

The Fourth Dimension for Sustainability: Culture

Paul D. Larson, Ph.D.
CN Professor of SCM
University of Manitoba



SUSTAINABLE SUPPLY CHAIN & TRANSPORTATION

THE FOUR PILLARS TO PRODUCTIVE BUSINESS

NOVEMBER 26 & 27, 2015
CALGARY, AB

SCM and Sustainability

- Definitions
- Urgency
- Cultural dimension
- Signs of *Big S*

Definitions

- Supply chain management (SCM)
- Sustainability

What is a supply chain?

Who?

Direct supply chain – a company, a supplier, and a customer involved in the flows of products, services, finances, and/or information.

Extended supply chain – includes 2nd tier suppliers and 2nd tier customers.

Ultimate supply chain – all organizations involved in the flows of products, services, finances, and Information, from ultimate supplier to end customer.

Mentzer et al. (2001)

*Supply Chain
Goldmine*

What?

Logistics and
Transportation

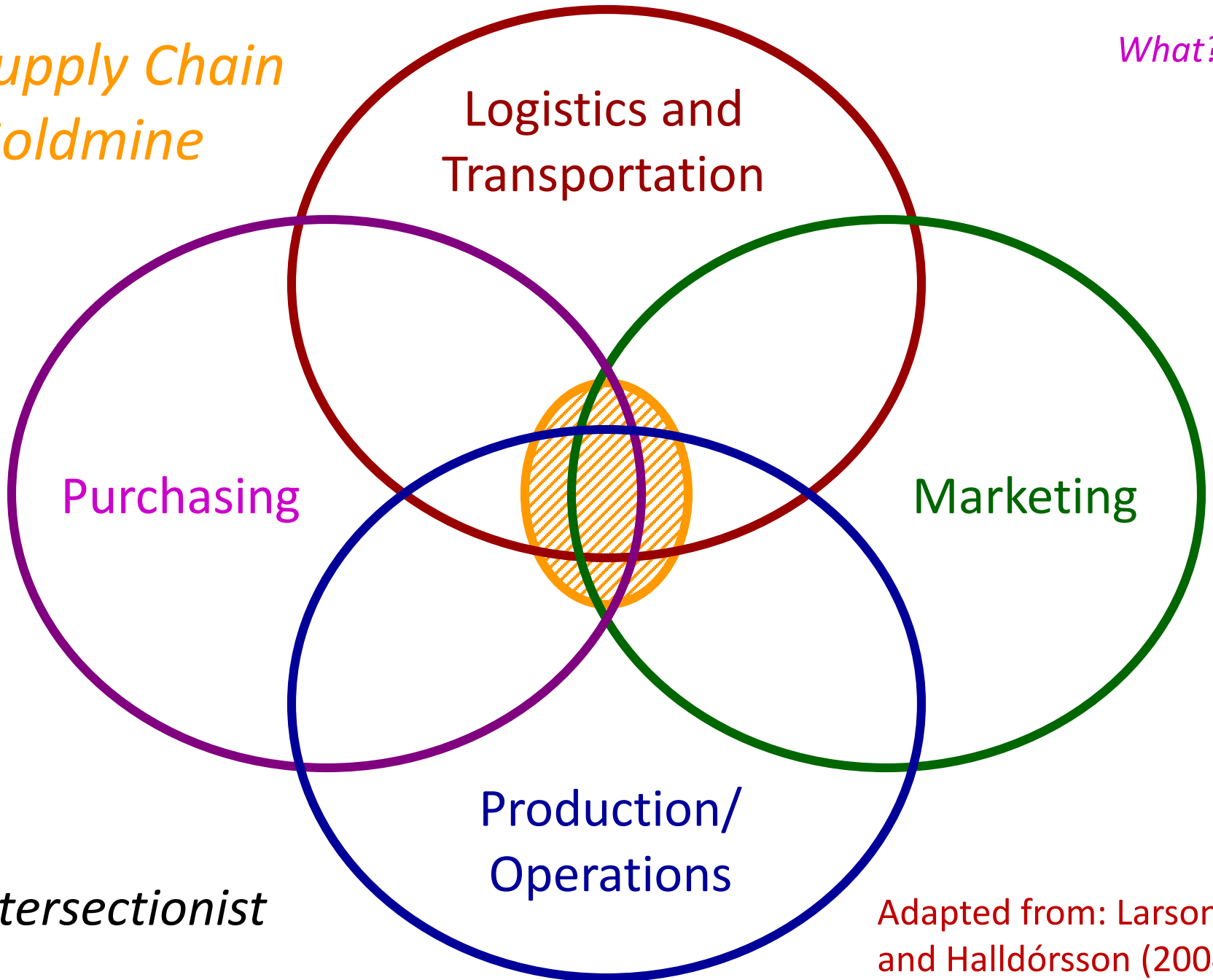
Purchasing

Marketing

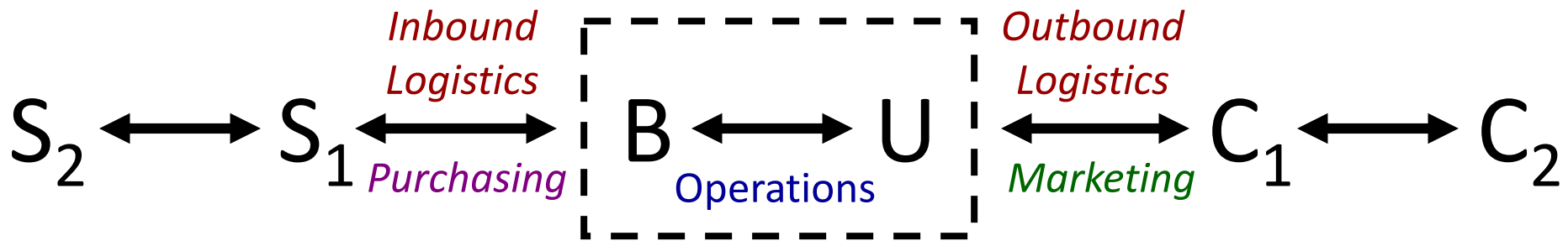
Production/
Operations

Intersectionist

Adapted from: Larson
and Halldórsson (2004)



C-U-B-S Model



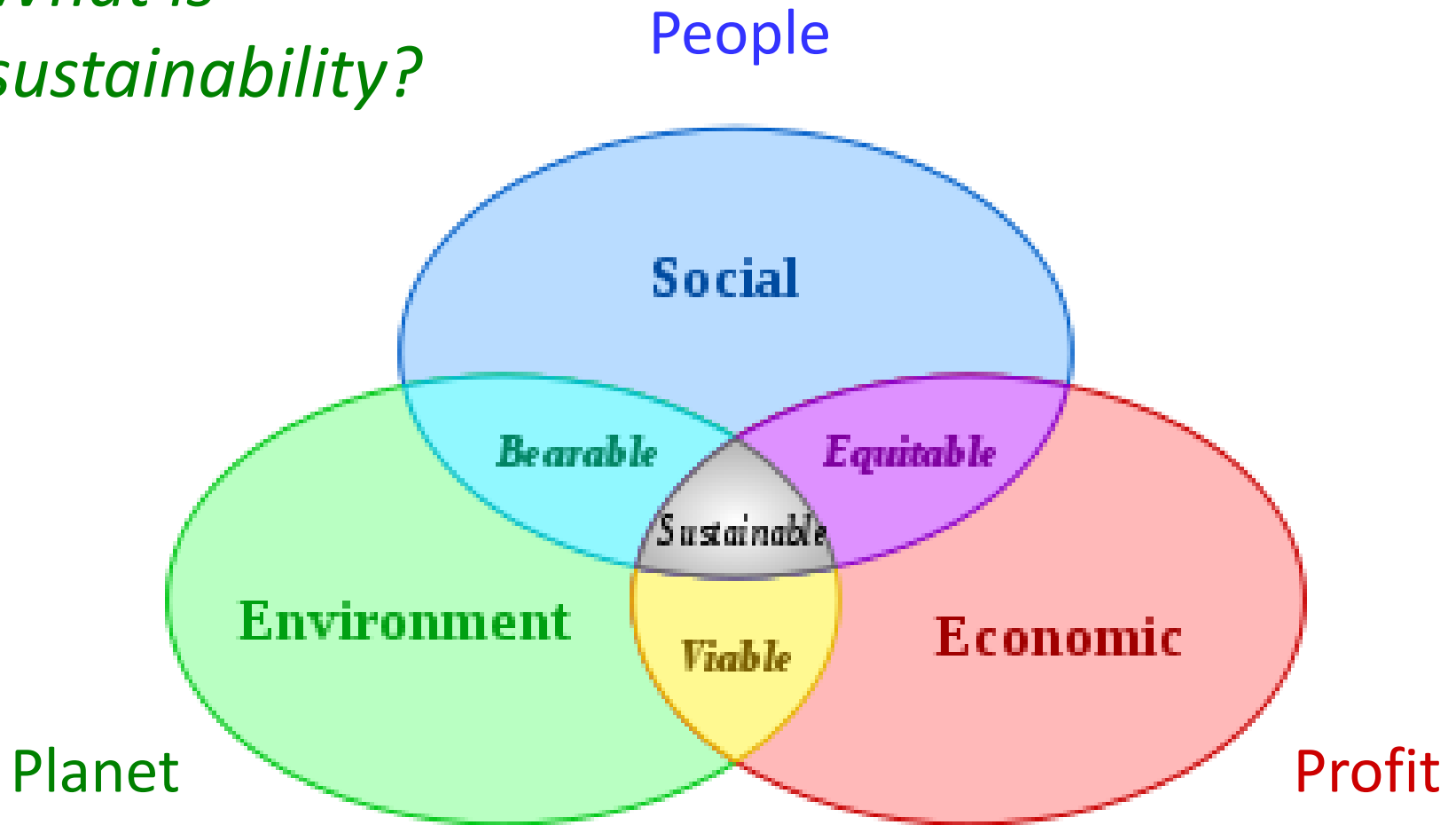
C = customer; U = user; B = buyer; S = supplier

What is SCM?

SCM involves strategically managing flows of goods, services and information, along with relationships within and among organizations, to deliver greater economic and/or social value and customer service, without harming the environment.

It involves the coordination of logistics, operations, purchasing and elements of other functional areas like marketing; and focuses on serving stakeholders, including customers, suppliers, employees, owners, communities and policy makers.

*What is
sustainability?*



Triple Bottom Line

Foundational Competencies

Social Factors – human rights, education, social justice, First Nations inclusion, etc.

Economic Factors – profit, return on investment, capital and interest

Environmental Factors – aspects of the natural world, e.g. GHG emissions and carbon neutrality

Body of Knowledge, Canadian Professional Sustainability Institute, 2011.

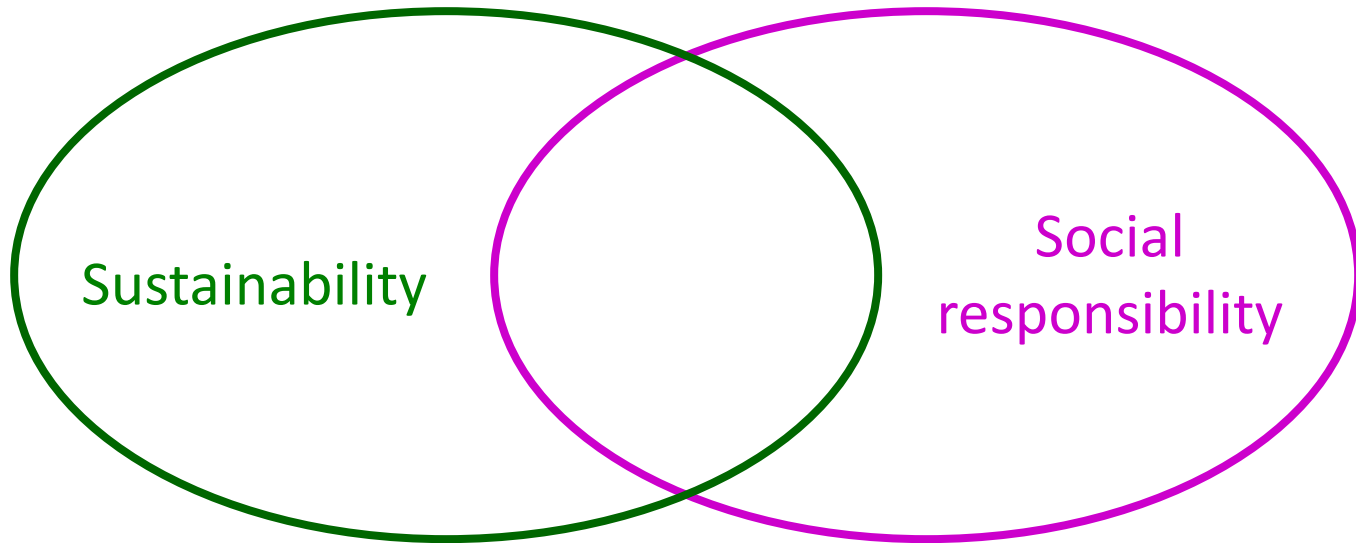
<http://cpsinstitute.wix.com/test#!body-of-knowledge>

ISM Principles of Sustainability and Social Responsibility

1. Anti-Corruption
2. Diversity & Inclusiveness — Workforce & Supply Base
3. Environment
4. Ethics & Business Conduct
5. Financial Integrity & Transparency
6. Global Citizenship
7. Health & Safety
8. Human Rights
9. Labor Rights
10. Sustainability



Sustainability and Social Responsibility



Sustainability

“the ability to meet current needs without hindering the ability to meet the needs of future generations in terms of economic, environmental and social challenges.”

It's about time!

How far into the future should business leaders look?

To the end of the fiscal year?

To the planned retirement date?

To the seventh generation?

How far into the future should elected officials look?

To the next election?

To the seventh generation?



Urgency of Sustainability

9 billion people are expected on Earth by 2050. Will they all achieve a basic quality of life? Earth's ecosystems are deteriorating; its climate is changing. We are consuming and living far beyond Earth's capacity to support us. Still, nearly 1 of 6 people go to bed hungry each night: a tragic source of social and political unrest. Further, the world is more interconnected and volatile than ever before—and we are increasingly vulnerable.

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

According to Duncan (1989; 1996)

Human history divided into three phases:

1. pre-industrial – a very long period of equilibrium when economic growth was limited by simple tools and weak machines.
2. industrial – a very short period of non-equilibrium ignited when powerful new machines temporarily lifted all limits to growth.
3. post-industrial – lies immediately ahead; industrial economies will decline toward a new period of equilibrium, limited by exhaustion of non-renewable resources and continuing deterioration of the natural environment.

Duncan, Richard C., *The Olduvai Theory: Sliding Towards a Post-Industrial Stone Age*, Institute on Energy and Man, June 27, 1996.

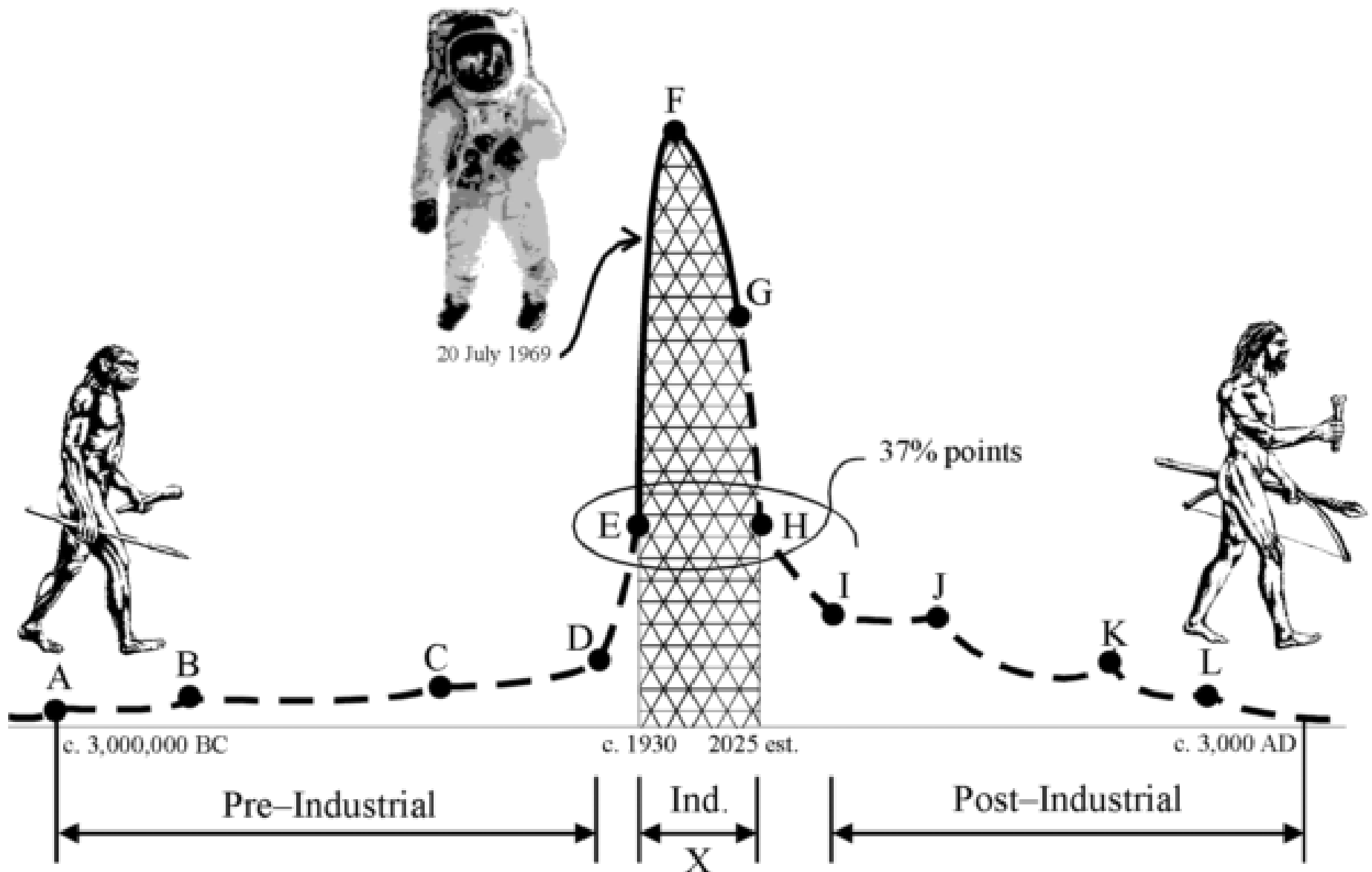






















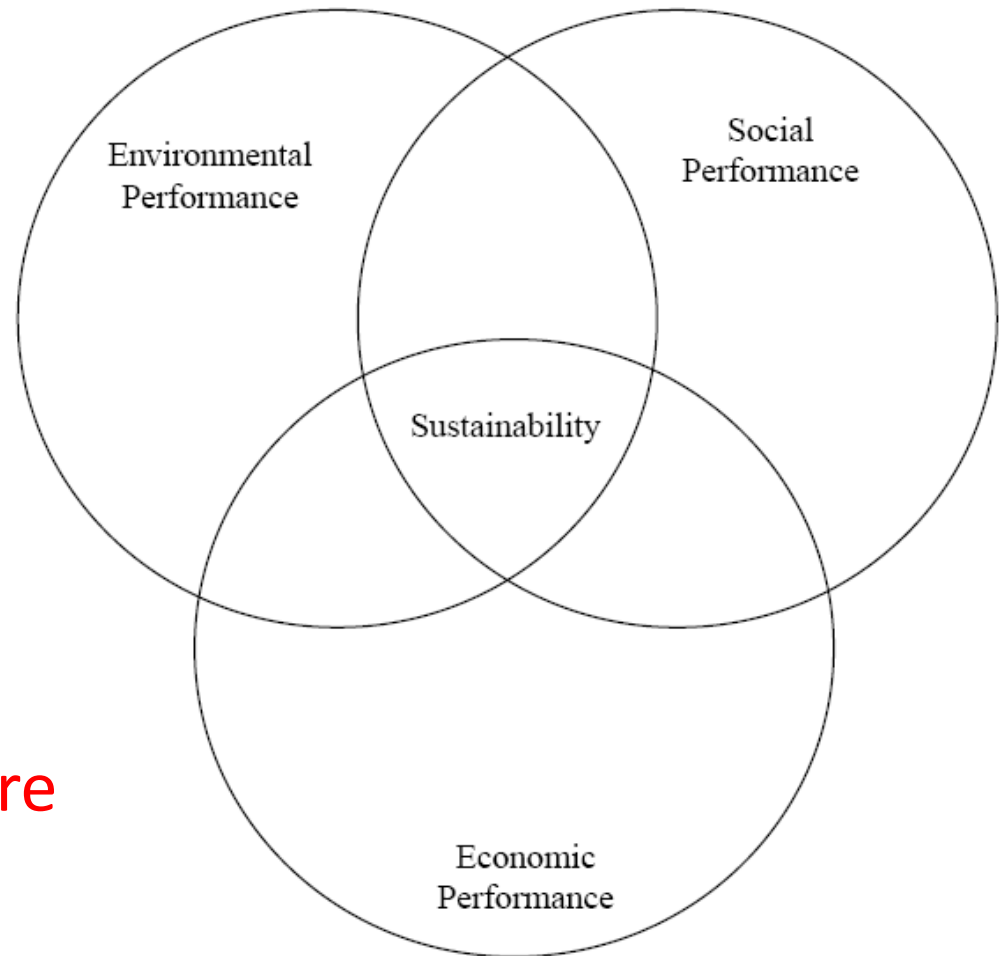
Table 1: The Ten Global Risks in Terms of Likelihood and Impact

Top 10 global risks in terms of Likelihood	Top 10 global risks in terms of Impact
 Interstate conflict	 Water crises
 Extreme weather events	 Spread of infectious diseases
 Failure of national governance	 Weapons of mass destruction
 State collapse or crisis	 Interstate conflict
 Unemployment or underemployment	 Failure of climate-change adaptation
 Natural catastrophes	 Energy price shock
 Failure of climate-change adaptation	 Critical information infrastructure breakdown
 Water crises	 Fiscal crises
 Data fraud or theft	 Unemployment or underemployment
 Cyber attacks	 Biodiversity loss and ecosystem collapse

Global Risks 2015, 10th Edition, World Economic Forum, Geneva.

Sustainable supply chain management

- Risk management
- Transparency
- Strategy and (organizational) **culture**



Carter and Rogers (2008)

National and organizational culture

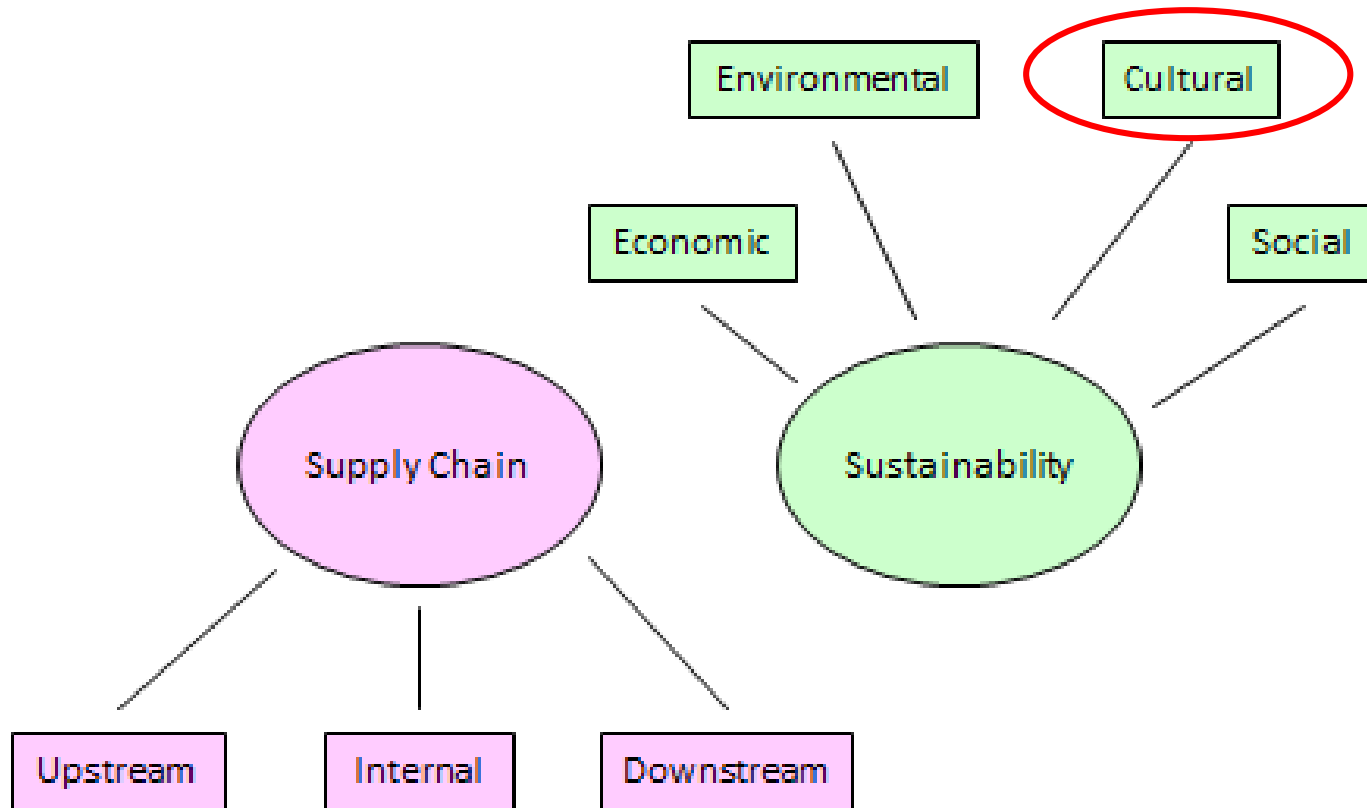
Organizational culture is a system of shared assumptions, values, and beliefs, which governs how people behave in organizations. Every organization develops and maintains a culture, which provides guidelines and boundaries for the behavior of the members of the organization.

<http://study.com/academy/lesson/what-is-organizational-culture-definition-characteristics.html>

National culture is about the value differences between groups of nations and/or regions.

<http://geert-hofstede.com/cultural-dimensions.html>

Supply chain sustainability



Adapted from: Larson and Khare (2013)

Culture – the fourth dimension

- Indigenous perspectives
- Circular economy
- Lean production
- Who are your stakeholders? What do they need?

little s; BIG S

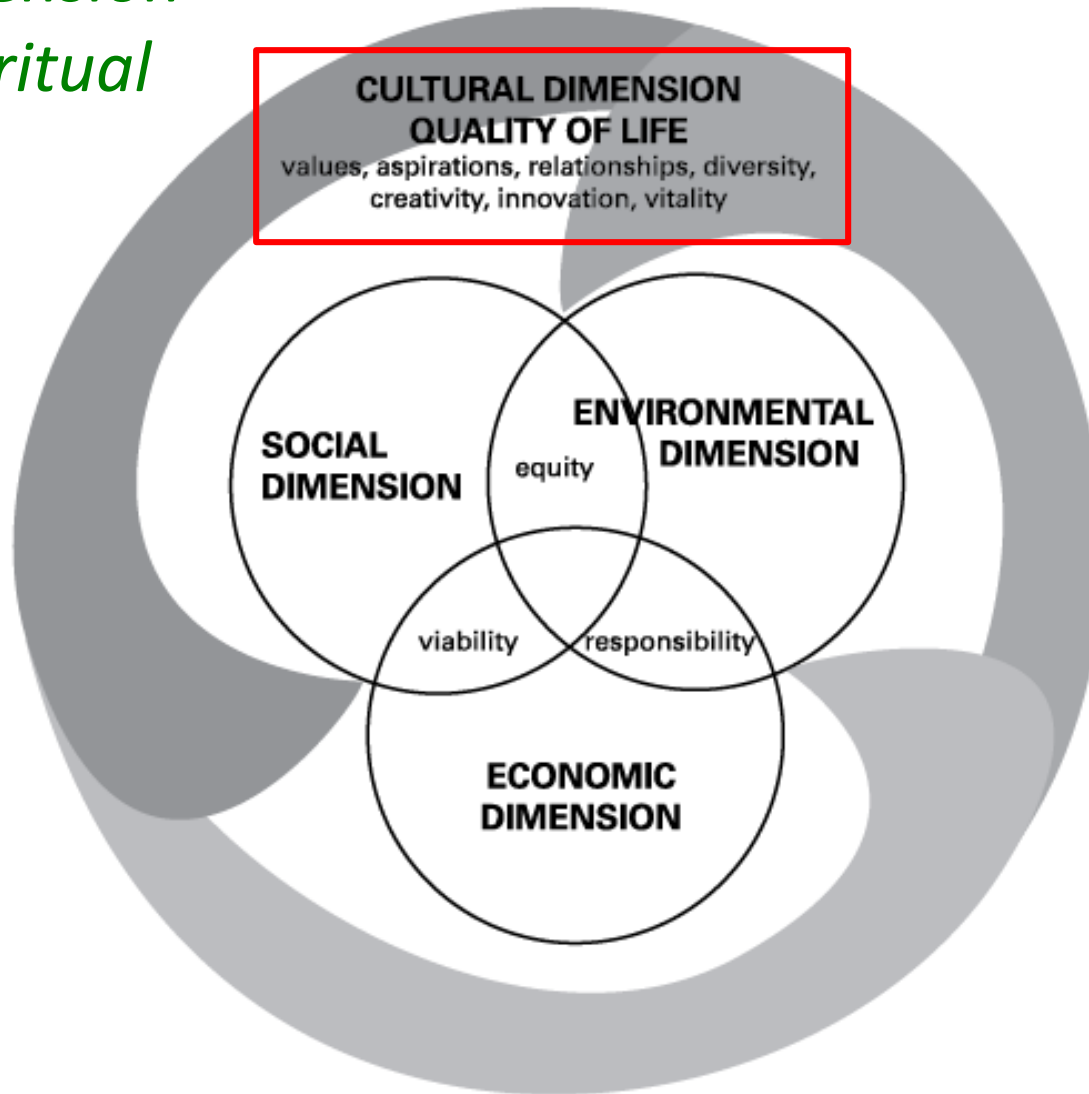
- little s
 - economic
 - environmental
- doing things right
 - e.g. idling reduction, packaging reduction, lean production

- BIG S
 - Social
 - Economic
 - Environmental
 - Cultural/spiritual
- DOING RIGHT THINGS
 - e.g. reduction of consumption (lean consumption), living wage

“In every deliberation we must consider the impact on the seventh generation ... even if it requires having skin as thick as the bark of a pine.”

- Great Law of the Iroquois

The 4th dimension – cultural/spiritual



Source: Catherine Runnalls, 2006, MA thesis for Royal Rhodes University, adapted from Hawkes, 2001 and others

Four well-beings of community sustainability



Source: New Zealand Ministry for Culture and Heritage, *Cultural well-being and local government*, Report 1, 2006

10 key themes of cultural sustainability

1. The culture of sustainability – changing consumption habits
2. Protecting culture from globalization and market forces – communities may lose their cultural identity, traditions, and languages to dominant cultures. Expanding and deepening diversity may act as a balance to globalization
3. Heritage conservation
 - *preserving heritage sites, practices, and infrastructure*
 - *cultural tourism*
4. Sense of place – The arts can resolve conflict among social, environmental and economic issues by providing the creative edge to explore multiple perspectives and develop diverse alternatives

“Exploring the Cultural Dimensions of Sustainability,” Creative City News, Special Edition 4, 2007.

5. *Indigenous knowledge and traditional practices* – recovery and protection of cultural health, history, and the culture of indigenous knowledge. It is linked to traditional practices by celebrating local and regional histories and passing down cultural values to future generations. Storytelling preserves indigenous knowledge and traditional practices through keeping memories alive, celebrating history, offering lessons in effective actions, and even as a means of persuasion in policy debates.

6. Community cultural development

7. Arts, education, and youth

8. Sustainable design

9. Planning for sustainable communities

10. Cultural policy and local government

“Exploring the Cultural Dimensions of Sustainability,” *Creative City News*, Special Edition 4, 2007.

Aboriginal Perspectives of Sustainable Development

Aboriginal Sustainability Concepts	
Mother Earth as a Life-Giving Force	In many Aboriginal languages, "Mother Earth" is depicted as a living person. If the inhabitants of this world continue to desecrate her, then she will no longer be a life-giving force.
Laws of Nature	There was a time and season for all life-sustaining activities. Animals were not killed during their reproductive cycles.
Life-Sustaining Elements of the World	<p>Air: the essential element of human and all life forms. It also is the means by which one thinks and speaks.</p> <p>Earth: provides food and many other life-sustaining materials and resources.</p> <p>Fire: provides heat and light. The Sun is fire.</p> <p>Water: cools and nurtures, makes life and growth possible.</p> <p>Balance among the four basic elements, the innate capacities of humankind, and the life-sustaining elements of nature makes it possible to live well and comfortably.</p>
Interrelationships and Interconnectedness	Take no person, animal, or thing for granted. Everyone and everything has a role and a place.

Reprinted from *Education for a Sustainable Future: A Resource for Curriculum Developers, Teachers, and Administrators* (Manitoba Education and Training, 2000).



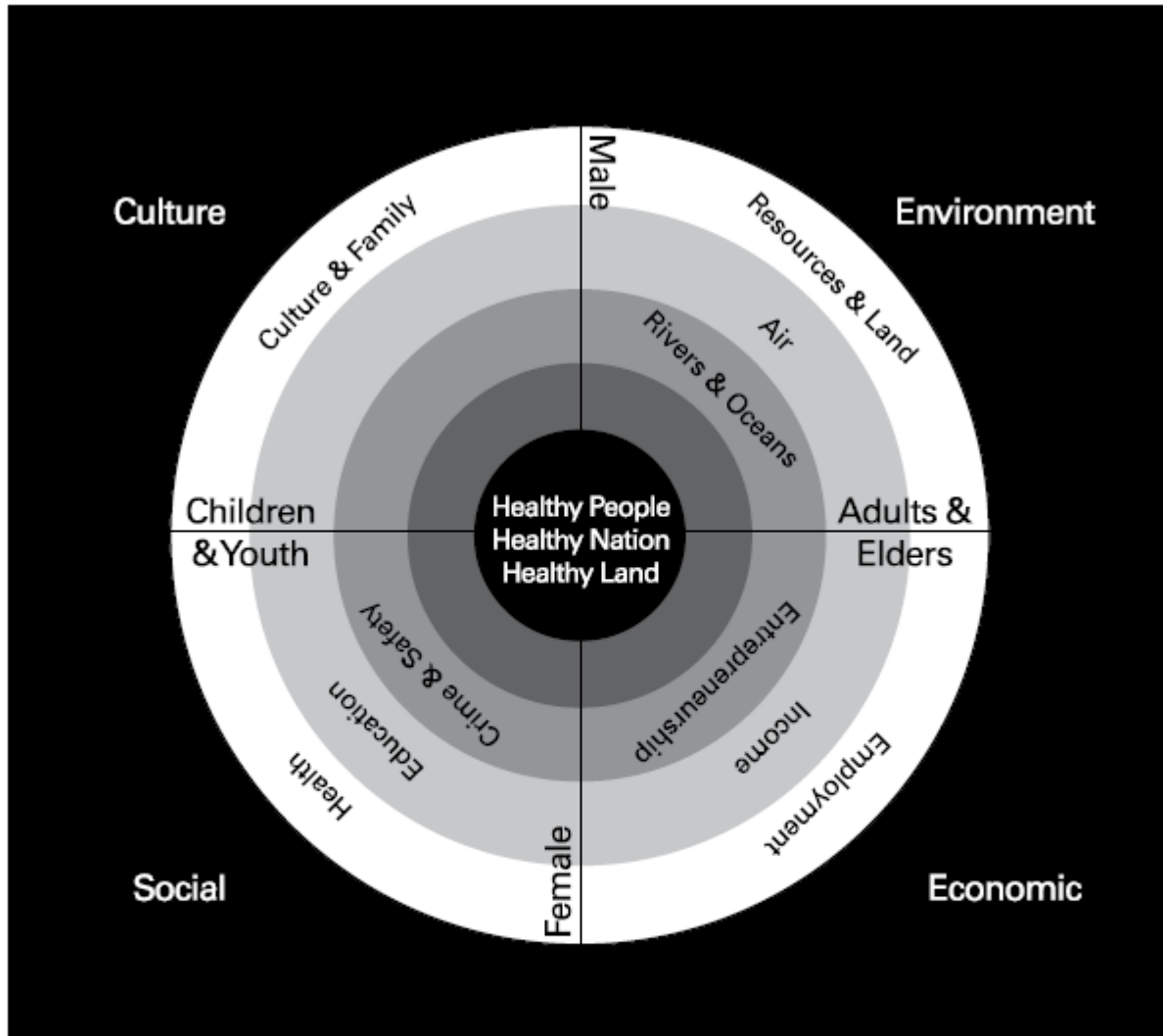
Pachamama Alliance

[VIDEO] An Indigenous Perspective on Sustainability

<http://www.pachamama.org/blog/video-an-indigenous-perspective-on-sustainability>

<http://www.nativeperspectives.net/index.php>

The medicine wheel



Source: Nathan Cardinal & Emilie Adin's *An urban Aboriginal life: The 2005 indicators report on the quality of life of Aboriginal people in the Greater Vancouver region*, Centre for Native Policy and Research

Circular economy

Japan has moved towards a highly efficient circular economy thanks primarily to the pioneering Law for the Promotion of Efficient Utilization of Resources, passed in 2000. The law, which **treats materials as circular goods, covers products' entire lifespans**. Manufacturers are required to also run disassembly plants, with material recovery mandated as well. That turns the headache of product disposal into an asset as companies can reuse materials. Today, 98% of metals are recovered.

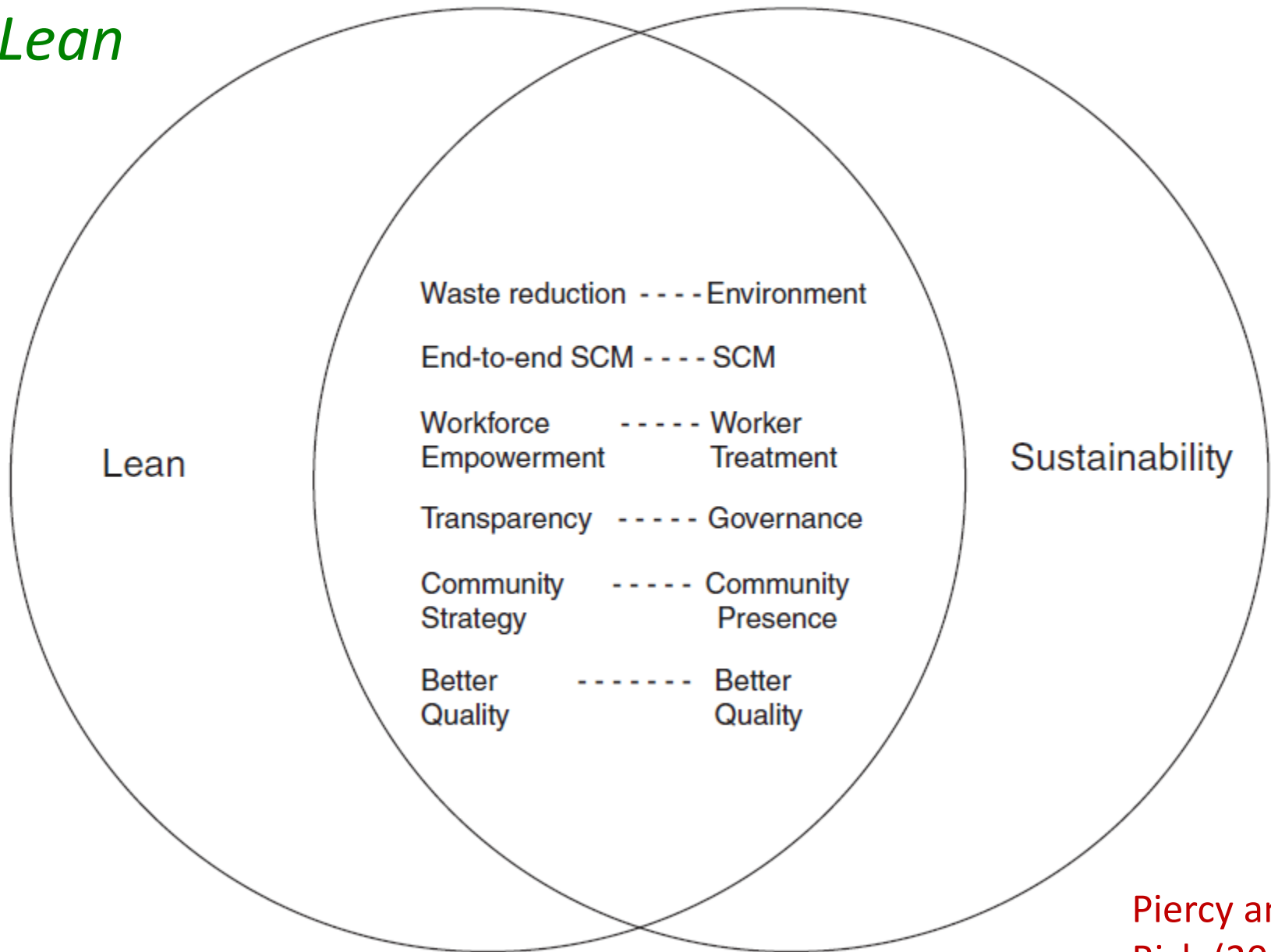
Braw (2014)

Monozukuri

“The Japanese word *monozukuri* has a literal meaning of ‘production’ — *mono* is the thing that is made or created, and *zukuri* refers to the act of making. It can be best compared to the word ‘craftsmanship’ in English, which describes the making of an object with particular skill, care or artistry. In the Japanese tradition of *monozukuri*, the craftsman takes great care using resources not to be wasteful or frivolous.”

Zokaei et al. (2014): <http://sloanreview.mit.edu/article/recapturing-monozukuri-in-toyotas-manufacturing-ethos/>

Lean



Piercy and
Rich (2015)

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Adapted from: Mentzer et al. (2001)

Canadian Professional Sustainability Institute



Body of Knowledge, Canadian Professional Sustainability Institute, 2011.

Transformational Competencies – Ability to influence, change and motivate people and organizations to install sustainable practices

Leadership – social influence in which one person can enlist the support of others to accomplish a common task

Change Management is a planned approach aimed at empowering individuals and organizations to accept and embrace changes in their current practices.

Ethics – addresses questions about morality, right and wrong, good and evil

Measurement – indicators, benchmarks, audits, indices, and accounting for informed management of sustainability

Decision Making is a structured process resulting in the identification of the optimum course of action among several alternatives.

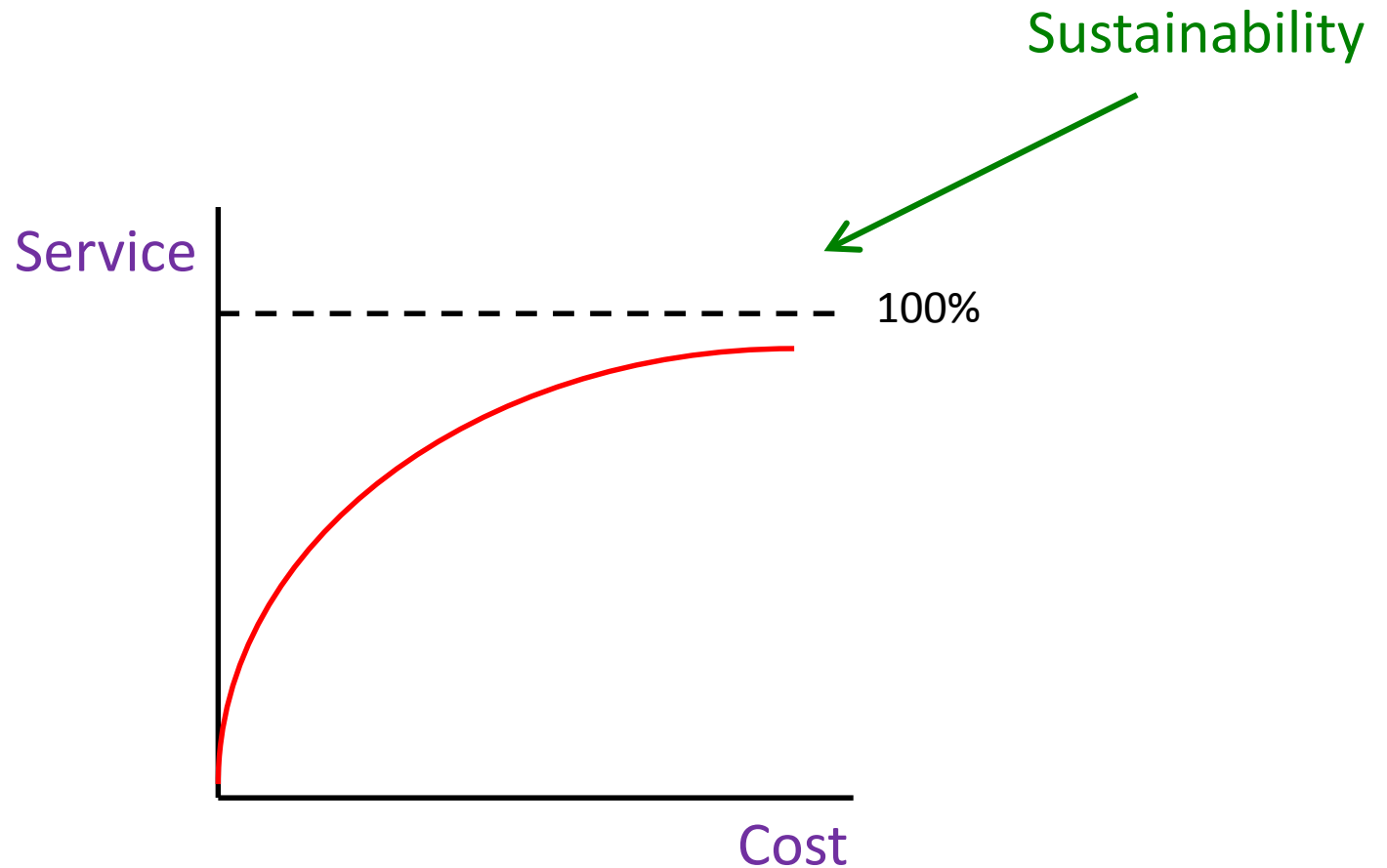
Body of Knowledge, Canadian Professional Sustainability Institute, 2011.

<http://cpsinstitute.wix.com/test#!body-of-knowledge>

Supply Chain Objectives

- Minimize Total Cost
 - while meeting customer service objective
- Maximize Customer Service
 - while meeting total cost budget limit
- Maximize Sustainability
 - while providing acceptable service at reasonable cost

Logistics trade-offs



3p Weekend: 10 U.S. Companies That Pay Above Minimum Wage

by Mary Mazzoni on Friday, Feb 28th, 2014

<http://www.triplepundit.com/2014/02/3p-weekend-10-companies-pay-living-wage/>

Raising the floor: Walmart, Ikea and Gap lift wages for their lowest-paid workers

Big companies have been increasing their lowest wages to improve productivity, turnover and customer service - and help accelerate the US economic recovery

- [Walmart to raise wages for half a million workers](#)

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Jana Kasperkevic

[@kasperka](#)

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<http://www.theguardian.com/sustainable-business/2015/feb/19/companies-raise-minimum-wages-pay-walmart-ikea-aetna-gap>

Inspired Protagonist

8 ways to shape a more sustainable workforce

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Jeffrey Hollender

Tuesday, June 2, 2015 - 1:15am



Jeffrey
Hollender

**Co-founder and
former CEO**
Seventh
Generation Inc.



<http://www.greenbiz.com/article/8-ways-shape-more-sustainable-workforce>

NOV 4, 2011 @ 02:18 PM 1,523 VIEWS

Can Voluntary Sustainability Change the World?



Erica Gies, CONTRIBUTOR

Independent environment reporter, founder of ThisWeekInEarth.com

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<http://www.forbes.com/sites/ericagies/2011/11/04/can-voluntary-benchmarks-change-the-world/>



CANADA COMPETES

Ten Canadian firms among world's most sustainable

RICHARD BLACKWELL

The Globe and Mail

Published Wednesday, Jan. 23, 2013 2:00AM EST

Last updated Wednesday, Jan. 23, 2013 4:23PM EST

- 21. Teck Resources Ltd., mining
- 40. Barrick Gold Corp., mining
- 57. Canadian National Railway Co., transportation
- 60. Telus Corp., telecommunications
- 71. Nexen Inc., energy
- 79. Enbridge Inc., energy
- 81. Suncor Energy Inc., energy
- 85. Sun Life Assurance Co. of Canada, financial services
- 87. Royal Bank of Canada, financial services
- 88. Cenovus Energy Inc., energy

<http://www.theglobeandmail.com/report-on-business/economy/canada-competes/ten-canadian-firms-among-worlds-most-sustainable/article7644262/>



<http://www.canadastop100.com/environmental/>

Each employer is evaluated by the editors of Canada's Top 100 Employers in terms of: (1) the unique environmental initiatives and programs they have developed; (2) the extent to which they have been successful in reducing the organization's own environmental footprint; (3) the degree to which their employees are involved in these programs and whether they contribute any unique skills; and (4) the extent to which these initiatives have become linked to the employer's public identity and whether they attract new people to the organization.



Canada's Green 30

Companies that integrate sustainability programs into their workplace culture win praise from their employees

Adrian Lee

May 12, 2014

<http://www.macleans.ca/economy/business/green-where-it-counts-the-green-30/>

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Thank you!



SUSTAINABLE SUPPLY CHAIN & TRANSPORTATION

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Steve Roosdahl, Executive Director of Supply Chain with the Oppenheimer Group, an International Marketer and Distributor of Fresh Fruits and Vegetables. Steve manages the Operations, Quality Control, Transportation, and Inventory department which includes driving Oppenheimer's Sustainability initiative. Steve's background was originally in IT developing systems for Oppenheimer; in 2009 he transitioned to the Supply Chain department responsible for streamlining processes across internal departments to external business partners. Steve is in his third year of his executive MBA with Athabasca University.

...why should I mourn at the untimely fate of my people? Tribe follows tribe, and nation follows nation, like the waves of the sea. It is the order of nature, and regret is useless. Your time of decay may be distant, but it will surely come, for even the white man cannot be exempt from the common destiny. And when the last red man shall have perished, and the memory of my tribe shall have become a myth among the white men, these shores will swarm with the invisible dead of my tribe. At night when the streets of your cities and villages are silent and you think them deserted, they will throng with the returning hosts that once filled and still love this beautiful land. The white man will never be alone...let him be just and deal kindly with my people, for the dead are not powerless. Dead, did I say? There is no death, only a change of worlds. (Seattle, Dwamish chief, 1854)

Clarkson, Morrissette and Régallet (1992), p. 73.

Socially sustainable communities are able to:

- achieve and maintain personal health: physical, mental and physiological;
- feed themselves adequately;
- provide adequate and appropriate shelter for themselves;
- have opportunities for gainful and meaningful employment;
- improve their knowledge and understanding of the world around them;
- find opportunities to express creativity and enjoy recreation in ways that satisfy spiritual and psychological needs;
- express a sense of identity through heritage, art and culture;
- enjoy a sense of belonging;
- be assured of mutual social support from their community;
- enjoy freedom from discrimination and, for those who are physically challenged, move about a barrier-free community;
- enjoy freedom from fear, and security of person; and
- participate actively in civic affairs.

BC Round Table on the Environment and Economy, 1993, cited in Mark Roseland's *Towards sustainable communities: Resources for citizens and their governments*, 2005