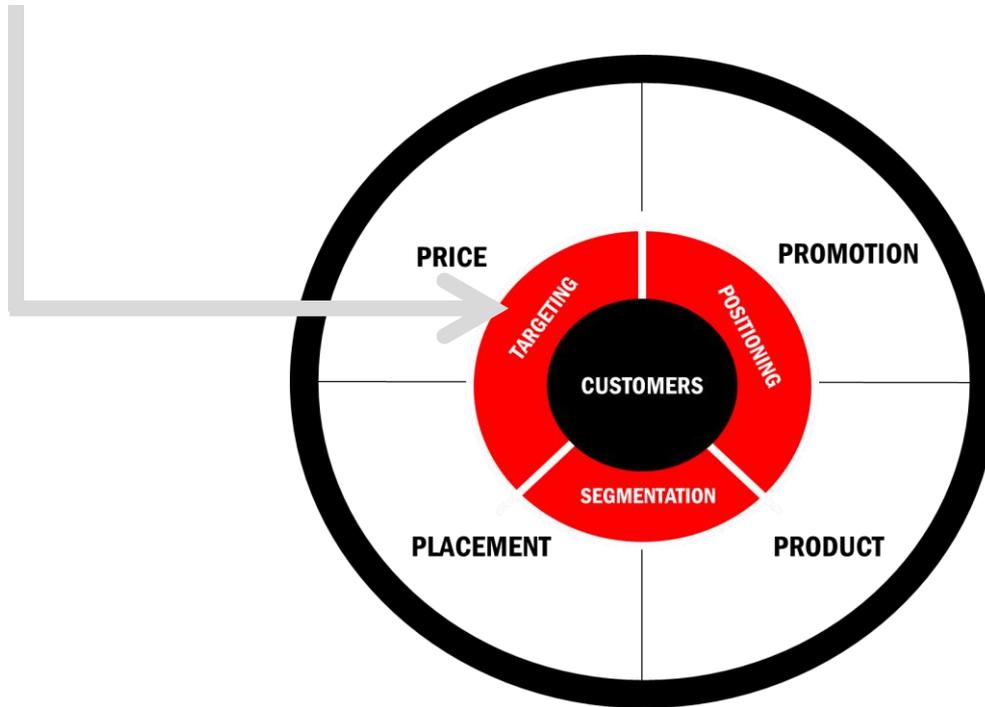
Proposed Solutions

- Reinforce negatively affected attributes



What Could They Have Done?

A different target?



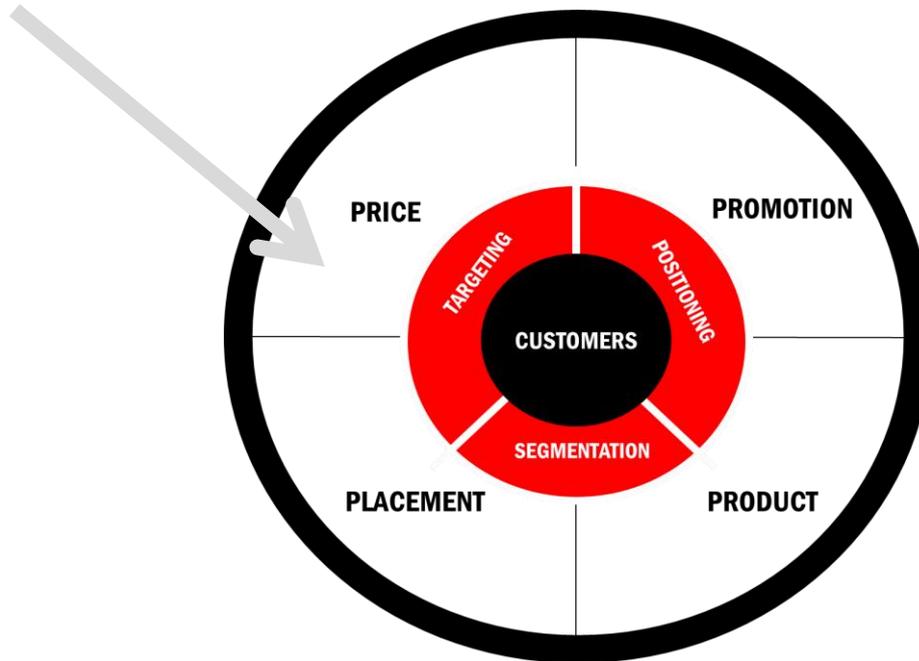
Example



https://www.youtube.com/watch?v=WB_2_SV5WWo&feature=c4-overview&list=UU5AngbC7w3patkjY8ma8zZA

What Could They Have Done?

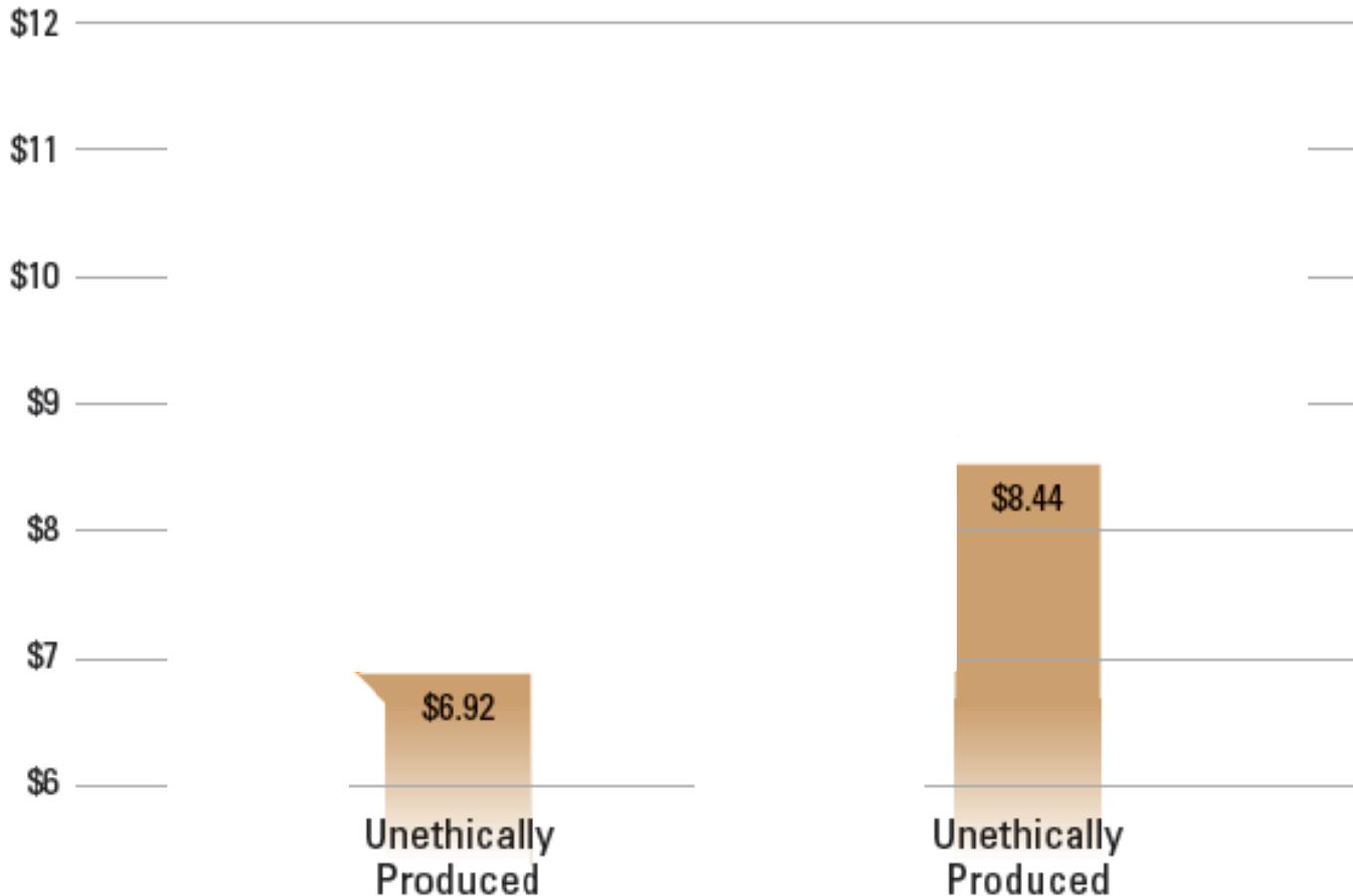
Should it be premium?



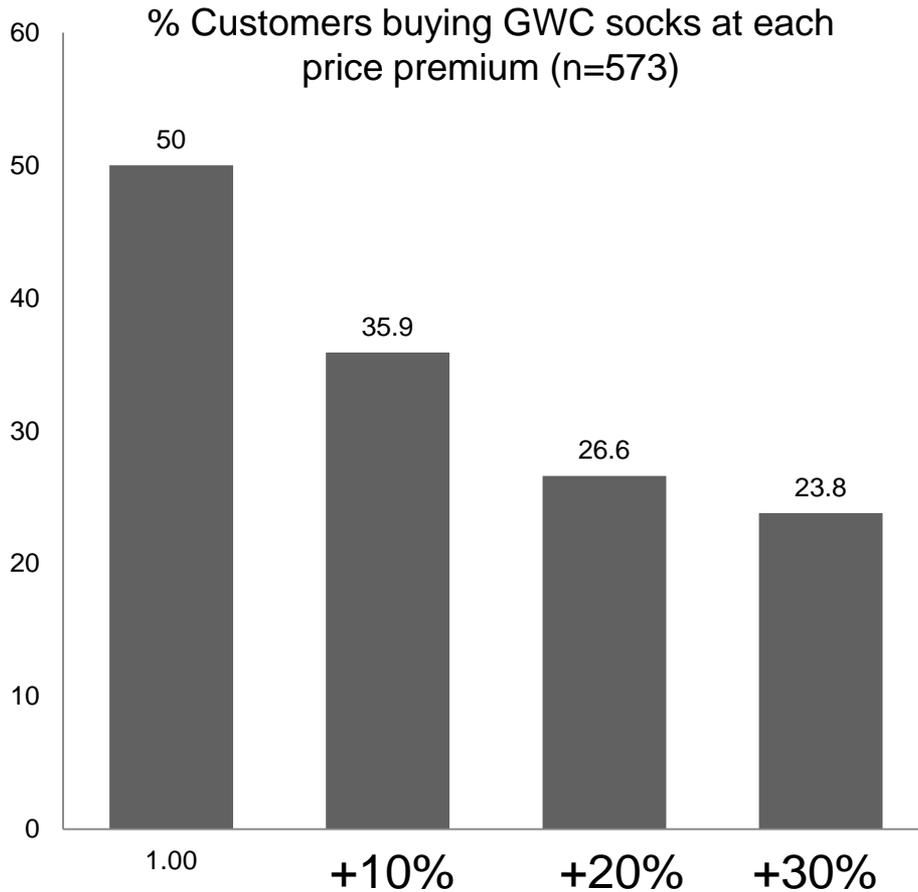
THE EFFECT OF CONSUMER EXPECTATIONS ON WILLINGNESSTO PAY

If consumers' ethical expectations of companies in general are high, they both punish and reward producers for their behavior more than low-expectation consumers do.

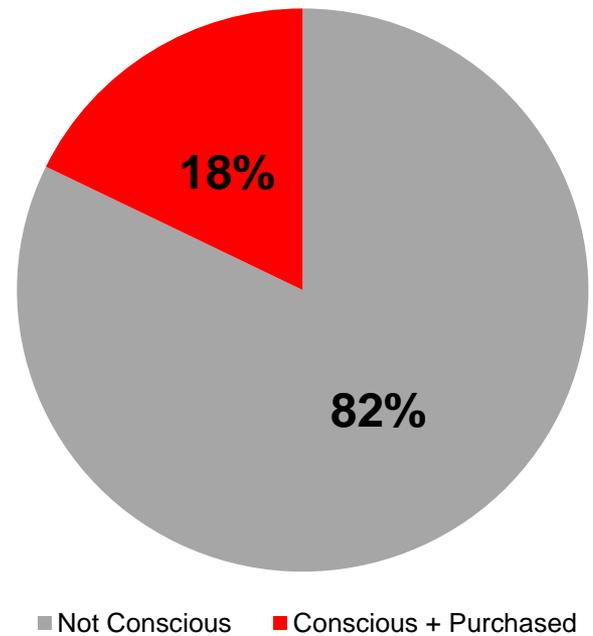
Acceptable Price



Willingness To Pay



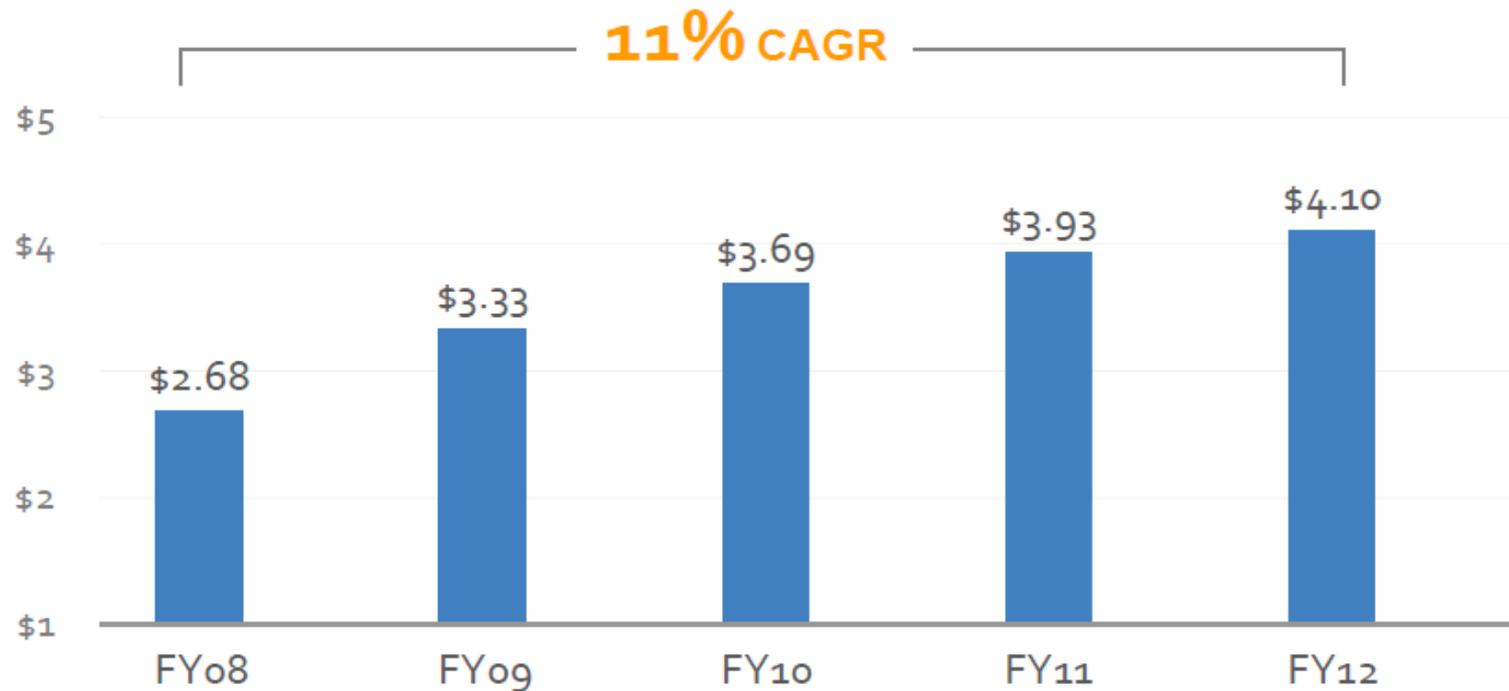
% of People Buying Because of GWC Benefit (n=45)



GWC = Good Working Conditions

Clorox Today

And the Strategy is Working – *Double-Digit EPS Growth*



Clorox 2020

US Retail: Innovation Across Our Portfolio (FY14-Q1 Only)



Clorox Liquid Bleach (Concentrated) Splashless & New Scents



"Calming" Baby Shampoo & Wash

Blueberry & Dark Chocolate Lip Balm



Hard-sided Kids Filtering Bottle with licensed characters



Liquid-Plumr® Hair Clog Eliminator™



Franganzia Dilutable Cleaner



Hidden Valley Pasta Salad



Brita pitchers (new colors & designs)



Glad Matchware



Hidden Valley Ranch Dip Cups (New Portable Size)



Full Line Product Improvement + TRIPLE ACTION LINE EXTENSION

Clorox 2020



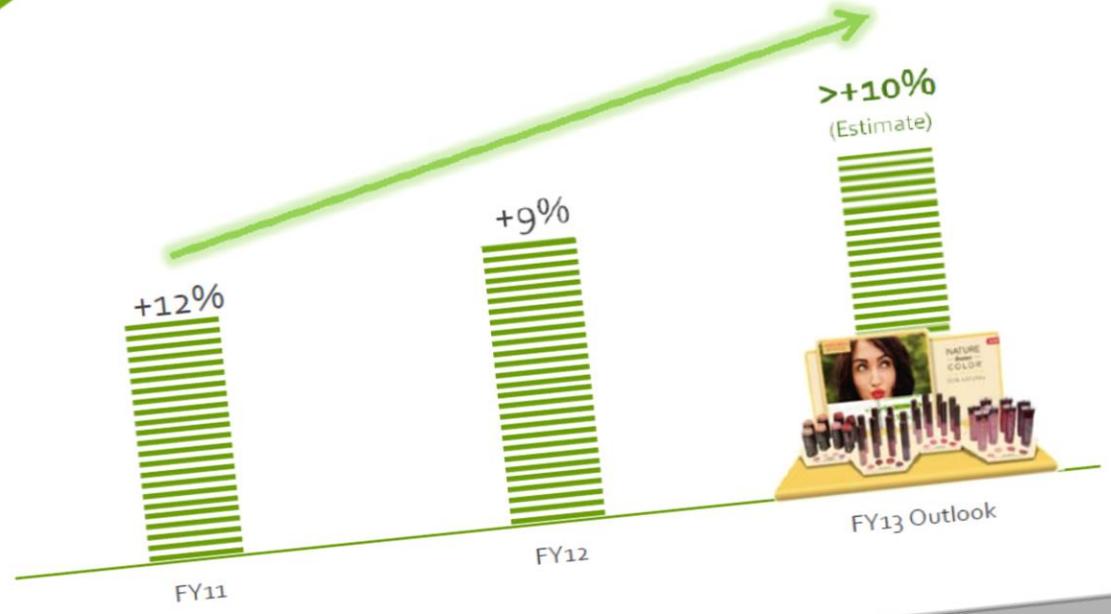
New Propo



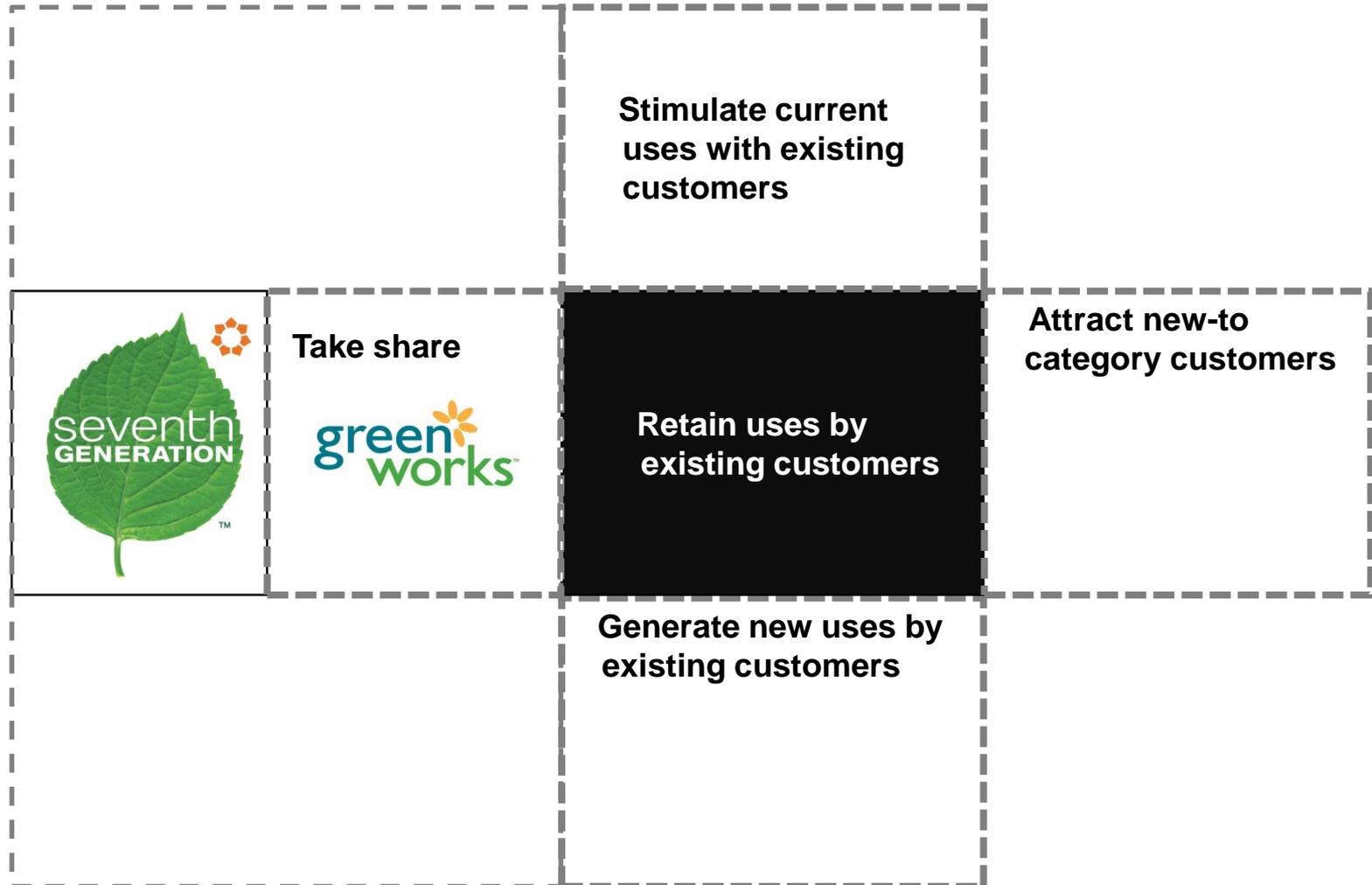
5
Green
Products

Burt's Bees :
Accelerating Top-line With Margin Accretive Innovation

Global Burt's Bees Sales Growth



Where Will Growth Come From?



KEY TAKE-AWAYS

- Sustainability can be used as a driver of demand and growth
- Shift from “social responsibility” to “consumer value”
- Starts with identifying how specific “sustainability” attributes add value to a specific product category.
- Challenge is to turn attributes into relevant customer benefits
- Evaluate benefit based on the role it can play in your growth strategy
- Challenging to be an “immigrant” once the “sustainability” citizens are established.

Break

Nature Air



the world's first
carbon neutral airline

www.natureair.com



1 1/2 - 8 YRS

BASICS

Our favorite basics in soft fabrics like organic cotton.

#MCONSCIOUS

for a more sustainable fashion future



LET'S CREATE Jobs for USA

THIS COUNTRY NEEDS JOBS.

We hear it in the news every day. Home and overseas we know we have a deficit. Unemployment is a pandemic that cannot be solved overnight - but we believe we have the solution. We are calling our initiative Create Jobs for USA. It's a program that we can all be part of that can help get this country back on its feet. A program that can truly be American's helping Americans to receive and sustain jobs. A program that makes us all invincible.

A shared initiative among Starbucks, Opportunity Finance Network and Now
createjobsforUSA.org



Sustainability and Marketing

- Can “sustainability” be used to drive consumer demand?
- What are the key factors?
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FIND THE LINK

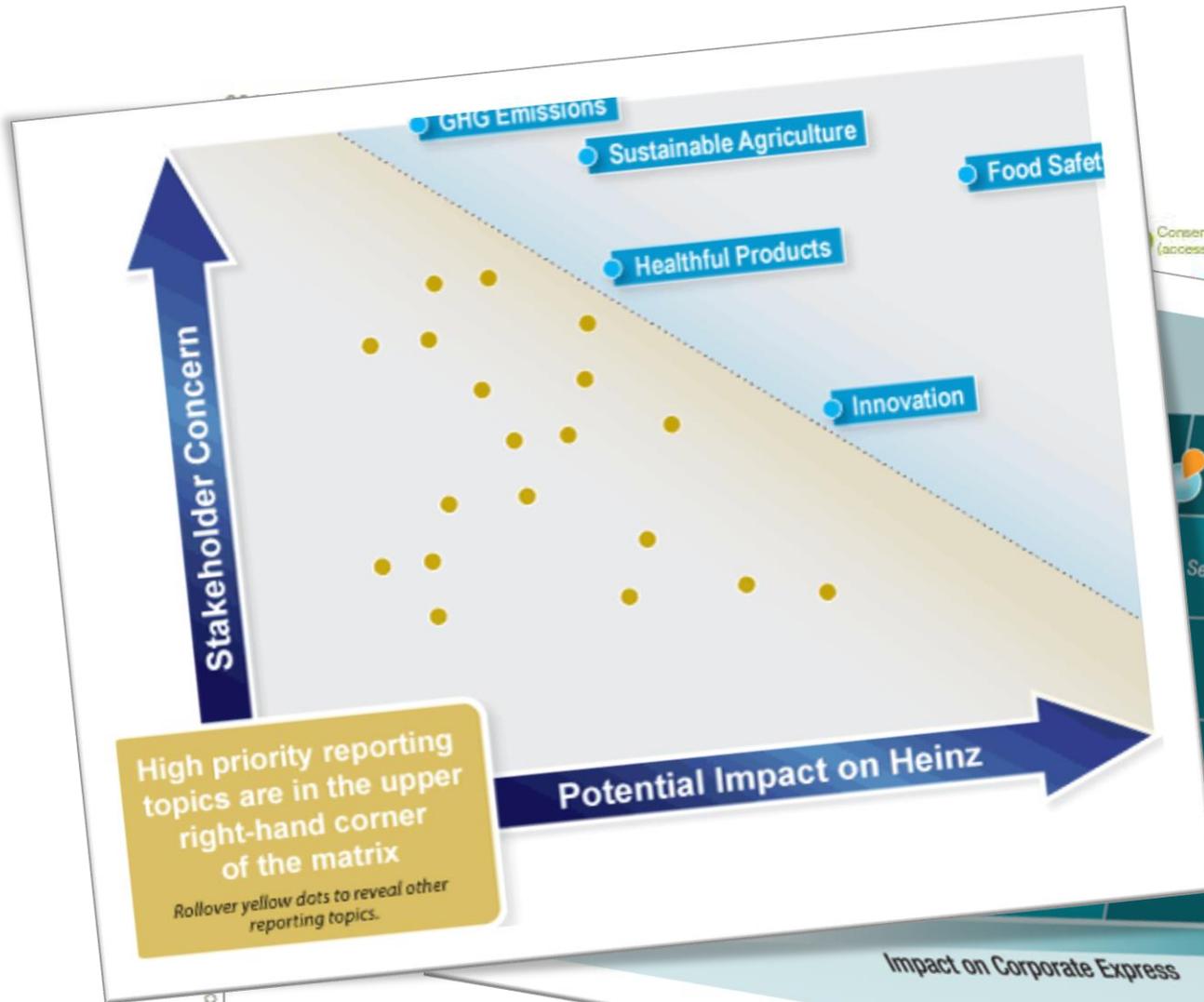
PICK YOUR STRATEGY

DESIGN THE OFFERING

RELEVANT

MAKE IT REAL

How do you pick?



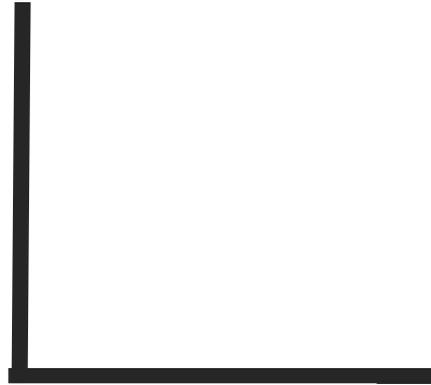
COMPANY



SOCIETAL



COMPANY



SOCIETAL



<http://www.youtube.com/watch?v=XGcBgc4xPTI>

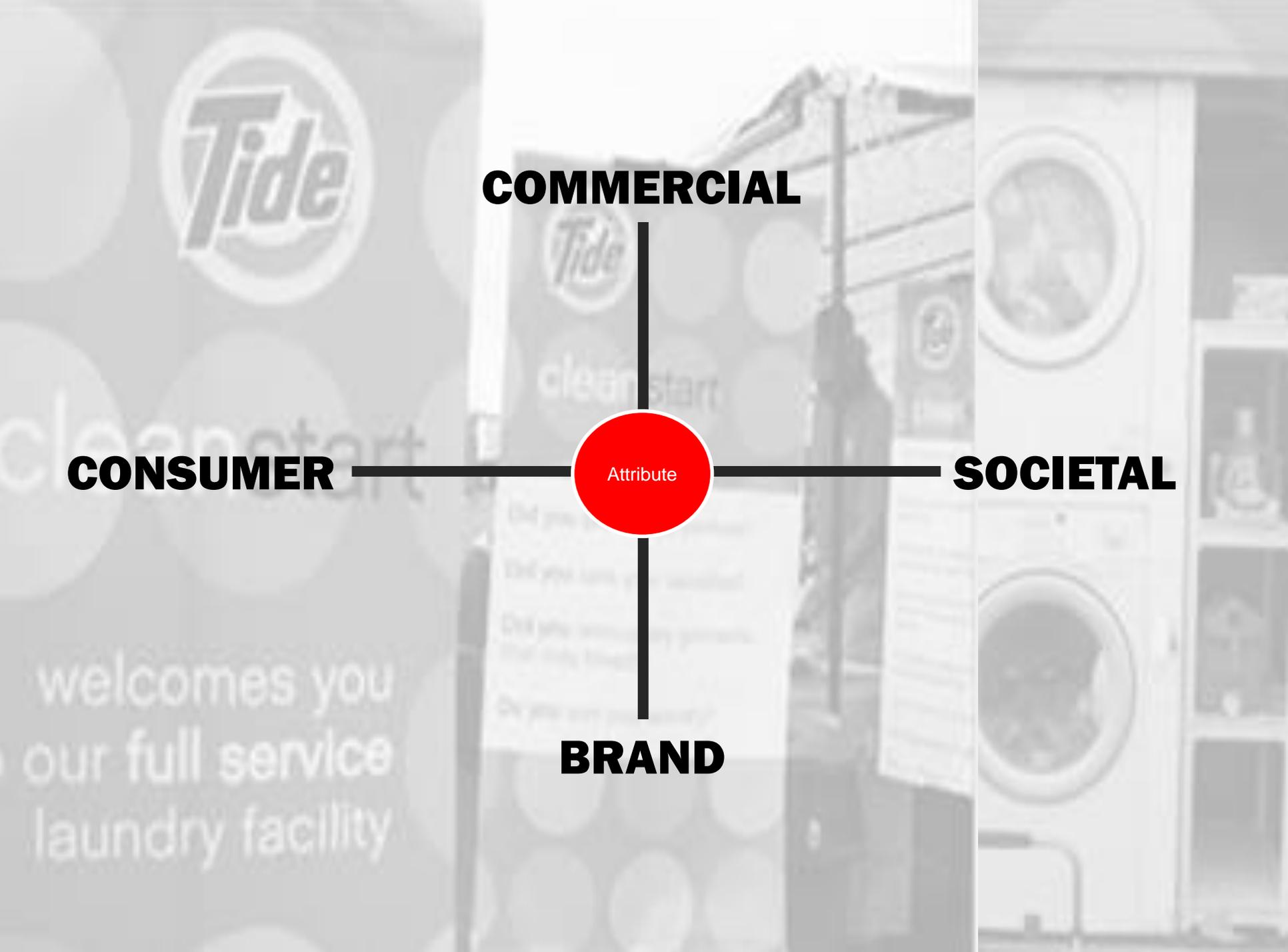
COMMERCIAL

CONSUMER

SOCIETAL



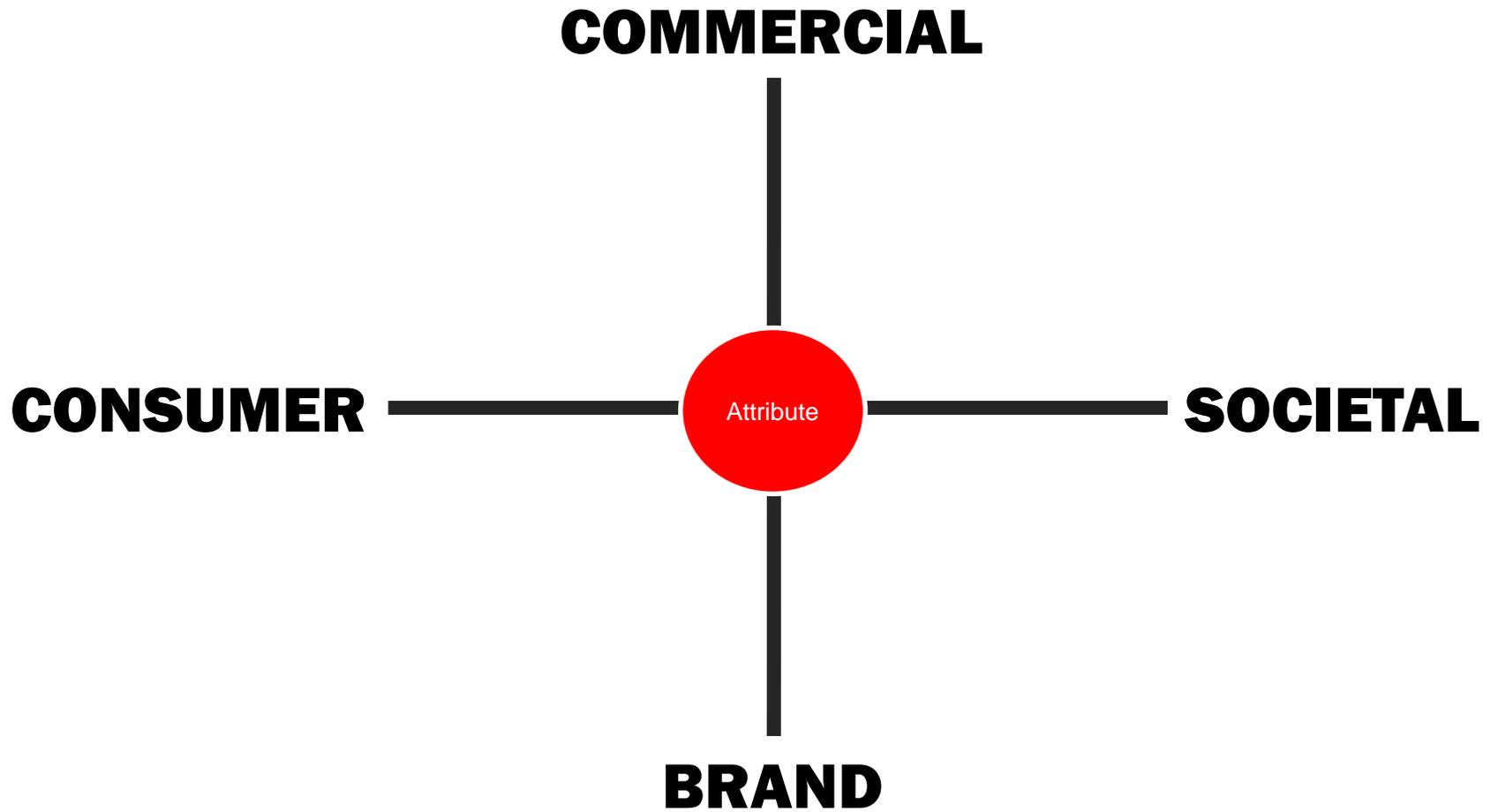
BRAND





http://www.youtube.com/watch?v=AQ_XSHpIbZE

How About Clorox?



FIND THE LINK

**DEFINE YOUR
STRATEGY**

DESIGN THE OFFERING

RELEVANT

MAKE IT REAL

Societal Benefits As Product Benefits



Shoes for Tomorrow

FIND THE LINK

DEFINE YOUR
STRATEGY

DESIGN THE OFFERING

RELEVANT

MAKE IT REAL

A Different Way of Working

<http://www.youtube.com/watch?v=M66ZU2PClCM>

Band-aid

<http://www.youtube.com/watch?v=wwaGgXoHOFY>

FIND THE LINK

PICK YOUR STRATEGY

DESIGN THE OFFERING

MAKE IT RELEVANT

MAKE IT REAL



Easier to Hold, Easier to Live With

Get a grip on our Eco-Shape® Bottle:

First we reduced the amount of plastic in the bottle and then we lightened the cap! Our .5-liter bottle now contains an average of 30% less plastic.* You get the pure, refreshing taste of Nestlé Pure Life. And the world gets less plastic. True to the environment and true to how you live your life.

We are Continuing to Do More With Less

30% less plastic is only a beginning. Now, some of our specially marked Nestlé Pure Life Eco-Shape® bottles and caps contain even less plastic - an average of 40% less plastic versus comparable size carbonated and non-carbonated beverages. These bottles and caps contain about 2 grams less plastic than our prior Eco-Shape® bottles and caps. It's more than just a trend, it's our commitment that will continue to grow as we move into the future.

*Based on a 2008 nationally conducted audit of .5L bottles across twelve cities. Over 130 .5L bottles were weighed across the water, soda, juice and tea categories. On average, the Eco-Shape® bottle was found to contain 30% less plastic when compared to the average of other .5L carbonated and non-carbonated beverage bottles.

**Let's all make a difference.
Please recycle.**

Recyclable Bottle

Features a label approximately **one-third** smaller than our previous label →

Made with up to **30% less plastic***

← *versus comparable size carbonated and non-carbonated beverages.



← **Flexible and easy to grab, carry and crush for recycling**



Lifebuoy



<http://www.youtube.com/watch?v=Kes61qSuBE4>



our smoothies



the big knit

making winter warmer
for older people

innocentdrinks.co.uk/bigknit

winter made warmer

25p

from every
hotted bottle sold
goes to Age UK





Now
Fairtrade



Our New Ad



Save The Banana!



We're Fairtrade



Brand New Flavour

FIND THE LINK

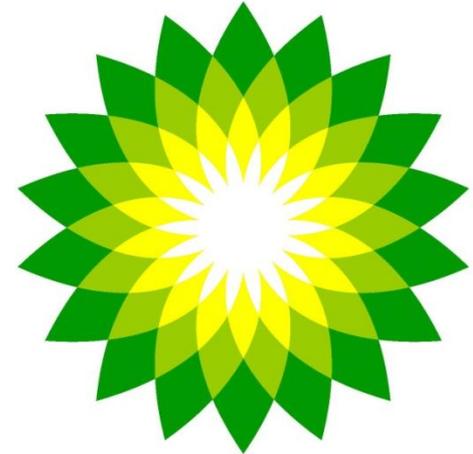
PICK YOUR STRATEGY

DESIGN THE OFFERING

MAKE IT RELEVANT

BE REAL

- 2000 rebrand with 'Beyond Petroleum'
- \$49 million to buy Solarex
- \$200 million PR and advertising campaign
- Designed to differentiate company from competitors such as Shell following Brent Spar incident in 1990s
- Failed to address fundamental material issues
- Resulted in huge press and activist pressure and considerable brand and reputation damage



I guess, looking at it now, “beyond petroleum” is just advertising. It’s become mere marketing — perhaps it always was — instead of a genuine attempt to engage the public in the debate or a corporate rallying cry to change the paradigm. Maybe I’m naïve.

It’s just that I believe that the handful of men who run these remarkable companies possess something more valuable than wealth, privilege and power. They have at their disposal the truly rare possibility of creating a legacy, the ability to change things, on a huge scale.

Think of it. Going beyond petroleum. The best and brightest, at a company that can provide practically unlimited resources, trying to find newer, smarter, cleaner ways of powering the world. Only they didn’t go beyond petroleum. They are petroleum. The problem there is that “are petroleum” just isn’t a great tagline.

Excerpts from John Kenny
Op-Ed New York Times
2006





90%

73%

47%

21%

5%

What % of Starbucks Coffee is Fair Trade?



ETHICAL SOURCING

STARBUCKS AND FAIR TRADE

> Fair prices, a better quality of life.



We have purchased and sold Fair Trade Certified™ coffee for nearly 10 years. The goal of Fair Trade certification is to empower small-scale farmers organized in cooperatives to invest in their farms and communities, protect the environment, and develop the business skills necessary to compete in the global marketplace.

Starbucks began purchasing Fair Trade Certified coffee in 2000. And we have been recognized for helping grow the market for Fair Trade Certified coffee in the U.S. and bringing it to consumers.

In 2008, we announced that we're expanding our work with Fair Trade to support small-scale farmers. As part of this effort, Starbucks will increase our purchases in 2009 to reach 40 million pounds (18 million kilograms). This will make us the largest purchaser of Fair Trade Certified coffee in the world.

> What we've been doing

MENU

ETHICAL SOURCING

EXPLORE THE WORLD OF COFFEE

STARBUCKS AND FAIR TRADE

STARBUCKS AND CONSERVATION
INTERNATIONAL

STARBUCKS™ SHARED PLANET™ PRINCIPLES

> Performance and Progress

> Verification and Transparency

> Scorecard

FARMER SUPPORT CENTERS

SOCIAL INVESTMENTS IN COFFEE
COMMUNITIES

STARBUCKS AND THE AFRICAN WILDLIFE
FOUNDATION

STARBUCKS EARTHWATCH EXPEDITIONS

CERTIFIED ORGANIC COFFEE

FARMER LOANS

SUSTAINABLE PRICES FOR QUALITY COFFEE

BEYOND COFFEE

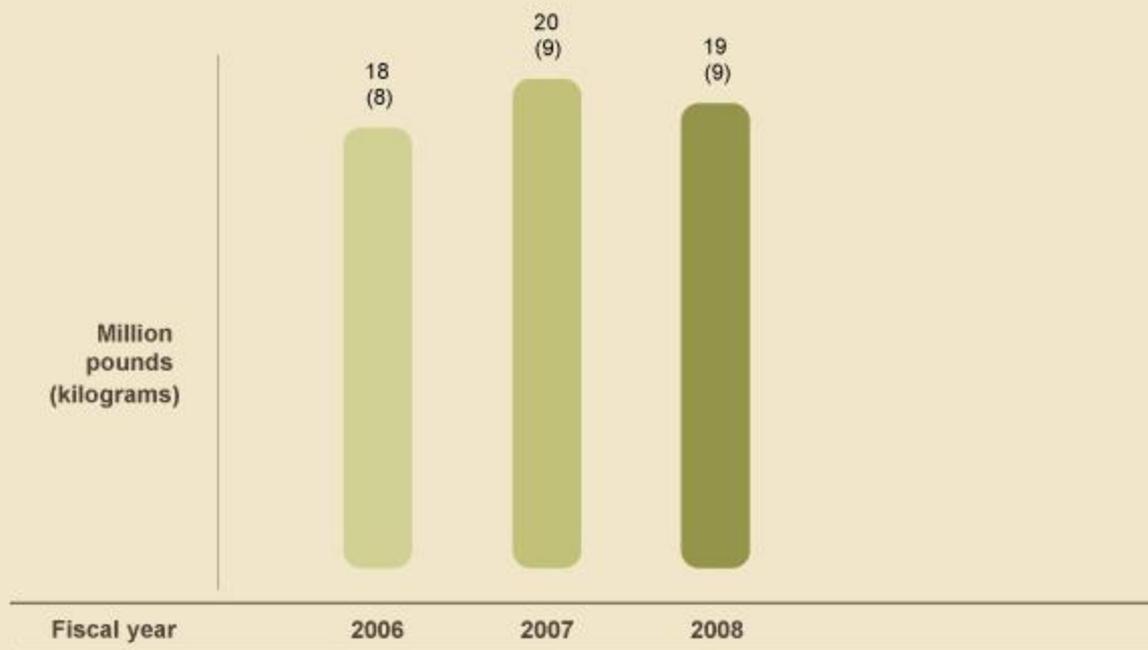
> Cocoa

> Products for Our Stores

Starbucks, [TransFair USA](#) and the [Fairtrade Labeling Organizations International \(FLO\)](#) announced a groundbreaking initiative in late 2008 to be launched in fiscal 2009 that builds upon our shared history of support for small-scale coffee farmers, their communities and the environment.

We're working to leverage the strengths of our respective coffee-buying programs to benefit even more farmers. This includes exploring ways to integrate the inspection and auditing processes for Fair Trade certification and [C.A.F.E Practices](#); increasing efficiencies in training farmers on sustainable coffee production and implementing our respective programs; and buying more coffee from suppliers participating in both programs.

With joint announcements in October 2008, TransFair USA and FLO join [Conservation International](#) as key partners of the Starbucks™ Shared Planet™ commitment to ethically source our coffee.



> Total Purchases of Fair Trade Certified™ Coffee – Fiscal 2008

Starbucks global purchases of Fair Trade Certified coffee totaled 19 million pounds (nine million kilograms), representing approximately 10 percent of global Fair Trade Certified coffee imports and 20 percent of U.S. Fair Trade Certified coffee imports in fiscal 2008. This equaled five percent of Starbucks total coffee purchases.

> Hurdles.

OUR GOALS

ETHICAL SOURCING

We're committed to serving high-quality coffee that is responsibly grown and ethically traded.

OUR GOAL

By 2015, 100% of our coffee will be responsibly grown, ethically traded.

[MORE](#)

LATEST NEWS



Starbucks New Store Designs Highlight Coffee, Community and the Environment



Starbucks Brings Thought Leaders Together to Develop a Comprehensive Recyclable Cup



Starbucks Becomes Fair Trade's Largest Buyer

[MORE](#)

OUR PARTNERSHIPS



Measurement of Sustainability

GoodGuide Search scientific product & company ratings...

My Stuff Personal Care Food Household Babies & Kids Pet Food Apparel Electronics Appliances Cars

Home » Categories » Food » Packaged Foods » Candy » Chocolate Bar » Sweet Earth Organic Chocolates Chocolate Bars - 72% Bittersweet



7.6
Scientific Rating

**Sweet Earth Organic Chocolates
Chocolate Bars - 72% Bittersweet**
Rank: 1 out of 186 Chocolate Bars - Company: Sweet Earth Organic Chocolates Inc

5.4 Health
This product has an average nutrition score.

8.3 Environment
This company's [environmental policies](#), practices and performance place it among the best 5% of companies rated by GoodGuide.

9.0 Society
This company's social policies, practices and performance place it among the best 5% of companies rated by GoodGuide.

Share Save to List Recommend 4 Avoid 0 Comment 3

<http://www.goodguide.com/>

FIND THE LINK

**DEFINE YOUR
STRATEGY**

DESIGN THE OFFERING

MAKE IT RELEVANT

BE REAL

Fiji water

- What elements did they do right?
- Where did it go wrong?
- What does it tell us about risks?

Sustainability and Marketing

- Can “sustainability” be used to drive consumer demand?
- What are the key factors?
- What are the risks?

Politicization of the Offering



2:56

Politicization Of The Offering

“I was going to bring to the floor the new can of Coca-Cola as an exhibit to demonstrate that this major international corporation, this huge American success story based in Atlanta, has taken probably the most iconic product in America – the Coke can – and has redesigned it to reflect what the climate change is doing in the arctic and to polar bears”

Sheldon Whitehouse

U.S. Senator

[D] Rhode Island, United States



Politicization Of The Offering

“The conflict with right wing opinion leaders was ignited by the campaign. They started criticizing our program as associated with liberals. They made it about global warming politics”.

- Project manager



<http://mediamatters.org/blog/2011/10/31/limbaugh-lashes-out-at-coca-cola-for-trying-to/182249>

Politicization: the manipulation of an offering for political gain

Saliency Of Inconsistencies



EACH BUCKET MAKES A
DIFFERENCE

bucketsforthe cure.com  **SUSAN G. Komen**
FOR THE **cure.**

"Come on, KFC, are you really saying you care about the well being of women with this beast? Not true, retorts the Colonel. The target demo for the Double Down is men! So we should feel better knowing that the Double Down is a widow maker?"



Attention to the Greenest

	# Spills	% Reported	# Green Words
BP	3300	64%	35
Sunoco	483	83%	26
ConocoPhillips	1379	51%	18
Devon	137	0%	17
Apache	370	0%	16
Lyondell	684	0%	16
Chevron	4618	26%	15
Burlington	76	0%	13
Shell	1959	41%	9
Valero	1640	24%	9
Anadarko	628	16%	9
Kerr-McGee	114	0%	9
Unocal	232	86%	8
Occidental	1124	0%	8
Chesapeake	13	0%	8
Exxon	5822	14%	3
Low (< 10 words)	1,442	23%	8
Med (10-20 words)	1,211	13%	16
High (> 20 words)	1,892	74%	31

spills from 2001-2007 reported by the National Response Center / % Reported = incidents covered in the news (Lexis Nexis)
Luo, Meier, Oberholzer (2012)

Sustainability and Marketing

Exercise – 15 minutes

- Answer the questions in your “reflection” paper
 - What is sustainability?
 - What is shared value?
 - What would you change in your Clorox write-up?
 - What are your three main take-aways?

Marketing For Shared Value

- Shared value can be a growth strategy (not just a goal) of brands.
- Brands need to identify specific societal needs (community or environment) that fits with their functional benefits and brand identity.
- There are 8 different types of societal benefits/marketing lever combinations that brands can use to integrate sustainability into their offering.
- Product offerings must be designed in ways that create value for multiple stakeholders at the same time.
- Core practices of marketing communications remain critical in making societal benefits relevant to consumers.
- Authenticity and transparency of claims is essential to the success of shared value investments.
- If you go this path...have your “shield” in one hand and you “purpose” on the other.

Today

- ✓ Corporate Social Responsibility and Sustainability Reporting
 - What is CSR?
 - What is the role of accounting?
 - What is the current regulatory reporting environment?

What is Corporate Social Responsibility?

- “A concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with stakeholders on a voluntary basis.”
European Commission (2010)
- “The firm’s considerations of, and response to, issues beyond the narrow economic, technical, and legal requirements of the firm to accomplish social [and environmental] benefits along with the traditional economic gains the firm seeks.”
Davis (1973)
- “Voluntary endeavors which benefit society.”
Sprinkle and Maines 2010

Alternative perspective

A view of corporate “social” responsibility from the perspective of neoclassical economics:

- “The social responsibility of business is to increase its profits.”

- Milton Friedman

What is wrong with this view?

CSR, Profits, and Sustainability

Corporate Sustainability

- Increasing long-run shareholder value by incorporating principles in the following areas:
 - Ethics
 - Governance
 - Transparency
 - Business relationships
 - Environmental protection
 - Financial return
 - Community involvement
 - Product value
 - Employment practices

Epstein (2008)

In other words, sustainability is an broad, integrated view of corporate activity, including CSR and profitability.

Benefits

Why might a firm **engage in CSR** or adopt a **sustainability perspective**?

What is the role of sustainability **reporting**?

Reporting Channels

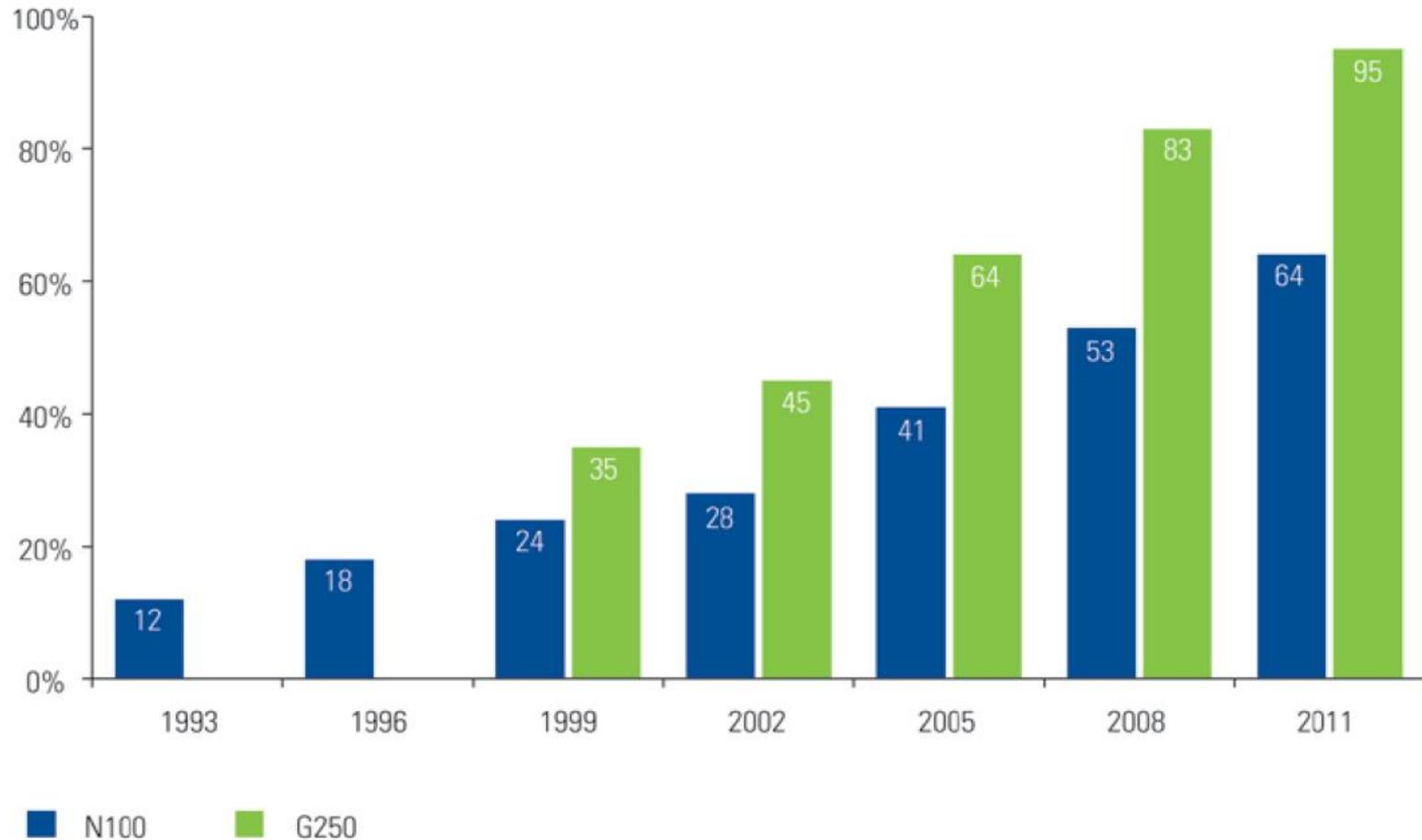


Costs

What are the **costs** of sustainability reporting?

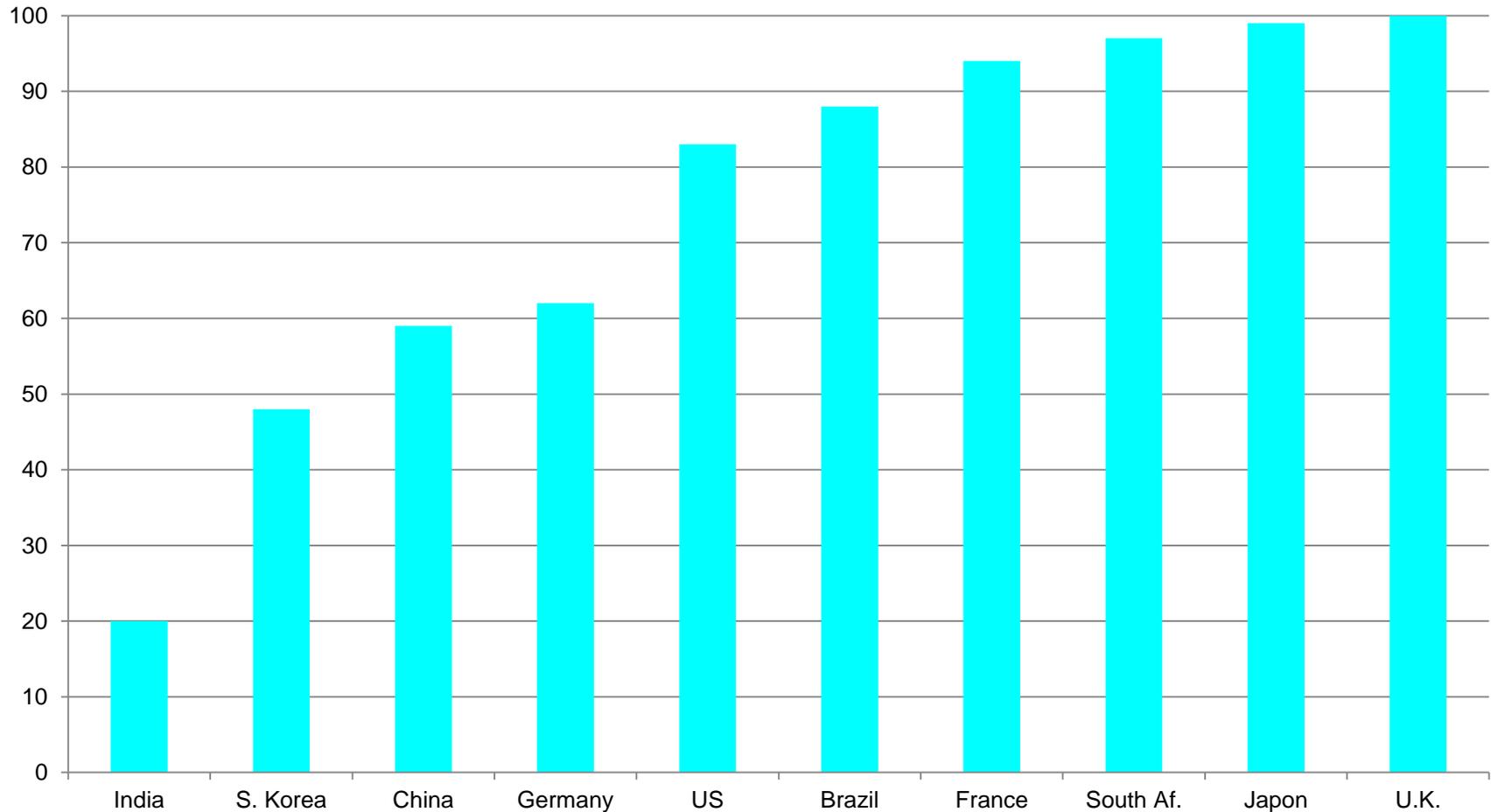
What is the role of **accounting**?

Firms Issuing a CSR Report

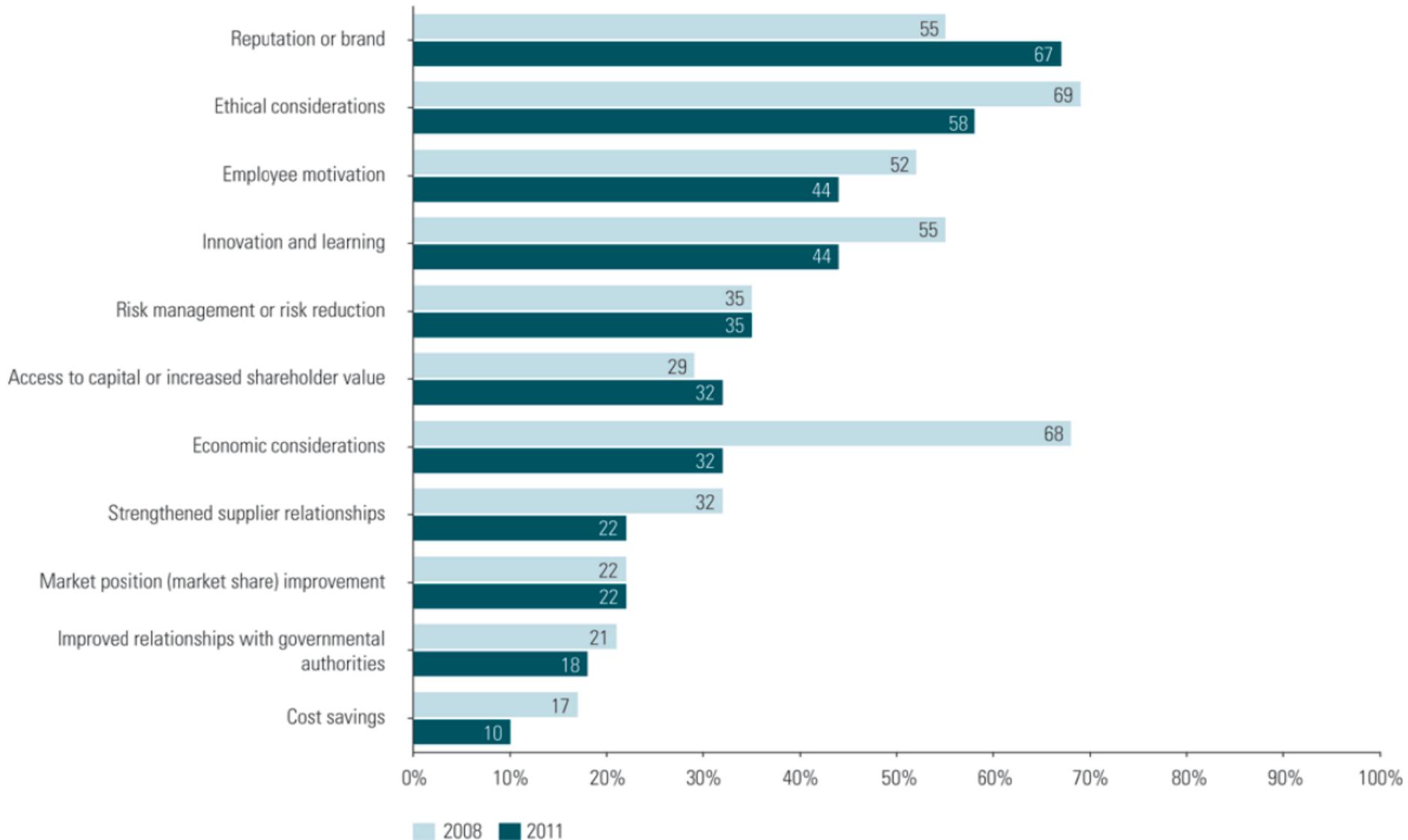


International Variations

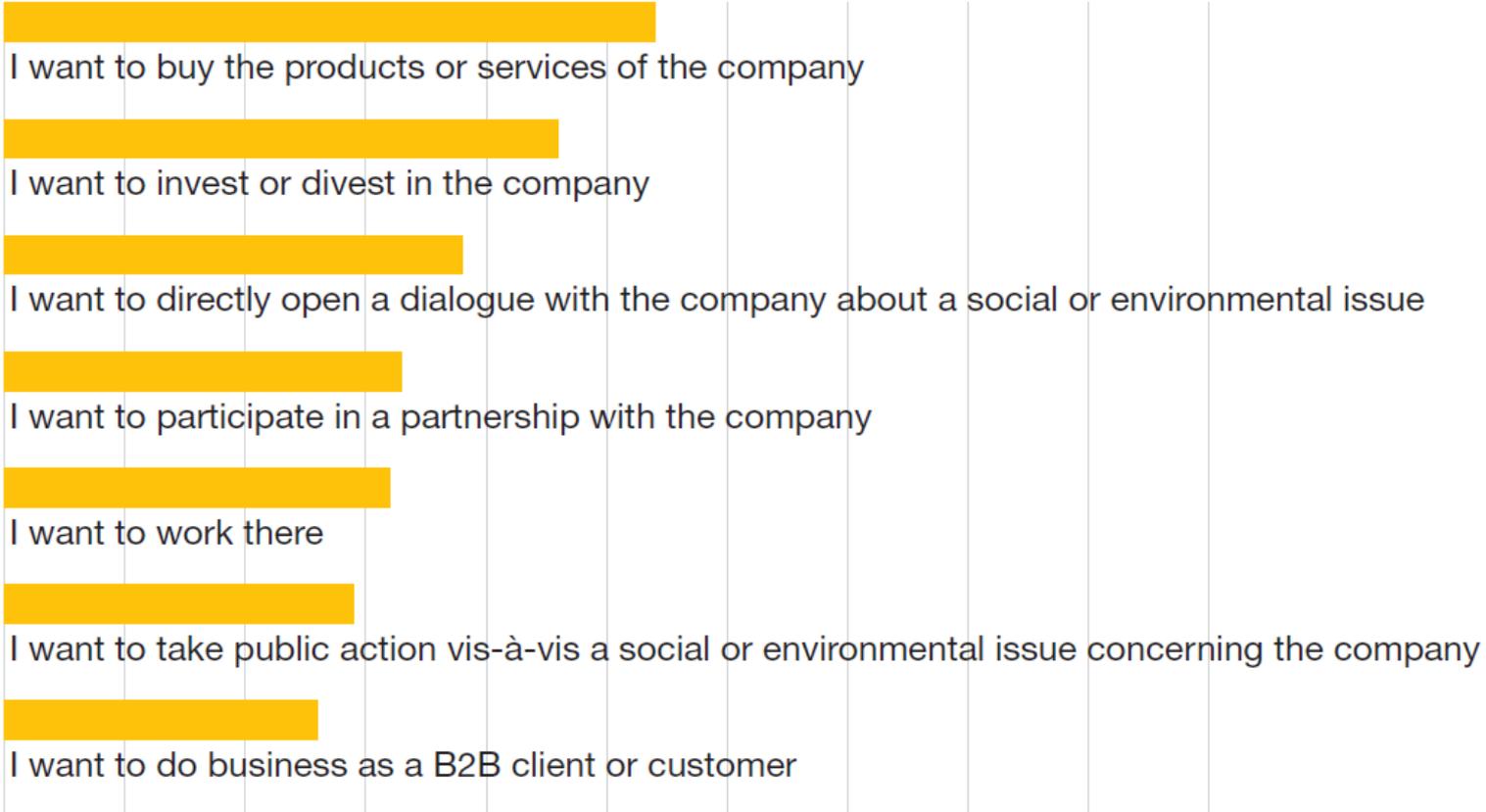
Percentage of N100 Firms Providing a CSR Report



Preparer Motivations



User Motivations



I want to buy the products or services of the company

I want to invest or divest in the company

I want to directly open a dialogue with the company about a social or environmental issue

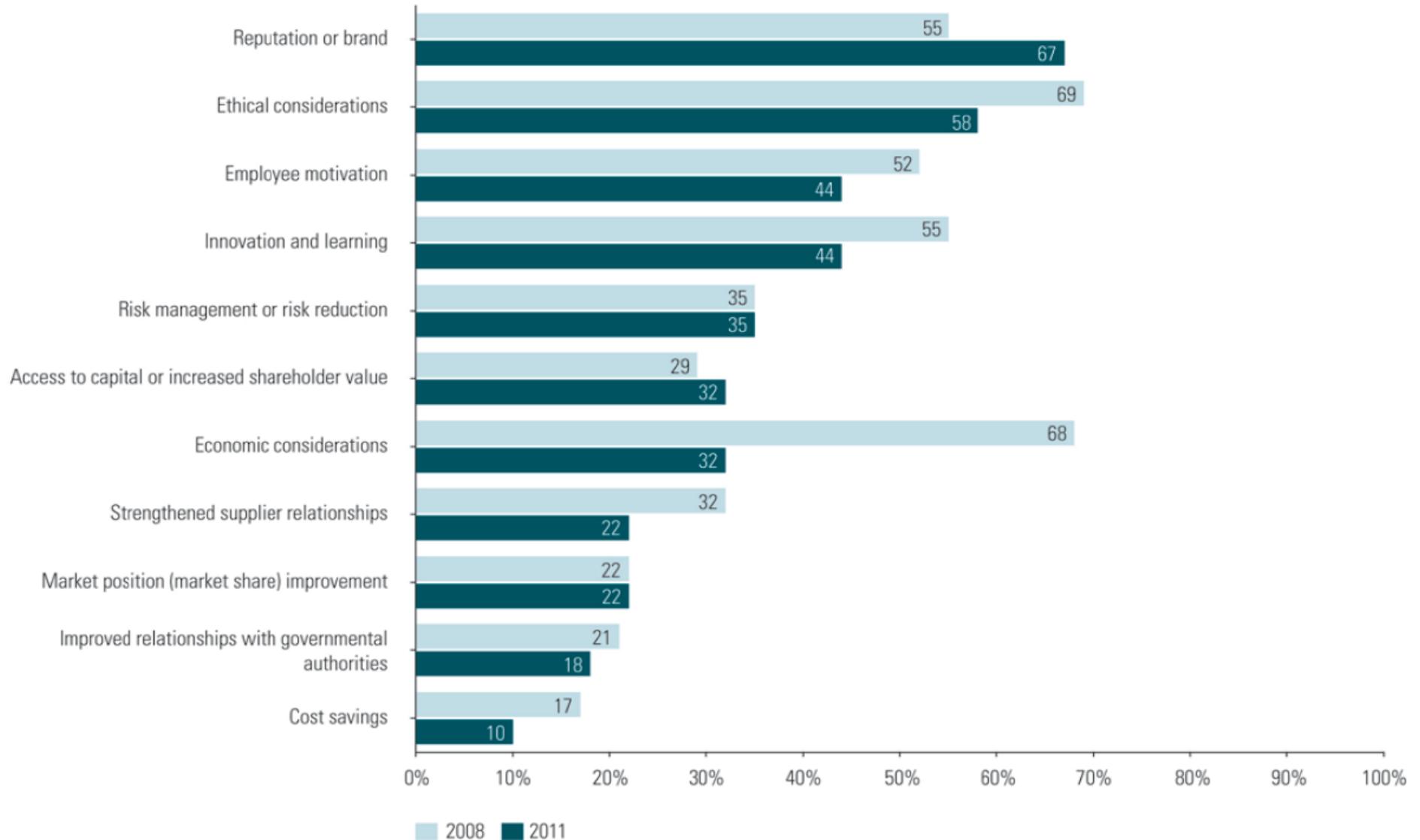
I want to participate in a partnership with the company

I want to work there

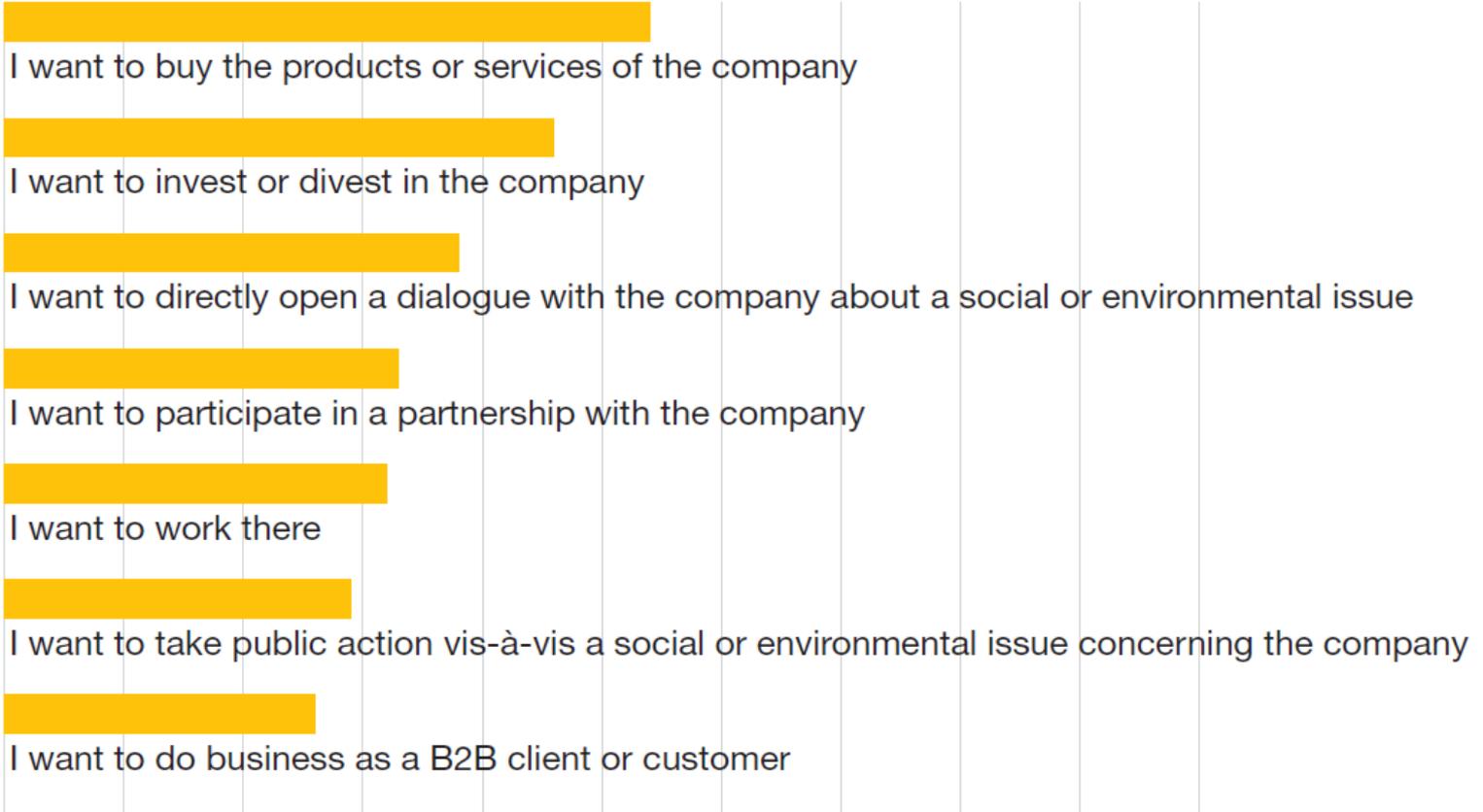
I want to take public action vis-à-vis a social or environmental issue concerning the company

I want to do business as a B2B client or customer

Preparer Motivations



User Motivations



I want to buy the products or services of the company

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I want to do business as a B2B client or customer

Price of Sin !

“Sin” Stocks

Hong and Kacperzyk (2009) suggest that firms producing alcohol, tobacco, and gaming pay a price:

- Are less held by norm-constrained institutions such as pension funds
- Are less covered by analysts
- Experience lower stock price (perhaps 20% lower) than comparable “non-sin” stocks

Social perception can have a significant effect on your valuation.

- Could be driven by numerous factors (i.e., ethical views, risk perceptions, etc.)

Demand from Users

“Investors, business customers and other stakeholders have shown a growing desire to connect a company’s financial performance to its social and environmental impact.

“Equity analysts, for example, have begun to look at the sustainability practices of the companies they cover. More than 300,000 Bloomberg terminals around the world provide corporate sustainability information.”

E&Y, “How sustainability has expanded the CFO’s role”, 2011

Shareholder Proposals

“In the 2011 proxy season, for example, approximately **40% of all shareholder proposals** that were voted on focused on social/environmental issues — the largest category of all shareholder resolutions”

“As recently as 2005, less than 3% of all shareholder resolutions on social and environmental issues reached the critical support threshold of more than 30% of votes cast. By [2011], it was 31.6%.”

E&Y, “How sustainability has expanded the CFO’s role”, 2011

CFO Expanded Role

“**Traditionally**, sustainability issues have fallen outside the jurisdiction of the CFO. **CFOs ran the numbers**, letting others handle soft issues such as social responsibility and corporate citizenship. But **those job silos are crumbling.**”

“As a result, [...] CFOs are getting involved in the management, measurement and reporting of the companies’ sustainability activities.”

E&Y, “How sustainability has expanded the CFO’s role”, 2011

Some Issues

CSR information is **not standardized yet**

- According to a KPMG survey, 90% of users believe that the development of **reporting standards** is important to build trust.

Reliability is lacking

- There is a fair amount of **selective disclosure**.
- **One third** of the G250 firms **issued a restatement** for their CSR information.
 - As a comparison, 3% of Fortune 1000 issued an accounting restatement.

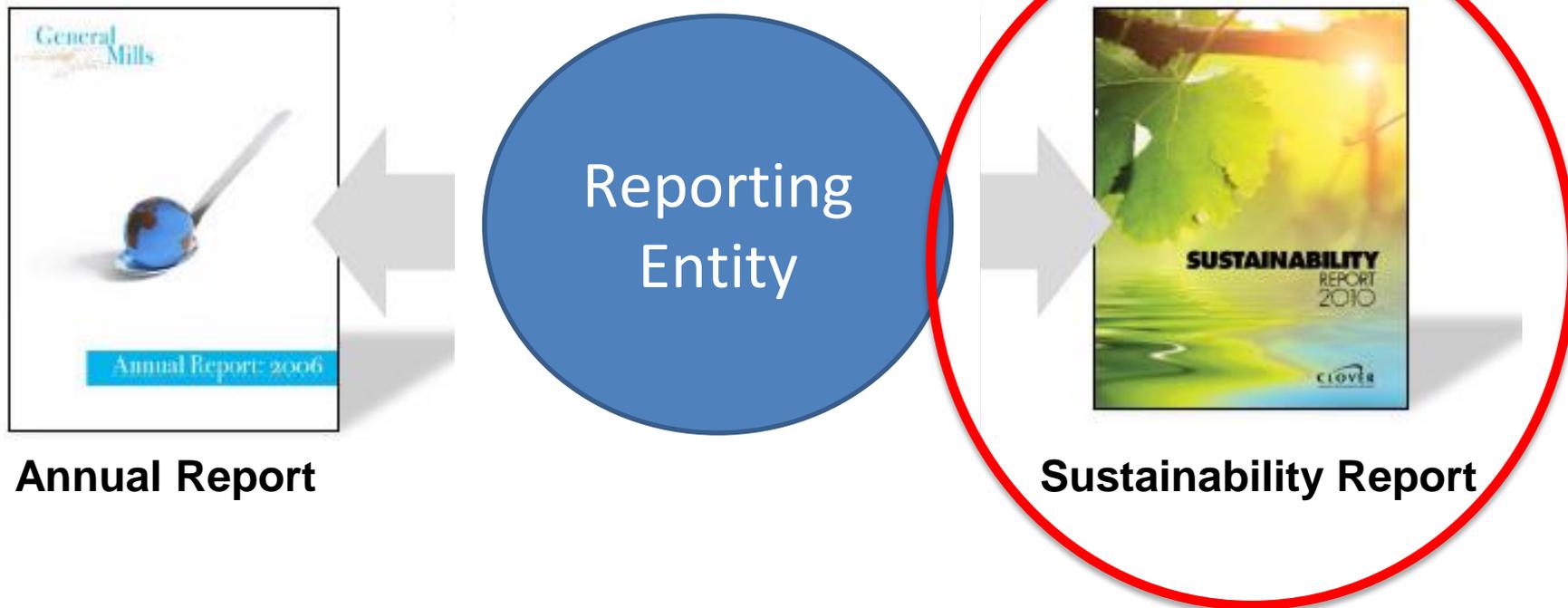
Standardization and auditability are key!

Addressing the Issues

(Standardization and Auditing)

Reporting Channels and Standardization

Who oversees this channel?



Current Regulatory Environment

Brief Overview

- The domestic and global **regulatory** environment for **CSR reporting** is still fairly young
 - In 1997, Finland became the first country to enact a mandatory sustainability reporting law (Ioannou & Serafeim 2012)
- Most CSR reporting remains **voluntary**
- Most CSR reports are **unaudited**
 - 14% of GRI-compliant sustainability reports receive third party assurance (I&S 2012)
- Country-level practices vary dramatically
 - E.g., assurance rates are as high as 37.5% in Finland and virtually non-existent in Thailand, Venezuela, and some other countries (I&S 2012)

Current Standard Setting

Some Key Players in CSR Reporting

- **Global Reporting Initiative (GRI)**
 - Founded in 1997
- **International Integrated Reporting Council (IIRC)**
 - Founded in 2010
- **Sustainability Accounting Standards Board (SASB)**
 - Founded in 2012
- **Carbon Disclosure Project (CDP)**
 - Founded in 2000

Global Reporting Initiative (GRI)

Overview

- **Disclosure Format:** Firm-level sustainability reports
- **Issue Scope:** Economic, environmental, social and governance
- **Geographic Scope:** International public & private entities

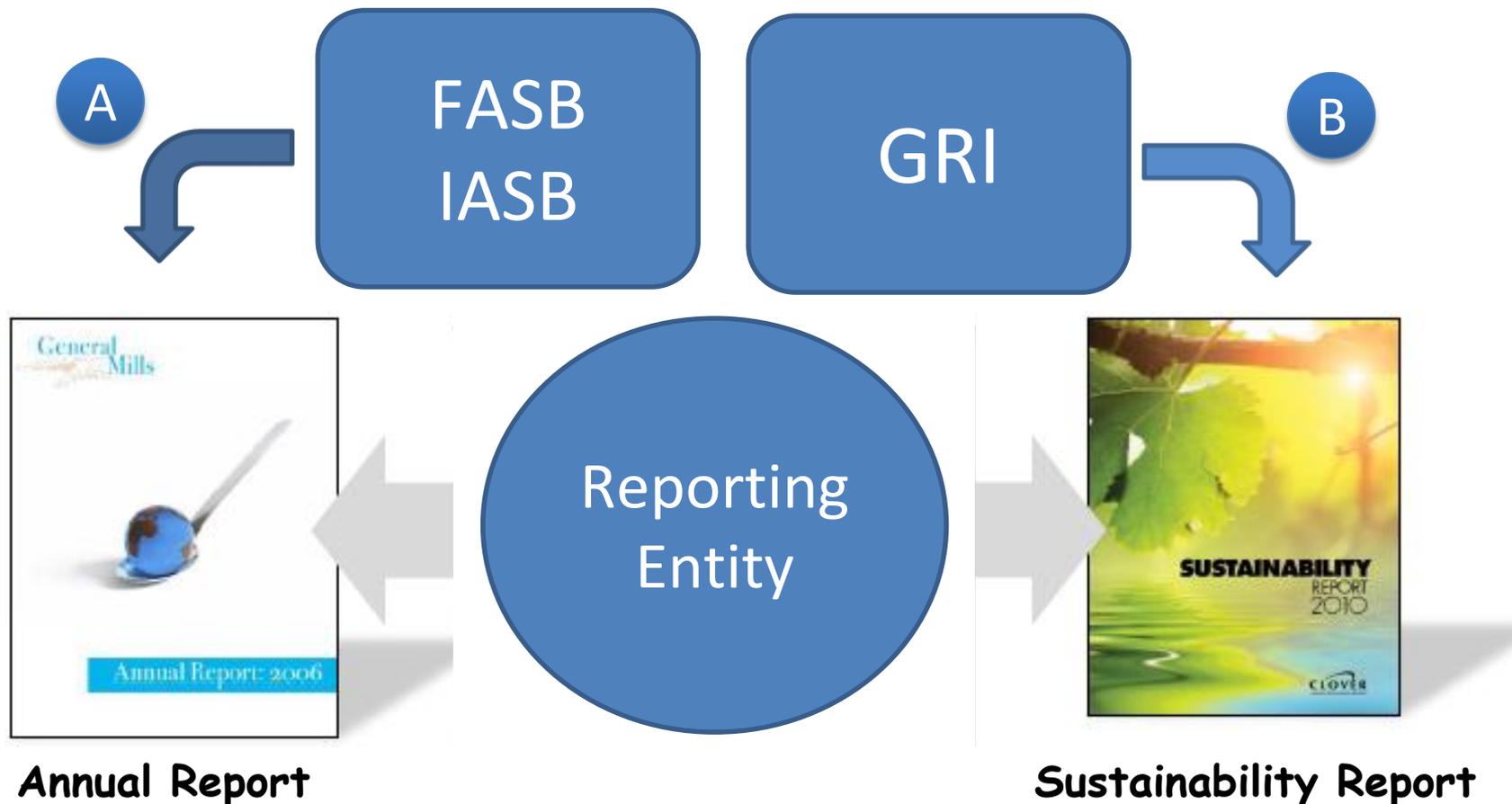
Reporting Objective for Entities

- A report that “reflect[s] the organization’s economic, environmental and social impacts.”

Materiality Threshold for Information Inclusion

- “[Could] substantially influence the assessments and decisions of stakeholders.”

Reporting Model - GRI



Link A: US GAAP or IFRS

Link B: G4 Sustainability Reporting Guidelines

International Integrated Reporting Council (IIRC)

Overview

- **Disclosure Format:** Firm-level integrated reports
- **Issue Scope:** Financial, manufactured, intellectual, human, social and relationship capitals
- **Geographic Scope:** International public & private entities

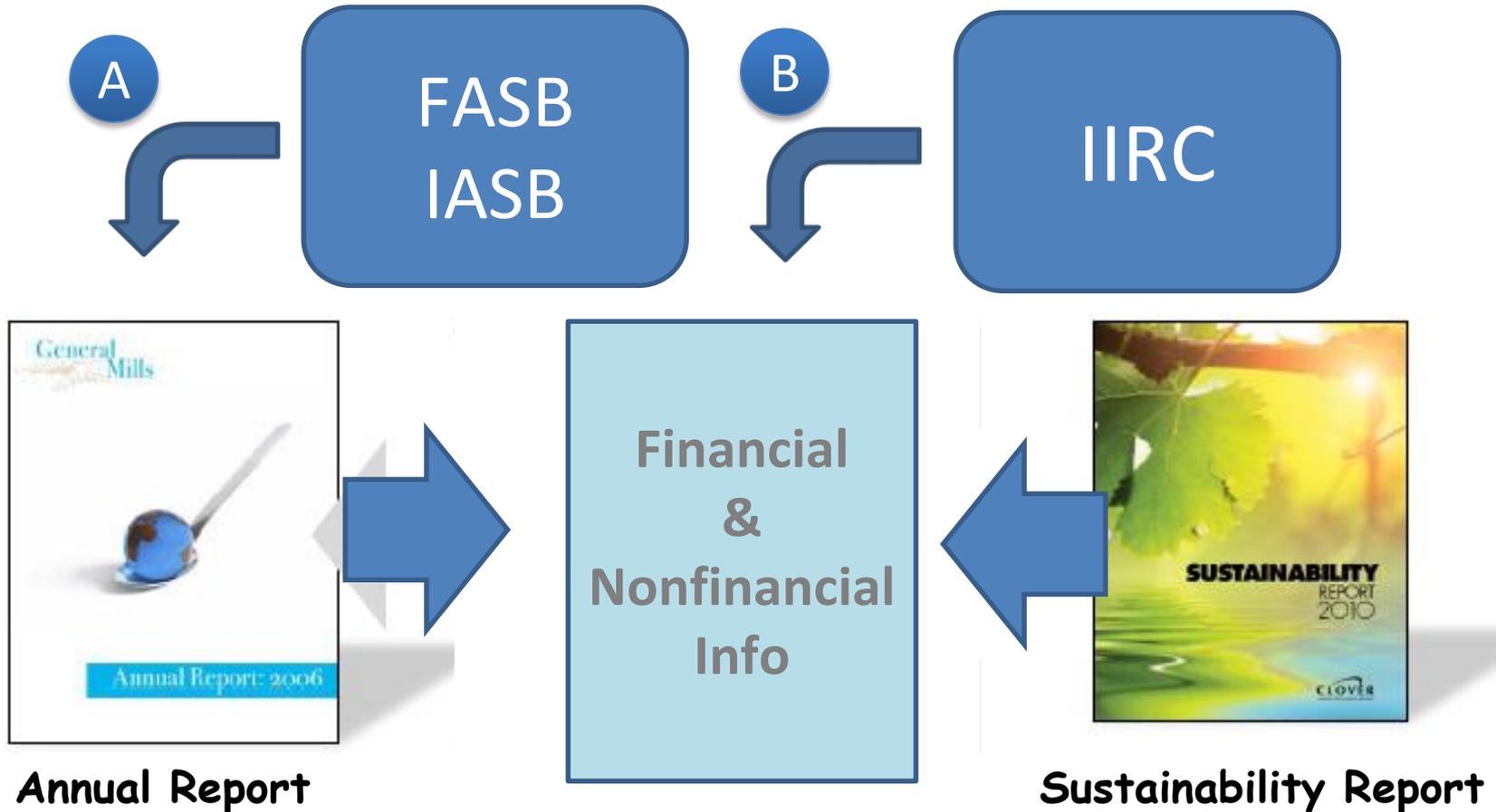
Reporting Objective for Entities

- “An integrated report should provide concise information that is material to assessing the organization’s ability to create value in the short, medium, and long term.”

Materiality Threshold for Information Inclusion

- “[C]ould substantively influence the assessments of the primary intended report users.”

Reporting Model - IIRC



Link A: US GAAP or IFRS
Link B: International <IR> Framework

Sustainability Accounting Standards Board (SASB)

Overview

- **Disclosure Format:** Firm-level 10-K filings
- **Issue Scope:** Environmental, social, and governance issues
- **Geographic Scope:** U.S. public companies

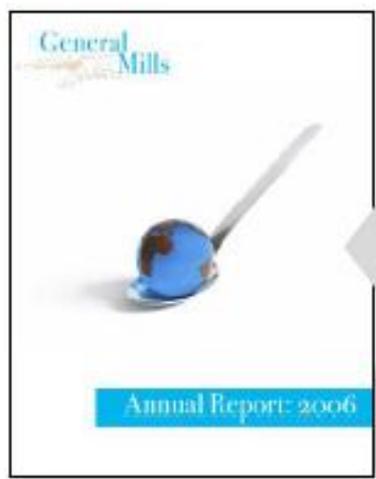
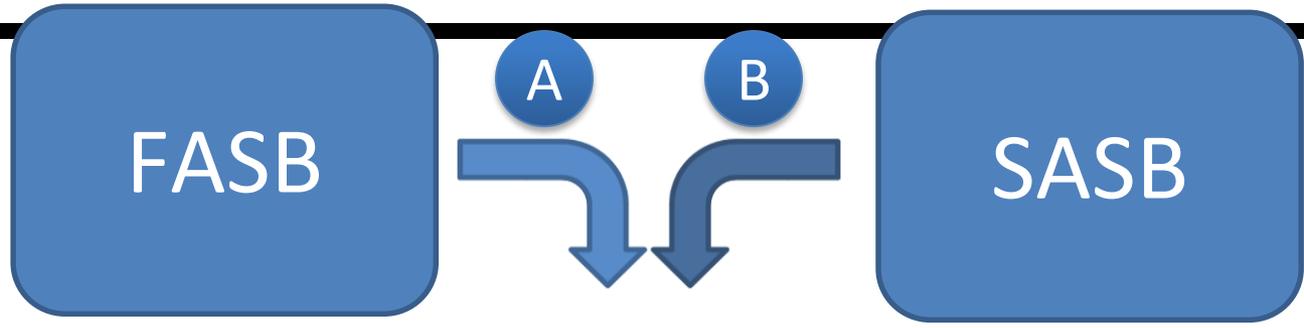
Reporting Objective

- Provide standardized accounting metrics for industry-level material sustainability issues.

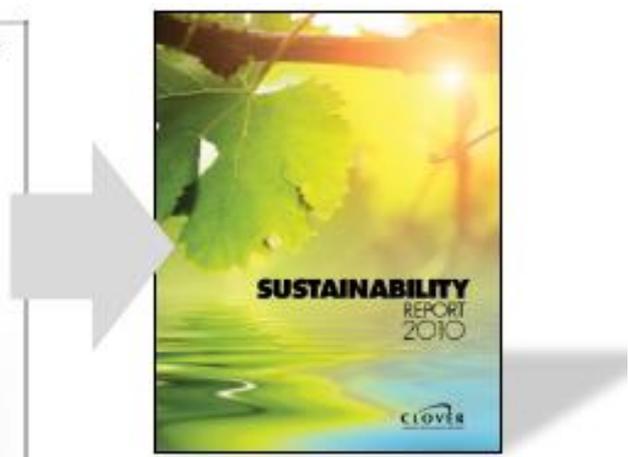
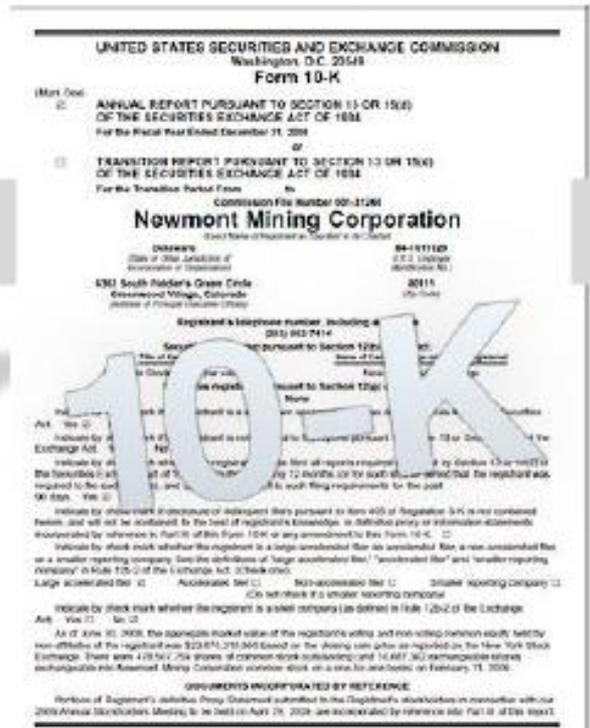
Materiality Threshold for Information Inclusion

- “[Could be] viewed by the reasonable investor as having significantly altered the “total mix” of information made available.”

Reporting Model - SASB



Annual Report



Sustainability Report

Link A: US GAAP

Link B: Industry Sustainability Reporting Standards

The Carbon Disclosure Project (CDP)

Overview

- **Disclosure Format:** CDP program reports and data
- **Issue Scope:** Greenhouse gas emissions, water management and climate change strategies
- **Geographic Scope:** International

Reporting Objective

- “[Provide information so] **investors** and **cities** are better able to mitigate risk, capitalize on opportunities and make investment decisions that drive action towards a more sustainable world.”

Reporting Model - CDP



Summary of Reporting Standards

Interrelations

- Overlap is greatest between GRI and SASB
 - Both focus on reporting **metrics** for sustainability issues
- Substantial differences remain
 - User focus (stakeholder vs. investor)
 - Materiality threshold
 - Degree of specialization (entity vs. segment)
 - Reporting outlet (separate report vs. 10-K)
 - Geographic scope (global vs. US)

Memoranda of Understanding

- Between SASB and CDP (recently finalized)
- Between SASB and IIRC (in process)

Summary of CSR Overview

Sustainability reporting is increasingly popular.

- Costly, but can be beneficial for society
- Can also be beneficial for firms

Costs/benefits are affected by quality of reporting and measurement

- Role for accounting and auditing

Standardization is improving

- Still largely relates to **voluntary** reporting

Center on Business Strategies for Sustainability (CBSS)

Business, Innovation and Sustainability

June 2013

Mapping the Student Experience: Value Proposition of CBSS

Matthew Belcher
Mansoor Baloch
Nikhil Kurien
Mark Toburen

Beril Toktay
Manpreet Hora

Executive Summary

A committee of students and faculty launched a service design project to determine critical touch points for full-time MBA students and avenues through which the CBSS can maximize value-add to full-time MBAs. The committee aims to map the various touch points that impact an MBA candidate's experience at Scheller College of Business and, based on these, develop a short-term and a long-term plan to engage resources and stakeholders to promote CBSS, and to attract and engage interested students in activities related to CBSS.

Using the service design project, the committee identified the Graduate Office, Career Services, Admissions and the Marketing & Communications team as the four major stakeholders affected by the above activities. The committee also identified five major touch points in an MBA candidate's journey through business school, namely, School Selection & Pre-Admission, 1st Year, Internship, 2nd Year, and Alumni. A survey sent to the current 1st and 2nd year full-time MBA candidates identified multiple areas for CBSS to focus on in the short term.

Based on the results of the survey, during the Pre-MBA phase candidates heavily rely on the College website, admissions interview, campus information session, informal meetings and campus visits when selecting an MBA program. The survey also highlighted the fact that during Pre-MBA phase, candidates are highly influenced by Career Services, program rankings, program cost, financial aid, and specialization. The survey also brought out the facts that the first and second year students ranked highly the advice they received from their seniors, their major group projects, recruiting companies, career advising and the initial orientation.

Scope

The Center on Business Strategies for Sustainability (CBSS) was founded in 2013 by a generous donation from the Ray Anderson Foundation and is currently preparing for a fall 2013 launch. CBSS will enable students to develop business skills in an entrepreneurial setting to ultimately develop innovative ideas at the intersection of business, science and sustainability. CBSS embarked upon a project to define the role it can play to enhance and enrich the student experience. The scope was to identify the role of CBSS in enhancing and enriching the “experiential journey” of students in the MBA program.

Specifically, the planned tasks were:

1. Perform an analysis of the current service design of the MBA program to identify critical touch points/junctures in the program.
2. Evaluate opportunities of how CBSS can enhance student experience in the program and, in particular, at the identified touch points.
3. Develop recommendations with measurable implementation metrics for CBSS for both immediate and long-term impact.
4. Develop a service design strategy to incorporate the recommendations.

A committee of students and faculty launched a service design project to determine critical touch points for full-time MBA students and avenues through which the CBSS can maximize value-add to full-time MBAs.

Committee of Students

Matthew Belcher: *GRA, CBSS*

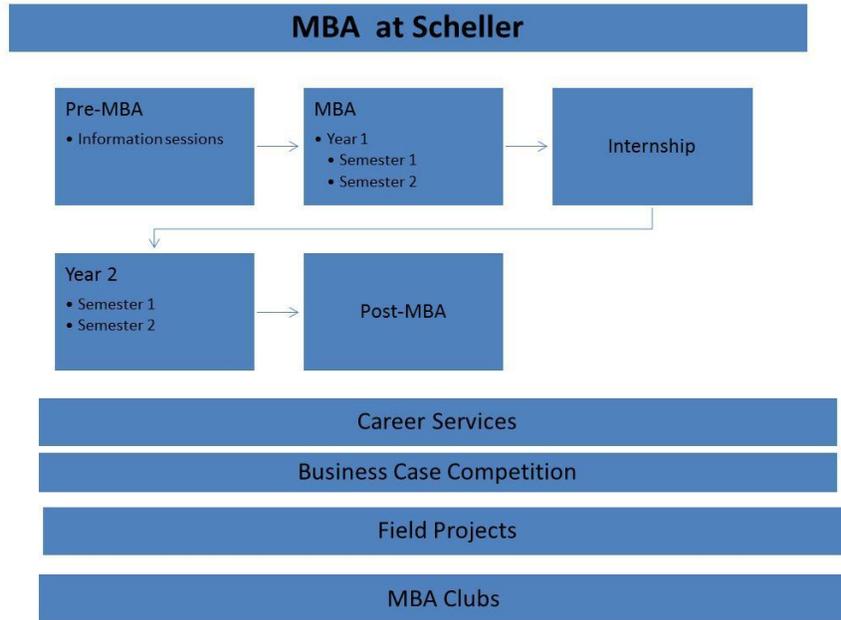
Mansoor Baloch: *President, Net Impact*

Nikhil Kurien: *Member, Service Design Project, Service Operations*

Mark Toburen: *Student Member, MBA Task Force*

Mapping Student Experiential Journey

To identify the critical touch points the following broad stages that are a part of selecting and pursuing MBA at Scheller were chosen:



Using the above stages as a starting point, the committee of students and faculty identified the major questions that need to be addressed at the pertinent touch points in an MBA candidate's journey through business school, namely, School Selection & Pre-Admission, 1st Year, Internship, 2nd Year, and Alumni.

The illustrative questions at these touch points are as follows:

School Selection and Pre-Admission

- How do we leverage CBSS in the recruiting process?

1st Year

- How do we get students involved with CBSS early on?

Internship

- How do we increase Sustainability opportunities for students?

2nd Year

- How do we leverage students already involved with CBSS?
- How do we integrate students who realize they want to be involved?

Alumni

- How do we leverage relationships with alumni working in CBSS-related careers and those who were part of CBSS during their time at GT?

Survey

A survey was conducted with the currently enrolled MBA students to gauge the following:

1. What were the sources of information during the search for an MBA program?
2. What were the influential factors in the selection of the MBA program?
3. What were the factors that most influenced the path that is taken as a first-year MBA student (e.g. clubs, MBA specialization, career interests)?
4. What most motivates students to get involved in MBA clubs and organizations?

More than 60 students participated in the survey which was distributed online through Qualtrics.

Key Findings and Recommendations

The above questions enabled CBSS to infer the following:

- Modes of communication through which the value of CBSS can be disseminated
- The action items that can be implemented by CBSS to meet student needs through the student journey
- Identify stakeholders that can be involved to deliver value of CBSS in the student journey at critical touch points.

Communicating CBSS value

The two modes of communicating value of CBSS at the selection and pre-admission MBA stage could be through (a) personal communication and (b) media channels

Personal communication can happen during recruiting of potential students allowing Scheller stakeholders to personally communicate the value of the center through:

- Interviews
- Info sessions
- Campus visits,
- MBA fairs

Media channels can be leveraged to communicate the value of the center

- CBSS website (as part of a connected group of GT sustainability websites)
- Paper marketing materials

- Social media
- Advertisements.

Action items to meet student needs

Major recommendations inferred from the surveys identified the following action items for students enrolled in the MBA program

Establish and promote sustainability-focused experiential learning opportunities

- Innovation Tournaments fostering unique skill development and exclusive exposure to corporate partners
- Introduced a Sustainable Business Consulting Practicum course for fall 2013
- Partner with Pro Bono Consulting to develop sustainability projects
- Partner with TI:GER

Coordinate with major group projects

- Partner with core professors to create opportunities to work with CBSS corporate partners on 1st-year major projects (Strategy, Operations, Marketing)

Leverage Net Impact

- Leverage current success at national case competitions
- Create a direct link between CBSS and Net Impact

Leverage the experiences of 2nd-year CBSS students in courses, projects, and internships

Careers in sustainability

- Establish relationships with CBSS corporate partners to create internship and full-time hiring opportunities
- Partner with Career Services to promote jobs with CBSS partners
- Partner with Career Services to broaden the hiring scopes of firms already recruiting at GT

Program rankings

- Promote “Green” B-school rankings

Provide dedicated fellowships and GRA positions within CBSS

Key Stakeholders

The key stakeholders identified that can play a major role in delivering value of CBSS in the student journey at critical touch points are: the **Graduate Office, Career Services, Admissions, Marketing & Communications.**

The following matrix depicts the juxtaposition of the modes of communicating value of CBSS at the selection and pre-admission MBA stage with the stakeholders.

	Graduate Office	Career Services	Admissions	Marketing & Comm
University/MBA website				✓
Pamphlets/paper marketing materials	✓			✓
Social Media	✓		✓	✓
Campus info sessions	✓	✓	✓	
Online info sessions	✓		✓	
Campus visit	✓		✓	
Informal meetings with current students, faculty, alumni	✓	✓	✓	
Official admissions interview		✓	✓	
MBA fairs	✓	✓	✓	

Next Steps

The next steps in this process involve working with the identified stakeholders to implement the action items to deliver value of CBSS to students enrolled in the MBA program.

Sustainability Panel invitation sent to Net Impact chapters in Atlanta region

WHAT: Employer Panel on Sustainability and Sustainability Career Paths

WHEN: Tuesday, Nov 19th

TIME: 6-8 PM

WHERE: Room 300, College of Management

The panelists are a very diverse group with very non-traditional backgrounds and represent an array of top companies in the Atlanta area.

The panelists for the event are:

John Platko <<http://www.linkedin.com/pub/john-platko/b/173/4b>>, Managing Partner, Global Corporate Consultancy (Antea Group)

Keith Mask <<http://www.linkedin.com/pub/keith-mask/17/707/6a6>>, Assistant Vice President, Energy and Engineering at Cox Enterprises

John Federovitch <<http://www.linkedin.com/in/johnfederovitch>>, Director, Sustainability Strategy & Business Development, Kimberly-Clark

Jessica Sanderson <<http://www.linkedin.com/pub/jessica-sanderson/2a/477/96a>>, Director of Sustainability, Novelis

Maury Zimring <<http://www.linkedin.com/pub/maury-zimring/a/a4/b74>> (confirming last name use), Director, Corporate Responsibility & Sustainability, InterContinental Hotels Group

Come join an engaging dialogue with a diverse panel of corporate leaders to explore some of the environmental and social aspects of business and discuss how sustainability may – or may not – help you achieve your career goals. If you seek a “career in sustainability”, want to make a difference in a more traditional role, or just want a better understanding of what companies think, this event is for you. Panelists will include current leaders from Cox Enterprises, Novelis, Kimberly-Clark, Antea Group, and others. They will also bring insights from roles in consulting firms including McKinsey and sustainability engagements with many other Atlanta-based companies.

Facilitated by Howard Connell, the Managing Director of the new Center for Business Strategies for Sustainability (CBSS) and sponsored by the Net Impact Club and the CBSS, this event promises to be informative for anyone interested in how businesses are approaching this evolving topic and what it could mean for you. Also, there will be time at the end of the panel for networking to explore career opportunities.

Food will be provided. Dress code is business casual.

L. BERIL TOKTAY
Professor of Operations Management and Brady Family Chair
Scheller College of Business
Georgia Institute of Technology

I. EARNED DEGREES

- June 1998 **Massachusetts Institute of Technology**, Cambridge, MA
PhD in Operations Research
Thesis: Analysis of a Production-Inventory System under a Stationary Demand Process and Forecast Updates
- June 1994 **Purdue University**, West Lafayette, IN
MS in Industrial Engineering
Thesis: Capacity Allocation with Integer Side Constraints: An Application to Semiconductor Manufacturing
- July 1992 **Bogaziçi University**, Istanbul, Turkey
BS in Industrial Engineering
- July 1992 **Bogaziçi University**, Istanbul, Turkey
BS in Mathematics

II. EMPLOYMENT

- 8/12 – present **Georgia Institute of Technology**, Atlanta, GA
Professor of Operations Management
Brady Family Chair
Scheller College of Business ADVANCE Professor
Founding Director, Center for Business Strategies for Sustainability (2/13 - present)
- 8/11 – 8/12 **Georgia Institute of Technology**, Atlanta, GA
Nancy J. and Lawrence P. Huang Professor of Operations Management
- 8/07 – 8/11 **Georgia Institute of Technology**, Atlanta, GA
Nancy J. and Lawrence P. Huang Associate Professor of Operations Management
- 8/05 – 8/07 **Georgia Institute of Technology**, Atlanta, GA
Associate Professor, College of Management
- 03/04 – 12/04 **Georgia Institute of Technology**, Atlanta, GA
Visiting Associate Professor, Industrial and Systems Engineering (sabbatical leave)
- 9/02 – 8/05 **INSEAD**, Fontainebleau, France
Associate Professor, Technology and Operations Management Area
- 8/98 – 8/02 **INSEAD**, Fontainebleau, France
Assistant Professor, Technology and Operations Management Area
- 10/01 **University of British Columbia**, Vancouver, BC
Visiting Scholar, Operations and Logistics Division

8/96 – 5/98 **Massachusetts Institute of Technology**, Boston, MA
Resident Tutor, Random House Undergraduate Residence

5/96 – 8/96 **Hewlett Packard Laboratories**, Palo Alto, CA
Summer Intern, Decision Technologies Department

III. TEACHING

A. INDIVIDUAL STUDENT GUIDANCE

Post-doctoral Fellows

- Cerag Pince (with M. Ferguson), 1/11 – 7/11
Research Area: Decision Support for Improved Financial and Environmental Performance of Product Leasing
Position: Assistant Professor of Operations Management, KLU Hamburg
Funding: NSF - DMI Grant No. 0620763
- Se-Kyoung Oh (with M. Ferguson), 8/06 – 8/07
Research Area: Enterprise Strategies for Remanufacturing under Competition and Environmental Regulation
Funding: NSF - DMI Grant No. 0522557

Doctoral Students

- Luyi Gui (co-advisor), Georgia Tech, graduated 6/13
Thesis: Managing and optimizing decentralized networks with resource sharing
Position: Assistant Professor of Operations and Decisions Technologies, UC Irvine
- Yannis Bellos (co-chair of dissertation committee), Georgia Tech, graduated 6/12
Thesis: Designing Service Operations: Economic and Environmental Implications
Position: Assistant Professor of Operations Management, George Mason University
- Vishal Agrawal (co-chair of dissertation committee), Georgia Tech, graduated 6/10
Thesis: Essays in Sustainable Operations
Position: Assistant Professor of Operations Management, Georgetown University
Awards: Winner of the 2010 Aspen Institute Dissertation Proposal Award
- Nektarios Oraopoulos (co-chair of dissertation committee), Georgia Tech, graduated 7/09
Thesis: Three Essays on the Role of Information Structures on New Product Development Strategies
Position: Assistant Professor, Judge School of Business, Cambridge University
- Tong Wang (committee member, co-author of job market paper), INSEAD, graduated 7/08
Thesis: Information and Flexibility in Supply Chain Management
Position: Assistant Professor, Business School, National University of Singapore
Awards: First prize in the 2007 MSOM Student Paper Competition
- Onur Boyabatlı (co-chair of dissertation committee), INSEAD, graduated 1/07
Thesis: Essays on the Interaction of Operational and Financial Decisions
Position: Assistant Professor of Operations Management, Singapore Management University
- Mümin Kurtuluş (chair of dissertation committee), INSEAD, graduated 6/05
Thesis: Supply Chain Collaboration Practices in the Consumer Goods Industry

Position: Assistant Professor of Operations, Owen Graduate School of Management,
Vanderbilt University

- Laurens G. Debo (co-chair of dissertation committee), INSEAD, graduated 6/02
Thesis: Topics in Product Remanufacturing, Repair and Disposal
Position: Associate Professor of Operations Management, Booth School of Business,
University of Chicago; previously Assistant Professor of Operations Management,
Tepper School of Business, Carnegie Mellon University
- Sezer Ülkü (co-chair of dissertation committee), INSEAD, graduated 6/02
Thesis: Risk ownership and time-to-market in contract manufacturing
Position: Associate Professor of Operations Management, McDonough School of Business,
Georgetown University

Research with Undergraduate Students

- Andrew Harris, Georgia Institute of Technology, Management, President's Undergraduate Research Award (PURA), Summer 2008
- Mark Keith Fernandez, Georgia Institute of Technology, Electrical Engineering with Minor in Management, President's Undergraduate Research Award (PURA), Summer 2006

Independent Study with Undergraduates

- Robert Hazelwood, Georgia Institute of Technology, College of Management, Summer 2008
- Chuck Kahng, Georgia Institute of Technology, College of Management, Summer 2006
- Parin Patel, Georgia Institute of Technology, College of Management, Summer 2006

Research Collaboration with Exchange Students

- Cerag Pince, PhD candidate, Erasmus University, Fall 2008
- Kristel Hoen, PhD candidate, Technical University of Eindhoven, Fall 2010 (Core Committee Member; graduated 11/12)

B. OTHER TEACHING ACTIVITIES

Courses Taught at Georgia Tech*

MGT 6359 Business Strategies for Sustainability, MBA (new course)
Taught as MGT 8803 Business and the Environment in 2005 - 2008
Spring 2006 (4.9/5.0), Spring 2007 (3.8/5.0), Spring 2008 (4.5/5.0), Spring 2010 (4.3/5.0), Spring 2011 (4.7/5.0)

IL 6452A Sustainability in the Supply Chain, Executive MS in Logistics (new course)
May 2007 (4.6/5.0), July 2008 (4.2/5.0)

IMBA 6170 Business Strategies for Sustainability, Global Executive MBA (new course)
Nov-Dec 2009 (4.7/5.0), Nov-Dec. 2010 (4.5/5.0), Nov.-Dec. 2012(4.75/5.0)

MGT 7354 Dynamic Programming via Applications, PhD (new course)
Spring 2007 (4.2/5.0), Spring 2010 (5.0/5.0)

MGT 3501 Operations Management, Undergraduate core course
Fall 2005 (4.0/5.0), Spring 2006 (4.6/5.0), Fall 2006 (4.0/5.0), Fall 2007 (3.6, 3.9/5.0),
Fall 2008 (4.0, 4.2/5.0), Spring 2011 (4.2/5.0), Fall 2011 (4.7/5.0)

ISyE 3104 Supply Chain Management, Undergraduate
Fall 2004 (4.9/5.0)

*Ratings are from item 10 in the CIOS survey – “The instructor was an effective teacher.”

Courses Taught at INSEAD

Supply Chain Management, MBA (new course)

twice a year 1999 - 2005

Revised December 2013

Supply Chain Management, PhD (new course)	once a year 1999 - 2005
Foundations of Operations, PhD	once a year 1998 - 2005
Stochastic Processes, PhD	once a year 1998 - 2005
Optimization, PhD	once a year 1998 - 1999
Workshop on OM-Economics Interface (new seminar)	1999
Algebra and Calculus for Business	1999, 2000
Supply chain management modules in executive education programs	2000 - 2005

Curriculum Development

1. Business Strategies for Sustainability (MBA, Georgia Tech) (new course design)

This is a new course organized around a unique four-module structure (Fundamentals, Eco-Efficiency, Product Stewardship and Sustainability Strategies). It takes a holistic view of the interaction of businesses with the environment. It outlines reasons why businesses would want to care about environmental issues, introduces environmental assessment and management tools, and visits topics from various business functions. In addition to MBAs, students from Environmental Engineering, Mechanical Engineering, City and Regional Planning, and Public Policy enroll in this course, creating an interdisciplinary learning environment. Students learn from original research and company-sponsored guided projects (Canvas Systems, International Sleep Products Association, Army Installation Management Agency, and Michelin). Faculty members from a variety of institutions have requested the syllabus and course material. A number of course sponsors have collaborated on NSF-funded projects and took part in Georgia Tech industry-academic workshops I organized.

2. Dynamic Programming via Applications (PhD, Georgia Tech) (new course design)

Dynamic Programming provides a set of general methods for making sequential, interrelated decisions under uncertainty. The focus of this course is on discrete-time stochastic problems. Its objective is to provide a basic understanding of the theory of dynamic programming that is frequently used in the formal studies of management. The techniques are illustrated through concrete applications from Inventory Management, Production Planning, Revenue Management, New Product Development, etc.

3. Executive Education Modules (Georgia Tech) (new course design)

I developed a module targeted specifically at supply chain managers for the Executive MS in Logistics program offered by ISyE and a module more appropriate for a general management audience for our Global Executive MBA program. I am also involved in designing an open enrollment program on sustainability.

4. Supply Chain Management (MBA and PhD, INSEAD) (new course design)

I developed and introduced these courses in 1999, and updated them over time to include such topics related to my research interests as supply chain collaboration and closed loop supply chains. I developed decision support tools and a teaching case for the MBA course. I designed the PhD course to introduce the students to seminal and recent research in the topic, and updated it with new material every year.

5. Algebra and Calculus for Business (MBA, INSEAD) (restructuring of existing course)

This restructured course included material and exercises that made it more relevant to the core courses in the MBA program.

6. Executive Education (INSEAD) (new module design)

The new modules on Collaborative Forecasting and Retail Process Excellence were taught in company specific and open enrollment programs.

Pedagogical Material Development

1. Denizel, M., Ferguson, M. and L.B. Toktay, “Building Sustainability into Humanitarian Aid Operations: An Efficient Frontier Approach to the Selection of Recipients for Medical Supplies Donation,” in *Operations Management Education Review*, Vol. 7 (2013), special themed issue on “Pedagogical Approaches to Incorporating Sustainability in Operations and Supply Chain”
2. Mürin Kurtuluş and L.B. Toktay, “Supplier Rationalization at Barclays Retail Banking Services (A, B, C)” (case with teaching note).
This case study is comprised of three subcases – Print Procurement (A), The Partnership Approach (B), and Operationalizing and Growing the Partnership (C). It generates a discussion of different supply chain collaboration approaches in the retail sector and can be used to teach supply chain collaboration.
3. L.B. Toktay, Decision support tools for the Supply Chain Management elective.
This set of Excel spreadsheets are used with the HP Deskjet, Seagate Technologies and Hamptonshire Express cases to facilitate analysis and class preparation by MBA students.
4. L.B. Toktay and E. Yücesan, “Teaching Supply Chain Management with the Oracle Suite”
Developed in collaboration with Oracle, this module used the auction tool in Oracle for an in-class exercise supporting a half-day executive education module on reverse auctions in supply chains.

IV. SCHOLARLY ACCOMPLISHMENTS

A. PUBLISHED OR FORTHCOMING BOOKS AND PARTS OF BOOKS

1. Agrawal, V. and L.B. Toktay, “Interdisciplinarity in Closed-Loop Supply Chain Management Research,” in *Closed Loop Supply Chains: New Directions to Improve the Sustainability of Business Practices*, Ferguson, M. and G. Souza (Eds), Taylor and Francis Publishing, 2010, 197-214 (reviewed by the editors).
2. Ferguson, M., Souza, G. and L.B. Toktay, “Examples of Existing Profitable Practices in Product Take-back and Recovery,” in *Closed Loop Supply Chains: New Directions to Improve the Sustainability of Business Practices*, Ferguson, M. and G. Souza (Eds), Taylor and Francis Publishing, 2010, 145-159 (reviewed by the editors).
3. Kurtuluş, M. and L.B. Toktay, “Category Captainship Practices in the Retail Industry,” *Retail Supply Chain Management*, Agrawal N. and S. Smith (Eds.), Springer, 2008, 79 – 98 (refereed).
4. Toktay, L.B., L. Selhat and R. Anderson “Doing Well by Doing Good: Interface’s Vision of Being the First Industrial Company in the World to Attain Sustainability,” in *Enterprise Transformation: Understanding and Enabling Fundamental Change*, W. Rouse (Ed.), Wiley, 2006, 465 - 493 (reviewed by the editor).
5. Toktay, L.B., van der Laan, E. and M. de Brito, “Managing Product Returns: The Role of Forecasting,” in *Quantitative Approaches to Reverse Logistics*, R. Dekker, K. Inderfurth, Luk Van Wassenhove and M. Fleischmann (Eds.), Springer Verlag, 2004 (refereed).
6. Toktay, L.B., “Forecasting Product Returns,” in *Business Aspects of Closed-Loop Supply Chains*, Guide, V. D., Jr., and L.N. Van Wassenhove (Eds.), Carnegie Mellon University Press, Pittsburgh, Pennsylvania, 2003 (reviewed by the editors).

B. REFEREED PUBLICATIONS

Published or Forthcoming Papers in Refereed Journals

1. Gui, L., Atasu, A., Ergun, O. and L.B. Toktay, "Implementing Extended Producer Responsibility Legislation: A Multi-Stakeholder Case Analysis," *Journal of Industrial Ecology* 17:2 (2013), 262-276.
2. Atasu, A., Toktay, L.B. and L.N. Van Wassenhove, "How the Collection Cost Structure Drives the Manufacturer's Reverse Channel Choice," *Production and Operations Management* 22:5 (2013), 1089-1102.
3. Subramanian, R., Ferguson, M. and L.B. Toktay, "Component Commonality Strategies under Remanufacturing," *Production and Operations Management*, 22:1 (2013), 36-53.
4. Oraopoulos, N., Ferguson, M. and L.B. Toktay, "Relicensing Fees as a Secondary Market Strategy," *Management Science*, 58:5 (2012), 1022-1037.
5. Agrawal, V., Ferguson, M., Toktay, L.B. and V. Thomas, "Is Leasing Greener than Selling?," *Management Science*, 58:3 (2012), 523-533.
6. Kurtuluş, M., L.B. Toktay and S. Ulku, "Investing in Forecast Collaboration," *M&SOM Winter 2012* 14:82-98.
7. Boyabatlı, O. and L.B. Toktay, "Stochastic Capacity Investment and Technology Choice in Imperfect Capital Markets," *Management Science*, 57:12 (2011), 2163-2179.
8. Toktay, L.B. and D. Wei, "Internal Transfer Pricing for Remanufacturable Products," *Production and Operations Management* 20:6 (2011), 841 – 847.
9. Kurtuluş, M. and L.B. Toktay, "Category Captainship: Outsourcing Category Management," *Production and Operations Management*, 20:1 (2011), 47 - 56 (An earlier version of this paper won the 2006 POMS Wickham Skinner Best Unpublished Paper Award).
10. Wang, T. and L.B. Toktay, "Inventory Management with Advance Information and Flexible Delivery," *Management Science*, 54:4 (2008), 716 - 732 (Tong Wang won the 2007 MSOM Student Paper Competition with this paper).
11. Debo, L.G., Toktay, L.B. and L.N. Van Wassenhove, "Queuing for Expert Services," *Management Science*, 54:8 (2008), 1497 - 1512.
12. Ülkü S., Toktay, L.B. and E. Yücesan, "Risk Ownership in Contract Manufacturing," *Manufacturing and Service Operations Management*, 9:3 (2007), 225 – 241.
13. Ferguson, M. and L.B. Toktay, "The Effect of Competition on Recovery Strategies," *Production and Operations Management*, special issue on Closed-Loop Supply Chains, 15:3 (2006), 351 – 368 (An earlier version of this paper won the 2005 POMS Wickham Skinner Best Unpublished Paper Award).
14. Debo, L.G., Toktay, L.B. and L.N. Van Wassenhove, "Joint Life-cycle Dynamics of New and Remanufactured Products," *Production and Operations Management*, special issue on Closed-Loop Supply Chains, 15:4 (2006), 498 – 413.
15. Ülkü S., Toktay, L.B. and E. Yücesan, "The Impact of Outsourcing on the Timing Decision for Entry into Uncertain Markets," *Production and Operations Management* special issue on Product Innovation, 14:3 (2005), 301 - 314.

16. Debo, L.G., Toktay, L.B. and L.N. Van Wassenhove, "Market Segmentation and Production Technology Selection for Remanufacturable Products," *Management Science* 51:8 (2005), 1193 – 1205 (This paper was a finalist in the EURO/INFORMS 2003 Management Science Strategic Innovation Competition on *Market Coordination in Supply Chain Management*).
17. Gallego, G. and L.B. Toktay, "All-or-Nothing Ordering under a Capacity Constraint," *Operations Research* 52:6 (2004), 1001-1002.
18. Toktay, L.B. and L.M. Wein, "Analysis of a Forecasting-Production-Inventory System with Stationary Demand," *Management Science* 47:9 (2001), 1268 – 1281 (An earlier version of this paper won the 1999 MSOM Student Paper Competition).
19. Toktay, L.B., Wein, L.M. and S.A. Zenios, "Inventory Management for Remanufacturable Products," *Management Science* 46:11 (2000), 1412 – 1426.
20. Toktay, L.B. and R. Uzsoy, "A Capacity Allocation Problem with Integer Side Constraints," *European Journal of Operational Research* 109 (1998), 170 – 182.

Papers Submitted to Refereed Journals

21. Agrawal, V., Kavadias, S. and L.B. Toktay, "Design and Introduction of Conspicuous Durable Products," under first-round revision for *M&SOM*.
22. Bellos, I., Ferguson, M. and L.B. Toktay, "To Sell or to Provide? The Economic and Environmental Implications of the Auto Manufacturer's Involvement in the Car-Sharing Business," under review in *M&SOM*.
23. Boyabatlı, O. and L.B. Toktay, "The Interaction of Technology Choice and Financial Risk Management: An Integrated Risk Management Perspective," under first-round revision for *Management Science*.
24. Gui, L., Atasu, A., Ergun, O. and L.B. Toktay, "Fair and Efficient Implementation of Collective Extended Producer Responsibility Legislation," under second-round (minor) revision for *Management Science*. (An earlier version obtained an Honorable Mention in the 2012 INFORMS SPPSN Section Paper Competition).
25. Pince, C., Ferguson, M. and L.B. Toktay, "Remanufacturing under Warranty and Consumer Returns," under first-round revision for *M&SOM*.

Working Papers

26. Alev, I., Atasu, A., Ergun, O. and L.B. Toktay, "EPR for Unused Pharmaceuticals."
27. Gui, L., Atasu, A., Ergun, O. and L.B. Toktay, "The Design Implications of Collective EPR Regulation."
28. Hoen, K., Huang, X., Tan, T. and L.B. Toktay, "The Capacity Investment Decision under Asymmetric Emission Regulation."
29. Huang, X., Atasu, A. and L.B. Toktay, "Product Design Decisions under Extended Producer Responsibility."
30. Huang, X., Atasu, A. and L.B. Toktay, "Lemons, Trade-ins and Remanufacturing."

31. Meng, Yeo Wee, Atasu, A. and L.B. Toktay, “Efficient Distribution of Medical Surplus.”

Unpublished Manuscripts

32. Boyabatlı, O. and L.B. Toktay, “Operational Hedging: A Review with Discussion.”

Publications in Refereed Conference Proceedings

33. Oraopoulos, N., Ferguson, M. and L.B. Toktay, “Relicensing Fees as a Secondary Market Strategy,” *Proceedings of the 14th Annual International EurOMA Conference*, Ankara, Turkey, June 2007.

34. Boyabatlı, O. and L.B. Toktay, “The Interaction of Operational and Financial Decisions,” *Proceedings of the 2006 MSOM Conference*, Atlanta, GA, June 2006.

35. Debo, L.G., Toktay, L.B. and L.N. Van Wassenhove, “Joint Life-cycle Dynamics of New and Remanufactured Products,” *Proceedings of the 2006 MSOM Conference*, Atlanta, GA, June 2006.

36. Kurtuluş, M. and L.B. Toktay, “Retail Assortment under Category Captainship,” *Proceedings of the 2006 MSOM Conference*, Atlanta, GA, June 2006.

37. Ferguson, M. and L.B. Toktay, “The Effect of Competition on Recovery Strategies,” *Proceedings of the 2006 Multiechelon Conference*, Atlanta, GA, June 2006.

38. Boyabatlı, O. and L.B. Toktay, “Operational Hedging: A Mathematical Framework,” *Proceedings of the 11th Annual International EurOMA Conference*, Fontainebleau, France, June 2004, 74 – 84.

39. Kurtuluş, M. and L.B. Toktay, “Category Management and Category Adviser Arrangement: Consumer Impact,” *Proceedings of the 11th Annual International EurOMA Conference*, Fontainebleau, FRANCE, June 2004, 363 – 372.

40. Toktay, L.B. and D. Wei, “Cost Allocation in Manufacturing-Remanufacturing Operations,” *Proceedings of the 11th Annual International EurOMA Conference*, Fontainebleau, France, June 2004, 599 – 608.

C. OTHER PUBLICATIONS

41. Kurtuluş, M. and L.B. Toktay, “Category Captainship: Who Wins, Who Loses?” *Efficient Consumer Response Journal*, Vol. 4, No. 2, Winter 2004 (We were invited to write this article after an earlier version by PhD student M. Kurtuluş won the Gold Prize in the Fifth ECR Europe Student Competition of the *ECR Journal*.)

42. Toktay, L.B. “The Store: The Last Link in the Supply Chain,” *Dergi L*, September 2004.

43. Debo, L.G., Toktay, L.B. and L.N. Van Wassenhove, “Durability Selection in a Remanufacturing Environment,” *Proceedings of the MSOM 2000 Conference*.

44. Toktay, L.B., "Analysis of a Production-Inventory System with Stationary Demand and Dynamic Forecast Updates," Extended Abstracts of 1999 Winners, MSOM Society Student Paper Competition, *Manufacturing and Service Operations Management*, 2:2 (2000), 108-109.
45. Toktay, L.B. and L.M. Wein, "Inventory Management for Remanufacturable Products," *Proceedings of the 1996 MSOM Conference*.

D. PRESENTATIONS

Conference and Workshop Presentations (invited or sponsored sessions)

1. Closed-Loop Supply Chain Workshop, U. of South Carolina, October 2013.
 - Invited Panelist on "Future of CLSC Research"
2. INFORMS Conference, Minneapolis, MN, October 2013.
 - Design for Recovery or Obsolescence: The Effect of Take-back Legislation*
 - Extended Producer Responsibility (EPR) for Pharmaceuticals*
 - Product Design or Cost Efficiency? – A Network Perspective on Extended Producer Responsibility*
 - To Sell and to Provide? The Implications of the Auto Manufacturer's Involvement in Car Sharing*
3. MSOM SIG Conference, INSEAD, France, July 2013.
 - Discussant, Dynamics of a Responsible Relationship (Izhutov and Lee)
 - To Sell and to Provide? The Implications of the Auto Manufacturer's Involvement in Car Sharing*
4. INFORMS Conference, Phoenix, AZ, October 2012.
 - Town Hall Meeting with the Editorial Board of Operations Research
 - WORMS: Advice on Promotion to Full from Associate Professor Panel
 - Design for Recovery or Obsolescence: The Impact of Take-Back Legislation*
 - Design Incentives, Fairness and Cost Efficiency: A Network Perspective on EPR*
 - EPR for Pharmaceuticals*
 - Fair and Efficient Implementation of Collective Extended Producer Responsibility Legislation*
 - Remanufacturing under Warranty and Consumer Returns*
 - The Impact of Budget Constraints on Flexible versus Dedicated Technology Choice*
 - To Sell and to Provide? The Implications of the Auto Manufacturer's Involvement in Car Sharing*
5. MSOM SIG Conference, New York, NY, June 2012.
 - Fair and Efficient Implementation of Collective Extended Producer Responsibility Legislation
6. MSOM Conference, New York, NY, June 2012.
 - Design Implications of Collective Extended Producer Responsibility Legislation
7. Alliance for Research on Corporate Sustainability Conference (Yale), New Haven, CT, May 2012.
 - Fair and Efficient Implementation of Extended Producer Responsibility Legislation
8. Closed-Loop Supply Chain Workshop, MIT Zaragoza, Spain, March 2012.
 - Closing the Water Loop

9. INFORMS Conference, Charlotte, NC, October 2011.
 - Collective Extended Producer Responsibility Legislation: Implementation and Design Implications*
 - Flexible versus Dedicated Technology Choice under Budget Constraints*
 - New Product Introduction Strategies for Conspicuous Durable Goods*
 - Remanufacturing under Warranty and Consumer Returns*
 - To Sell or To Provide? A Comparison of Selling and Membership*
10. POMS Conference, Reno, NV, May 2011.
 - Fair and Efficient Implementation of Collective Extended Producer Responsibility Legislation
11. INFORMS Conference, Austin, TX, November 2010.
 - Fair and Efficient Implementation of Collective Extended Producer Responsibility Legislation*
 - Design and Introduction of Conspicuous Durable Products*
12. Kellogg Operations Management Workshop, September 2010
 - Keynote speaker on Sustainable Operations
13. Workshop featuring papers invited for submission to the *Operations Research* special issue on “OR for the Public Interest,” Stanford, CA, June 2010.
 - Fair and Efficient Implementations of Extended Producer Responsibility Legislation
14. Alliance for Research on Corporate Sustainability Conference (Harvard), Cambridge, MA, May 2010.
 - Is Leasing Greener than Selling?
15. POMS Conference, Vancouver, CA, May 2010.
 - To Sell or To Provide: A Comparison of Selling and Membership*
 - Designing Products for Physical Obsolescence: The Effect of Snobs*
16. INFORMS Conference, San Diego, CA, October 2009.
 - Component Commonality under Product Remanufacturing
 - Design and Introduction of Conspicuous Products*
 - Is Leasing Green?*
17. MSOM Conference, Boston, MA, June 2009.
 - Is Leasing Green? The Environmental Impact of Product Recovery, Remarketing and Disposal under Leasing and Selling
 - Designing Products for Physical Obsolescence: The Effect of Snobs*
18. POMS Conference, Orlando, FL, May 2009.
 - To Sell or To Provide: A Comparison of Selling and Membership*
 - Is Leasing Green? The Environmental Impact of Product Recovery, Remarketing and Disposal under Leasing and Selling*
 - Designing Products for Physical Obsolescence: The Effect of Snobs
19. INFORMS Conference, Washington DC, October 2008.
 - Leasing & Selling: The Environmental Implications of Product Recovery & Marketing Strategies*
20. MSOM Supply Chain Management SIG Conference, Washington, DC, June 2008.
 - Relicensing as a Secondary Market Strategy*

21. INFORMS Conference, Seattle, October 2007.
 - Relicensing as a Secondary Market Strategy*
 - Capacity Investment in Imperfect Capital Markets*
 - Component Commonality Under Product Remanufacturing
 - Inventory Management with Advance Demand Information and Flexible Delivery*
 - Matching Collection Channel with Collection Strategy in Reverse Supply Chains
 - Evaluating the Environmental Performance of Product Leasing*
 - The Interaction of Technology Choice and Financial Risk Management*
22. Closed-Loop Supply Chain Workshop, Thessaloniki, Greece, October 2007.
 - The Georgia Tech Sustainable Value Chains Initiative
23. EUROMA Conference, Ankara, Turkey, June 2007.
 - Relicensing Fees as a Secondary Market Strategy*
24. POMS Conference, Boston, May 2007.
 - Teaching about Business and the Environment
 - Relicensing Fees as a Secondary Market Strategy*
 - OEM Certification Strategies in Secondary Markets*
25. INFORMS Annual Meeting, Pittsburgh, November 2006.
 - OEM Strategies in Secondary Markets
 - The Interaction of Technology Choice and Financial Risk Management*
26. DMI Grantees Conference, St. Louis, July 2006.
 - Enterprise Remanufacturing Strategies under Competition and Regulation (poster)
27. Environmentally Benign Design and Manufacturing Workshop, NSF, Washington DC, June 2006.
 - Enterprise Remanufacturing Strategies under Competition and Regulation (poster)
28. INFORMS International Conference, Hong Kong, June 2006.
 - Optimality of (s,S) Policies in Inventory Systems with Advance Demand Information and Flexible Delivery*
 - The Interaction of Technology Choice and Financial Risk Management*
29. MSOM Conference, Atlanta, June 2006.
 - Life-Cycle Dynamics for Portfolios with Remanufactured Products
 - Retail Assortment Planning under Category Captainship*
 - The Interaction of Operational and Financial Decisions*
30. Multi-Echelon Conference, Atlanta, June 2006.
 - The Effect of Competition on Recovery Strategies
31. Risk Management Conference (by invitation), University of Michigan, June 2006.
 - The Interaction of Technology Choice and Financial Risk Management* (poster)
32. POMS Conference, Boston, May 2006.

- The Effect of Competition on Recovery Strategies
 - Category Captainship: Outsourcing Retail Category Management*
33. INFORMS Annual Meeting, San Francisco, November 2005.
- Life-Cycle Dynamics for Portfolios with Remanufactured Products
 - Retail Assortment Planning under Category Captainship*
 - The Interaction of Resource Flexibility and Financial Hedging under Costly External Financing*
 - The Interaction of Technology Choice and External Financing Costs*
34. Closed-Loop Supply Chain Workshop, Vanderbilt University, October 2005.
- Teaching about Sustainable Operations
35. MSOM Conference, Chicago, June 2005.
- The Interaction of Technology Choice and Financial Risk Management under Costly External Financing*
36. BCTIM Risk Management Conference (by invitation), Olin School of Business, June 2005.
- The Interaction of Technology Choice and Financial Risk Management under Costly External Financing*
37. Euroma, Fontainebleau, France, June 2004.
- Internal Transfer Pricing for Remanufacturable Products
 - Category Management Collaboration*
 - Operational Hedging: A Mathematical Framework*
38. NSF Supply Chain Management Workshop, Gainesville, FL, February 2004.
- Internal Transfer Pricing for Remanufacturable Products
39. INFORMS Annual Meeting, Atlanta, GA, October 2003.
- Internal Transfer Pricing for Remanufacturable Products
 - Strategic Behavior in Queues with Expert Servers
40. MSOM Conference, Los Angeles, CA, June 2003.
- Investing in Forecast Quality
 - Strategic Behavior in Queues with Expert Servers*
41. INFORMS Annual Meeting, San Jose, CA, November 2002.
- Investing in Forecast Quality
 - The Impact of Outsourcing on the Timing of Entry under Evolving Demand Information*
42. INFORMS Annual Meeting, Miami Beach, FL, November 2001.
- Asymmetric Demand Information in Supply Chains
 - Expanding a Product Line with Remanufacturable Products *
 - Risk Ownership in Contract Manufacturing *
43. 4th REVLOG Summer Workshop, Costa da Caparica, Portugal, September 2001.
- Forecasting Product Returns: A Broader View
44. Thought Leaders Roundtable in Supply Chain Management, INSEAD, France, August 2001.
- Collaborative Forecasting: Issues and Models

- Market Segmentation and Production Technology Selection for Remanufacturable Products*
45. EURO 2001, Rotterdam, NL, July 2001.
 - Asymmetric Demand Information in Supply Chains
 46. CIMSO Supply Chain Management Forum, INSEAD, November 2000.
 - Benefits of Assessing Return Flow Parameters in the Inventory Management of Remanufacturable Products
 47. INFORMS Annual Meeting, San Antonio, TX, November 2000.
 - Asymmetric Demand Information in Supply Chains
 - Durability Selection of Components in a Remanufacturable Product*
 48. 3rd REVLOG Summer Workshop, Wittenberg, Germany, August 2000.
 - Inventory Management of Remanufacturable Products
 - Durability Selection of Components in a Remanufacturable Product*
 49. INFORMS Annual Meeting, Salt Lake City, UT, May 2000.
 - All-or-Nothing Ordering under a Capacity Constraint
 50. INFORMS Annual Meeting, Cincinnati, OH, May 1999.
 - Analysis of a Production - Inventory System under a Stationary Demand Process and Forecast Updates
 51. INFORMS Annual Meeting, Dallas, TX, 1997.
 - Heavy Traffic Analysis of Production - Inventory Systems with Complex Demand and Forecasting Processes
 52. MSOM Conference, Hanover, NH, 1996.
 - Inventory Management of Remanufacturable Products
 53. ORSA/TIMS Annual Meeting, Boston, MA, 1994
 - A Capacity Allocation Problem with Integer Side Constraints

* denotes presentations by one of my PhD students

Invited Seminars

1. Krannert School of Business, Purdue University, April 2014
2. Harvard Business School (B&E Initiative), Harvard U., February 2014.
3. Foster School of Business, U. of Washington, November 2013.
4. Fuqua School of Business, Duke University, October 2013.
5. Haas School of Business, U. of California Berkeley, April 2013.
6. College of Business, U. of Illinois, April 2013.
7. David Eccles School of Business, U. of Utah, November 2012.
8. INSEAD, June 2012.
9. Graduate School of Business, Stanford University, April 2012.
10. Marshall School of Business, U of Southern California, April 2012.
11. Steven M. Ross School of Business, University of Michigan, March 2012.
12. Johnson School of Business, Cornell University, September 22, 2011.
13. Robert H. Smith School of Business, University of Maryland, May 6, 2011.

Revised December 2013

14. Steven M. Ross School of Business, University of Michigan, April 15, 2011.
15. Stern School of Business, NYU, December 9, 2010.
16. Lundquist College of Business, University of Oregon, June 4, 2010.
17. Kenan-Flagler Business School, University of North Carolina, March 15, 2010.
18. Kellogg Graduate School of Management, Northwestern University, February 17, 2010.
19. CT Bauer College of Business, University of Houston, Jan 25, 2010.
20. Harvard Business School, Harvard University, December 18, 2008.
21. Darden Business School, University of Virginia, November 17, 2008.
22. Johnson School of Business, Cornell University, April 4, 2008.
23. Industrial Engineering and Operations Research, University of Michigan, February 22, 2006.
24. Olin School of Business, Washington University, November 18, 2004.
25. Krannert School of Management, Purdue University, November 11, 2004.
26. Robert H. Smith School of Business, University of Maryland, September 17, 2004.
27. Owen Graduate School of Management, Vanderbilt University, April 2, 2004.
28. Kenan-Flagler Business School, University of North Carolina, November 7, 2003.
29. School of Industrial and Systems Engineering, Georgia Institute of Technology, November 27, 2001.
30. Dupree College of Management, Georgia Institute of Technology, November 16, 2001.
31. Operations and Logistics Division, University of British Columbia, October 1, 2001.
32. Technical University of Eindhoven, Eindhoven, NL, April 14, 2001.
33. School of Industrial and Systems Engineering, Georgia Institute of Technology, April 1999.
34. Laboratoire d'Informatique de Paris 6, Université Pierre et Marie Curie, Paris, March 1999.

V. SERVICE

A. PROFESSIONAL CONTRIBUTIONS

Editorial Positions

- Area Editor, Environment, Energy and Sustainability, *Operations Research* (January 1, 2012 -)
- Co-Editor, *M&SOM* Special Issue on the Environment (published in 2013)
- Associate Editor, *Management Science* (January 1, 2010 – present)
- Associate Editor, *Operations Research* (January 2009 – December 2011)
- Associate Editor, *Manufacturing and Service Operations Management* (January 2007 – present)
- Senior Editor, *Production and Operations Management* (August 2009 – December 2012)
- Associate Editor, *Naval Research Logistics* (October 2007 – December 2011)
- Editorial Review Board, *Production and Operations Management* (2004 – 2009)
- Editorial Board, *Manufacturing and Service Operations Management* (2004 – 2006)
- Guest Associate Editor, *Management Science* (2005, 2007).

Service in Professional Organizations

- *President, MSOM Society* (July 2012 – June 2013)
- *Executive VP and President-Elect, MSOM Society* (July 2011 – June 2012)
- *Founding Co-chair, MSOM SIG on Sustainable Operations* (June 2010- July 2011)
- *VP Finance, POM Society* (May 2010-April 2013)
- *Secretary/Treasurer, MSOM Society*, (July 2007 – June 2009)

- *Member*, INFORMS Ad-Hoc Committee on Diversity (July 2006 – January 2007)
- *Judge*, MSOM Student Paper Competition (2004, 2005, 2007, 2010), JFIG Paper Competition (2006, 2010), POMS Sustainable Supply Chains Best Paper Competition (2007)
- *President*, Institute for Operations Research and Management Science MIT Student Chapter, 1995-96

Conference/Workshop/Session Organization

Conference Chair/Co-Chair

- *Co-Chair* – “Sustainable Operations SIG Inaugural Conference,” University of Michigan, June 26, 2011 (with E. Plambeck).

This conference had the goal of introducing emerging sustainability issues to the OM audience and giving impetus to the M&SOM Special issue on the Environment. It featured a plenary on Life-Cycle Assessment for Global Supply Chain Management, and academic-industry talks on Supply Chain & Land-Use Design for Biofuels, Energy Efficiency in the Built Environment, Supply Chain Aspects of Greenhouse Gas Reduction, Operations Management for Renewables and the Grid, and Chemicals Policy and OM Implications.

- *Co-Chair* – “8th International Workshop on Closed Loop Supply Chains,” Georgia Tech, October 9 - 11, 2008 (with M. Ferguson).

The theme of this academic conference was Interdisciplinarity in Closed-Loop Supply Chain Research. It featured a poster session, presentations on Industrial Ecology, industry guest speakers from the Army Installation Management Agency and Interface, and a site visit to Medshare. Breakout groups facilitated by Georgia Tech faculty brainstormed research directions and solutions inspired by the business cases presented. Book chapter A.1 draws on the case studies presented at this workshop.

- *Chair* – “Inter-Industry Synergy Workshop,” Georgia Tech, September 5, 2008.

This NSF-funded workshop brought together local businesses and policy makers in the state of Georgia to find ways to improve landfill diversion rates for renovation waste from buildings.

- *Co-Chair* - MSOM Supply Chain Management Special Interest Group Conference on “Sustainable and Humanitarian Applications of Supply Chains,” Washington, DC, June 7, 2008 (with M. Ferguson and Pinar Keskinocak).

The first conference of the SCM SIG featured a blend of traditional supply chain papers as well as papers on sustainable operations and humanitarian logistics.

- *Chair* - ECLIPS Workshop on “Product Re-X: Recovery, Recycling, Remanufacturing, Reuse. Innovations in Business Models, Product Design and Economic Development,” Georgia Tech, June 21, 2006.

This integrative workshop, funded by Georgia Tech, NSF, Delta and the National Association of Environmental Managers, showcased the entire breadth of the research expertise in the ECLIPS Focused Research Program (see Section B below) via a research poster session and eight industry/academic panels in two parallel tracks, moderated primarily by ECLIPS faculty. It attracted approximately 100 participants from industry, public entities, academia and NGOs. More importantly, some participants later became collaborators on NSF projects, and sponsored course projects in the “Business Strategies for Sustainability” course.

- *Co-chair* - ECLIPS Workshop on “Electronics Recycling: Today and Tomorrow,” Georgia Tech, December 9, 2005 (with N. G. Leigh).

This focused NSF workshop brought together approximately 45 participants from private recyclers and government agencies to discuss ways to divert electronic waste from landfills, in the US and internationally. It included a series of presentations by Georgia Tech faculty about their research on modeling e-waste flows in urban centers and the economic development opportunities in recycling e-waste, as well as an introduction of SISFUR and ECLIPS (see section B below).

- *Co-chair* - Thought Leaders Roundtable in Supply Chain Management, INSEAD, August 2001 (with L.N. Van Wassenhove).

This is an annual two-day academic workshop that brings together approximately forty leading international faculty engaged in Supply Chain Management research. I have been an invited participant of this workshop since 2001.

- *Organizer* - CIMSO Supply Chain Forum on Contract Manufacturing, INSEAD, June 2001.
Managers from six original equipment manufacturers and contract manufacturers discussed the current status of outsourcing activities and strategy in this one-day workshop open to practitioners and the INSEAD community. The discussion in this workshop motivated paper IV.B.5.

Cluster Chair

- *Cluster Chair* – Closed-Loop Supply Chains, INFORMS, Washington, DC, October 2008.
- *Cluster Chair* – Reverse Supply Chains, INFORMS, Denver, CO, October 2004.
- *Cluster Co-Chair* – Reverse Supply Chains, INFORMS, Atlanta, GA, October 2003.

Session Chair

- *Sponsored Session Chair* – Closed-Loop Supply Chains, INFORMS Annual Meeting, Seattle, November 2007.
- *Invited Session Chair* – Teaching about Sustainable Operations, POMS Conference, Dallas, TX, May 2007.
- *Invited Session Chair* – The Impact of Regulation in Closed-Loop Supply Chains, INFORMS Annual Meeting, Pittsburgh, PA, November 2006.
- *Invited Session Chair* – OM/Finance Interface, INFORMS Annual Meeting, Pittsburgh, PA, November 2006.
- *Invited Session Chair* – Closed-Loop Supply Chains, INFORMS Annual Meeting, San Francisco, CA, November 2005.
- *Invited Session Chair* – Return Flows: Management, Network Design, Forecasting Value, INFORMS Annual Meeting, Denver, CO, October 2004.
- *Panel Coordinator* – Teaching Sustainable Operations, Closed-Loop Supply Chains Workshop, Vanderbilt University, October 2005.
- *Invited Session Chair* – Supply Chain Demand Management, INFORMS Annual Meeting, Atlanta, GA, October 2003.
- *Session Coordinator* – Carnegie Bosch Institute Closed-Loop Supply Chains Workshop, Penn State, October 2003.
- *Sponsored Session Chair* – Product Variety and Demand Substitution, INFORMS, Miami Beach, FL, Nov. 2001.

Referee for Technical Journals

- *Management Science*
- *Operations Research*
- *Manufacturing and Service Operations Management*
- *Production and Operations Management*
- *IIE Transactions*
- *European Journal of Operational Research*
- *International Journal of Production Research*
- *Naval Research Logistics*

- *IEEE Transactions in Automatic Control*

Reviewer for Publishers

- Handbook of Production Planning, *Kluwer International Series in Operation Research and Management Science, Advancing the State-of-the-Art Subseries*, Kempf, K., P. Keskinocak, and R. Uzsoy, Editors.

Memberships

- Member, INFORMS
- Member, POMS
- Member, MSOM
- Member, Tau Beta Pi Engineering Honor Society
- Member, Omega Rho International Operations Research Honor Society

B. CAMPUS CONTRIBUTIONS

Institutional Contributions

- Founding Faculty Director, Center for Business Strategies for Sustainability (March 2013 -)

The mission of the CBSS is to enhance and showcase sustainability research, education and impact in the Scheller College of Business by providing an Academic Venture Fund for cutting-edge research, enhancing the curricular and extracurricular offerings of the College, and closely engaging students, business leaders and alumni for real-world impact. The Center was founded by expendable donations from the Ray Anderson Foundation and Kendeda for a three-year period.

- Scheller College of Business ADVANCE Professor (August 2012 -)

The ADVANCE program was established to support the full participation and advancement of women in academia and to provide a model of best practices. ADVANCE Professors coordinate a network of faculty within each of their colleges and serve as a faculty advocate and liaison with their deans. The ADVANCE team has recently launched an Institute-wide Equity, Diversity and Excellence Initiative consisting of Leadership Training and Mentoring, encouraging Transparency, promoting Bias Awareness and a Culture of Equity, and Data Collection and Analysis to aid in assessment and policy input.

Research Programs

- Coordinator, Georgia Tech Focused Research Program on Expanding Closed Loops in Production Systems (ECLIPS), August 2005 – 2010.

Focused Research Program (FRP) Grants are competitive internal seed funds for initiating interdisciplinary research centers at Georgia Tech (5 out of ~25 funded each year for one year). I established the Expanding Closed Loops in Production Systems (ECLIPS) FRP (awarded in 08/05). The program includes Drs. Atasu (MGT), Ferguson (MGT), Subramanian (MGT), Bras (ME), Ammons (ISyE), McGinnis (ISyE), Thomas (ISyE/PP), Realff (ChBE) and Leigh (ARCH), interested in different facets of closing the materials loop in society through remanufacturing, recycling and reuse. These faculty members generated more than \$3M of new NSF funding in the area. The ECLIPS workshops (see above) initiated collaborations with companies such as IBM, Canvas Systems, Jabil Circuit, and Cummins Engine, and with the Georgia Tech Enterprise Innovation Institute whose role is to connect companies to campus research resources.

University and College Committees and Advisory Boards

- Faculty Advisory Board, Strategic Energy Institute, January 2014 –

- Faculty Advisory Board, The Manufacturing Institute, October 2014 -
- Periodic Peer Review Committee, Scheller College of Business, September 2012 -
- PhD Committee, College of Management, Georgia Institute of Technology, August 2007 – July 2012
- Ethics Chair Search Committee, College of Management, Georgia Institute of Technology, January 2007 – February 2009
- ISS Director Search Committee, Georgia Institute of Technology, October 2007 – June 2008
- PhD Task Force, College of Management, Georgia Institute of Technology, August 2007 – June 2008
- Provost’s Task Force on Interdisciplinarity, Georgia Institute of Technology, May 2007 – Dec 2007
- MBA Committee, College of Management, Georgia Institute of Technology, August 2006 – July 2007
- Management Dean Search Committee, Georgia Institute of Technology, August 2005 – February 2006
- Research and Development Committee, INSEAD, September 2000 – August 2003
- PhD Committee, INSEAD, September 2001 – August 2003

Doctoral Dissertation Committees (chair or co-chair)

- Isil Alev, Georgia Institute of Technology, ISyE, 6/14 (exp.)
- Luyi Gui, Georgia Institute of Technology, ISyE, 6/13
- Yannis Bellos, Georgia Institute of Technology, College of Management, 6/12
- Vishal Agrawal, Georgia Institute of Technology, College of Management, 6/10
- Nektarios Oraopoulos, Georgia Institute of Technology, College of Management, 7/09
- Onur Boyabatlı, INSEAD, Technology Management, 1/07
- Mümin Kurtuluş, INSEAD, Technology Management, 6/05
- Sezer Ülkü, INSEAD, Technology Management, 6/02
- Laurens Debo, INSEAD, Technology Management, 6/02

Doctoral Dissertation Committees (committee member)

- Nathaniel Tindall, Georgia Institute of Technology, ISyE, 6/14 (exp.)
- Dong Gu Choi, Georgia Institute of Technology, ISyE, 12/12
- Kristel Hoen, Eindhoven Technical University (core committee), 11/12
- Wenli Xiao, Georgia Institute of Technology, College of Management, 8/12
- Ulaş Cakmak, Georgia Institute of Technology, Industrial and Systems Engineering, 4/12
- Jeremy Hutchison-Krupat, Georgia Institute of Technology, College of Management, 8/11
- Mohammad Jalil, Rotterdam University, School of Management, 1/11
- Brian Jacobs, Georgia Institute of Technology, College of Management, 9/09
- Tong Wang, INSEAD, Decision Sciences, 6/08
- Erik Lystad, Georgia Institute of Technology, College of Management, 9/06
- Raul Chao, Georgia Institute of Technology, College of Management, 6/07
- Lorin Hitt, Georgia Institute of Technology, Industrial and Systems Engineering, 7/07
- Yufeng Yao, Georgia Institute of Technology, Industrial and Systems Engineering, 6/07
- Matt Drake, Georgia Institute of Technology, Industrial and Systems Engineering, 9/06
- Chengxin Qu, INSEAD, Technology Management, graduated 7/05
- Deniz Özdemir, INSEAD, Technology Management, graduated 7/04

Master’s Dissertation Committees

Revised December 2013

- Sophie Govetto, Georgia Institute of Technology, Mechanical Engineering, 12/07
- Michael C. Muir, Georgia Institute of Technology, Mechanical Engineering, 8/06

PhD Minor Advisor

- Raymond White, Georgia Institute of Technology, City and Regional Planning, minor in “Environmental Management.”

Department/College Activities

- PhD Coordinator, Production and Operations Management group, Georgia Institute of Technology, August 2007 – July 2012
- Speaker in College of Management internal seminar series, March 2006, October 2007
- Speaker at Net Impact Chapter meeting, December 2005
- PhD Coordinator, Production and Operations Management group, INSEAD, 2001 – 2003
- Academic recruiting coordinator for Production and Operations Management, INSEAD, 1999 – 2001
- PhD Qualifying Examination Committee, INSEAD, 1998 – 2005
- Seminar series coordinator, INSEAD, 1999 – 2000

Outreach Activities

- Volunteer, Community Consulting Groups for Atlanta green space project, Spring 2008
- Panelist, “Sustainability Leadership,” Techno-Business Forum on Enterprise Transformation, The Center for Paper Business and Industry Studies, May 2008
- Speaker, “Sustainability Education at Georgia Tech,” Parent Weekend, Georgia Institute of Technology, September 2008
- Speaker, “My Journey in the Scholarship of Sustainability,” Atlanta Women for Change, February 2008
- Panelist, “An Inconvenient Truth,” Net Impact Event, April 2007

VI. GRANTS AND CONTRACTS

A. AS PRINCIPAL OR CO-PRINCIPAL INVESTIGATOR

1. Kendeda Fund Grant (\$300,000), Seed Funding for the Center on “Business Strategies for Sustainability,” Beril Toktay (**PI**), 2/13 – 6/16.
2. Ray Anderson Foundation Grant (\$750,000), Seed Funding for the Center on “Business Strategies for Sustainability,” Beril Toktay (**PI**), 2/13 – 6/16.
3. NSF Grant (Award Number DMI - 1031167, \$340,000), “Fair and Efficient Implementation of Extended Producer Responsibility Legislation for Electronic Waste,” L.B. Toktay (**PI**), A. Atasu (co-PI), O. Ergun (co-PI), 8/10 – 7/13.
4. NSF Grant (Award Number DMI - 0522557, \$300,000) “Enterprise Strategies for Remanufacturing in the Presence of Competition and Legislation,” L.B. Toktay (**PI**), M. Ferguson (co-PI), B. Bras (co-PI), 8/05-7/08.
5. NSF Grant (Award Number DMI - 0620763, \$300,000) “Decision Support for Improved Financial and Environmental Performance of Product Leasing,” M. Ferguson (PI), L. B. Toktay (**co-PI**), B. Bras (co-PI) 8/06-7/09.

6. NSF Grant (Award Number DMI - 0631954, \$10,000) “Workshop: Product Re-X: Recycling, Reuse and Remanufacturing. Innovations in Business Models, Product Design and Economic Development,” B. Toktay (PI), 6/06 – 5/07.
7. NSF Grant (Award Number DMI - 0631954, \$55,689) “Workshop: Recovered Materials: Inter-industry Synergy Workshop,” B. Toktay (PI), 10/06 – 9/07.
8. Georgia Institute of Technology, “Expanding Closed Loops in Production Systems,” L. B. Toktay (coordinator), J. Ammons, B. Bras, M. Ferguson, B. Hill, N. G. Leigh, M. Realf, \$30,000 Focused Research Program funding (8/05 – 8/06) and \$15,000 Institute for Sustainable Technology and Development funding (8/06 – 8/07).
9. Sponsorships totaling \$1500 from Delta Airlines and the National Association of Environmental Engineers for the ECLIPS Product Re-X Workshop (June 21, 2006).
10. INSEAD R&D Grant No. 2520-160R, €11,400, 1/05 - 3/05, “Capacity Investment and Financial Hedging.”
11. INSEAD R&D Grant No. 2520-144R, €11,400, 8/04 - 10/04, “Assortment Planning: The Effectiveness of Category Advisor Arrangements.”
12. INSEAD R&D Grant No. 2520-036 PRD, €11,400, 11/03 -1/04, “Supply Chain Collaboration at Barclay’s.”
13. INSEAD R&D Grant No. 2520-012PRD, €5,700, 4/03 -5/03, “Decision Support for Supply Chain Management.”
14. INSEAD-PwC High Performance Supply Chains Initiative (€60,000), 9/02-8/04.
 - a. Supply Chain Collaboration: Forecast Collaboration in FMCG Supply Chains: A benchmarking study
 - b. Supply Chain Collaboration: Outsourcing (with E. Yücesan)

VII. HONORS AND AWARDS

1. 2010 Brady Family Award for Faculty Research Excellence, College of Management, Georgia Institute of Technology.
2. 2008 Meritorious MSOM Service Award (awarded for contributions to the *Manufacturing and Service Operations Management* Journal).
3. First prize in the Wickham Skinner Competition for the best unpublished paper award presented at the 2006 POMS conference for “Category Captainship: Outsourcing Retail Category Management.”
4. First prize in the Wickham Skinner Competition for the best unpublished paper presented at the 2005 POMS conference for “The Effect of Competition in Recovery Strategies.”
5. Finalist, Euro/INFORMS 2003 Management Science Strategic Innovation Prize on *Market Coordination in Supply Chain Management* with “Market Segmentation and Production Technology Selection for Remanufacturable Products.”
6. Finalist, Euro/INFORMS 2003 Management Science Strategic Innovation Prize on *Market Coordination in Supply Chain Management* with “Investing in Forecast Collaboration.”

7. First prize in the 1999 MSOM student paper competition for the paper titled “Analysis of a Production-Inventory system with Stationary Demand and Dynamic Forecast Updates.”
8. Koç Foundation Outstanding Achievement Scholarship, 1988 – 1992.
9. İş Bankası Award for top 64 students (out of approximately 300,000) in the Turkish National University Entrance Examination, 1988.

Howard Connell

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SUMMARY

15 years of broad-based experience most recently in higher education, corporate sustainability strategy, and management consulting. Recent focus on how businesses increase firm value via proactive management of risks, cost savings, and growth opportunities that lie at the intersection of environmental, social, and financial goals. Accomplished at building partnerships and teams across functional boundaries and organizations, delivering results in resource constrained environments, and managing multiple priorities and projects.

EDUCATION

UNIVERSITY OF CALIFORNIA – Berkeley, CA

Masters of Business Administration (MBA), Haas School of Business **2005**

- Course and activity focus on leadership, social entrepreneurship, and corporate sustainability
- *Global Social Venture Competition*: Chair, social value measurement; thought leadership, publication, and presentations on Social Impact Assessment; coached teams on measuring and monetizing social value
- *International Business Development* project in Ghana, Africa; competitive positioning for Ashesi University
- *New Sector Alliance / Accenture*: non-profit consulting; growth strategy for a Bay Area social enterprise
- *Center for Responsible Business*: paid research position; best practices study on CSR metrics and reporting

BELMONT UNIVERSITY – Nashville, TN

Bachelors of Business Administration (BBA) **1996**

SUSTAINABILITY AREAS OF INTEREST

- New economic and business models for service, consumption, and ownership (e.g., collaborative consumption, product/service systems, redistribution markets, peer economy marketplaces)
- Brands and storytelling; embedding sustainability attributes and brand purpose into the “fabric of brand”
- Consumer behavior and choice; impacting mainstream consumer decision making for sustainability
- Radical product/service innovation via sustainability point of view
- Policy and business perspectives on valuing natural capital, ecosystem services, and externalized costs
- Optimization of material use across value chains and industries including secondary and tertiary uses
- Global macroeconomics, regulatory frameworks, and ecological impacts related to competing land and resource demands for fiber (tissue, pulp, paper), food (ag), fuels, and forests
- Sustainable urban environments, megacities, collaborations across stakeholders, policy frameworks

ADDITIONAL

- Sustainable Atlanta, Vice-chair of Board of Directors
- Lifecycle Building Center, Advisory Board member
- Professional network across business and sustainability leaders in academia, industry, NGOs, government, and consulting both in the Atlanta area as well as nationally and internationally
- GRI Sustainability Reporting – Certified Training Program (March 2013)
- Chartered Financial Analyst (CFA) level I and II exams passed
- Worked and lived in Middle East for eight months, Africa for one; extensive international travels

EXPERIENCE

GEORGIA INSTITUTE OF TECHNOLOGY – Atlanta, GA

2013 – present

Scheller College of Business

Professor of the Practice of Sustainable Business

Director, Center for Business Strategies for Sustainability

- Develop and teach sustainability courses in the undergraduate and MBA programs; develop and manage relationships with companies to ensure pipeline of project opportunities and guest lecturers; act as engagement senior manager by advising teams regarding work and deliverables
- Lead Center regarding educational initiatives, student career opportunity development and advising, industry outreach, partnership development and fundraising, and operational management of the center staff and budget; engage and partner with faculty and PhD students regarding research opportunities aligned with current and projected sustainability needs
- Maintain working relationships with corporate leaders regarding sustainability related needs and opportunities; continually improve how the center – in partnership with faculty, students, and other centers and initiatives – helps provide value to our partners and the business community in general
- Create collaborative initiatives across stakeholders to support goals and encourage thought leadership

KIMBERLY-CLARK – Roswell, GA

2011 – 2013

\$21 billion leading manufacturer and marketer of consumer and B2B brands of health, hygiene, and safety products including Kleenex, Scott, Huggies, Pull-Ups, Kotex, and Depends

Global Sustainability Leader, Kimberly-Clark Professional

- Provided leadership, strategic direction, and technical guidance in support of sustainability initiatives across product categories and global regions; developed and maintained relationships with NGOs, universities, supply chain partners, and government and industry groups in support of our strategy
- Led Life Cycle Analysis (LCA) for new product development and manufacturing initiative including external stakeholder, partner, and NGO engagement; 18 month project and 120+ page final report garnered praise from leading LCA experts and NGOs
- Led BU strategy and directed teams regarding environmental certifications; included engagement and influence for standards development and revisions leading to competitive advantage
- Developed three-year road map for developing and launching disruptive innovations based on global mega-trends, consumer insights, futures scenario analysis, and our core competencies and asset structure

A.T. KEARNEY – Atlanta, GA

2005 – 2011

Top tier, \$1 billion international strategy and operations management consulting firm

Manager

- Designed and led multiple project management offices for large-scale transformations; coached leadership to help drive accountability and P&L realization; provided visibility and drove accountability for \$8B car rental company's \$500MM savings and revenue growth initiative across all business units
- Created custom financial database and executed inventory profitability analysis (GMROI) for leading big-box retailer; covered \$100B+ across millions of SKUs; led to recommendation to add \$10B in direct imports
- Led analysis team for internal firm growth strategy of \$100 million practice unit; developed predictive models for revenue, recruiting, promotion, inorganic hiring, attrition forecasting, and practice transfers
- Developed scalable Life Cycle Analysis approach for measuring Scope 3 carbon footprint of companies and their products across the extended lifecycle
- Developed a creative, local-impact, street-level ("guerilla") marketing strategy and 12-month playbook with \$500,000 budget for a city-wide campaign for a leading multi-million dollar consumer brand snack beverage

ARCHSTONE CONSULTING – San Francisco, CA
Strategy and operations management consulting firm

2004

Summer Associate

- Created global Supplier Relationship Management strategy for a multi-billion dollar IT device maker; led performance management strategy and tool design; coached executives for successful transition

HARRIS BRETALL – San Francisco, CA
\$7 billion investment management firm

2000 – 2003

Research Associate (2001 – 2003)

- Designed selection criteria and process for new Sierra Club mutual fund family; created industry-leading environmental screening supported by detailed performance attribution analysis; negotiated between contentious stakeholder groups across three organizations to successful product launch
- Spearheaded reengineering and standardization of department processes, tools, and models; managed firm-wide portfolio performance attribution analysis; improved key operational metrics by over 20%

Portfolio Manager (2000 – 2001)

- Managed firm's largest account contract with assets in excess of \$1 billion across four portfolio strategies; implemented performance dispersion analysis leading to improved account retention
- Initiated redesign of department operations, hiring, and training processes; lowered trading costs by over 50%, and decreased turnover after only 6 months with firm from non-managerial position

LONGVIEW WEALTH MANAGEMENT – Atlanta, GA
Leading regional financial planning firm

1998 – 2000

Client and Research Associate

- Initiated and led multiple internal projects focused on process or technology improvements leading to improved service and satisfaction levels, higher margins, and lower staff turnover

REPRESENTATIVE APPEARANCES

Keynote speaker at Lifecycle Building Center annual gala, 2013

Growing FSC Customer Demand and Available Inventory: Market Signals and Leadership Procurement Policies; Forest Stewardship Council U.S. Southeast regional meeting, Home Depot Headquarters, Atlanta, GA, October 24, 2012

Led planning, agenda, and participant planning for full day workshop with industry, NGOs, and academia: *Opportunities and Challenges in the Utilization of Alternative Fibers: A Sourcing, Environmental, Economic and Policy Discussion*; presented "High-potential Fiber Alternatives for Kimberly-Clark and Our Industry"; Institute of Paper Science and Technology, Georgia Institute of Technology, Atlanta, GA, August 28, 2012

Kimberly-Clark's Partnership with Forestry Stewardship Council, Market Signals, and the Road Ahead; FSC Design & Build Award Reception, Toronto, Canada, October 5, 2011

CDP Strategy for Supply Chains, 2010 Carbon Disclosure Project and Implications for Supplier Management (a half-day workshop that I led), Green Supply Chain Forum, Florida International University, Miami, FL, March 5, 2010

Defining, Calculating, Communicating Your Organization's Social Return on Investment, a presentation and Q&A session on Social Impact Assessment for business plan teams in the 2004 Global Social Venture Competition, University of California, Haas School of Business, Berkeley, CA