

The Design Challenge of Green Business Management Programs

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Presentation Outline

- 1) Introduction To Green Business Management Program
- 2) How Do We Design Green And Sustainable Programs
- 3) Some Challenges Of Implementation Of Green Programs
- 4) Integration Of Business Models And Ecological Economics
- 5) Getting To A Better Place.
- 6) Kpu Green Business Management And Sustainability Program
- 7) Conclusions/ Lessons Learned
- 8) Q & A

HOW DO WE DESIGN GREEN AND SUSTAINABILITY PROGRAMS?

- IN RECENT YEARS KNOWLEDGE AND CAPABILITIES TO MANAGE CORPORATE SUSTAINABILITY HAVE BECOME A SIGNIFICANT COMPONENT OF DIFFERENT CAREER PATHS (Hesselbarth and Schaltegger, 2013)
- As an answer to this worldwide trend of a “flourishing profession” (Visser and Crane, 2010, 4) ever more universities and business schools have taken the initiative to increase their research and teaching activities on CSR and Green programs (Matten and Moon, 2004, 326; Wu et al 2010).

Challenge: To effectively educate Change Agents for Corporate/ Organizational Sustainability

- Lessons from the Centre of Sustainability Management (Leuphana University– Lünenburg, Germany-- (Hasselbarth and Schaltegger).
- 10 years of graduating in Bachelors and MBA programs.
- They build on the existing literature of sustainability:
- Rusinko (2010) proposes a matrix approach to integrating sustainability in business education. The issue if integration into existing courses and specialization of green courses is on-going.

Other areas of existing research:

- Barth et al., 2007; De Haan, 2006; Fadeeva and Mochizuki, 2010; Rieckmann, 2012 studies the competencies needed for sustainable education
- MacVough and Norton, 2012 on what pedagogical methods are particularly apt for sustainability and sustainable business courses: recommended— active learning and action research
- Rosenbloom and Cortes, 2008 on collaborative concept maps
- Shepard, 2008 on transformative learning experience
- Bergea et al, 2006, the consideration of boundary objects

Other areas of existing research:

- Benn and Martin, 2010 on real learning experience
- Brundiers, 2010 on Transdisciplinary studies in Sustainability education
- Miranda Correia and Infante-Malachias, 2010, 678 on creating a new integrative, inter and transdisciplinary epistemological approach to create a holistic perspective into a traditional undergraduate curriculum.
- Juarez-Najera et al, 2006 on creating a change of academic and professional culture into re-educating students and professors
- Djordjevic and Cotton, 2011 on developing and communicating a sustainability mission of the university

On Competencies....

- Reviewing the literature reveals an increasing convergence about the critical role of key competencies (Baartman et al., 2007, Sipos et al., 2008, Wiek et al., 2011) for an integrative framework.
- The MBA- Sustainability Management– Centre for Sustainability Management at Leuphana University:
- The curriculum is organized in six core modules, three soft skills modules and a master's thesis dealing with a sustainability management problem.

Conclusions of the Study:

- For GENERAL MANAGEMENT: The responses indicate that only a medium level of new competencies were acquired (e.g. strategic management, marketing, finance)
- SUBJECT SPECIFIC COMPETENCIES IN SUSTAINABILITY MANAGEMENT: the survey results indicate that alumni have acquired subject-specific competencies in most areas of sustainability management
- More needs to be done on understanding on political and economic framework of sustainability

Conclusions of study:

- Acquisition of soft skills is fundamental to business students
- The program prepares people well on:
 - 1) Entrepreneurial thinking
 - 2) The ability to convince others with attractive and plausible concepts
 - 3) The motivation to implement sustainability

A Good Change Sustainability Agent has:

- 1) Flexibility to change or create jobs
- 2) General Management knowledge
- 3) Subject specific competencies
- 4) Methodological, social and personal competencies

Some challenges of implementing of Sustainability Programs

- Discussions of Sustainability until recently have been met with scepticism
- Faculty are often not equipped to teach the issues or in a position to do so
- Sometimes the institution itself have not committed to strong sustainability
- Until recently recruiters and employers have not identified sustainability as a core required skill. (Grassroots by Giselle Weybrecht, 2015)

Schools around the world are experimenting with different approaches for introducing the notion of sustainability into their programs – Grassroots, Giselle Weybrecht, 2015

- Be realistic – Do not present sustainability as only being good or saving the world (balance between business and society)
- Make it useful and relevant– Sustainability should be taught as it relates to what is currently happening in the business world today (businesses of all sizes).
- Practice what you want to teach– Look at how sustainability can be incorporated into the operations of your institution. (first hand experience for students)
- Get engaged in the discussion-- PRME, GRLI, Aspen Institute, Conferences on World Sustainable Development, etc

Show students they can make a difference without necessarily getting a job with the word sustainability or green in their job title.

- More and more..... The real success of a business education will be judged by whether it is able to train graduates to think about business and making money in different ways, aligning social and environmental objectives with financial goals (Giselle Weybrecht, 2015).
- But we can't change the mindset of business if we do not change the business school culture on sustainability.

Integration of Business models with Ecological Economics

UNDERSTANDING ENVIRONMENTAL MANAGEMENT PRACTICES:
INTEGRATING VIEWS FROM STRATEGIC MANAGEMENT AND
ECOLOGICAL ECONOMICS. BY MARILYN T LUCAS

- The paper proposes an integrating framework, based on theoretical concepts from strategic management and ecological economics to enhance the understanding of Environmental Management Practices (EMPs).

THEORETICAL FOUNDATIONS...

- The Resource-Based View of the Firm: it holds that competitive advantage is grounded within the firm, in its resources, e.i. tangible and intangible assets that enable it to perform a particularly task effectively (Barney, 1991)
- The internal resources can be classified as: physical, human, social and organizational capital.

On Sustainable Competitive advantage and Environmental Management Practices (EMPs): Lucas, 2010 paper.

- 1) Resources are not economically viable in isolation (environmental changes may alter the importance of resources) (e.g. oil, coal)
- 2) Resources are not productive by themselves. Mahoney and Pandian (1992) maintain that it is the exploitation of resources that creates economic value.

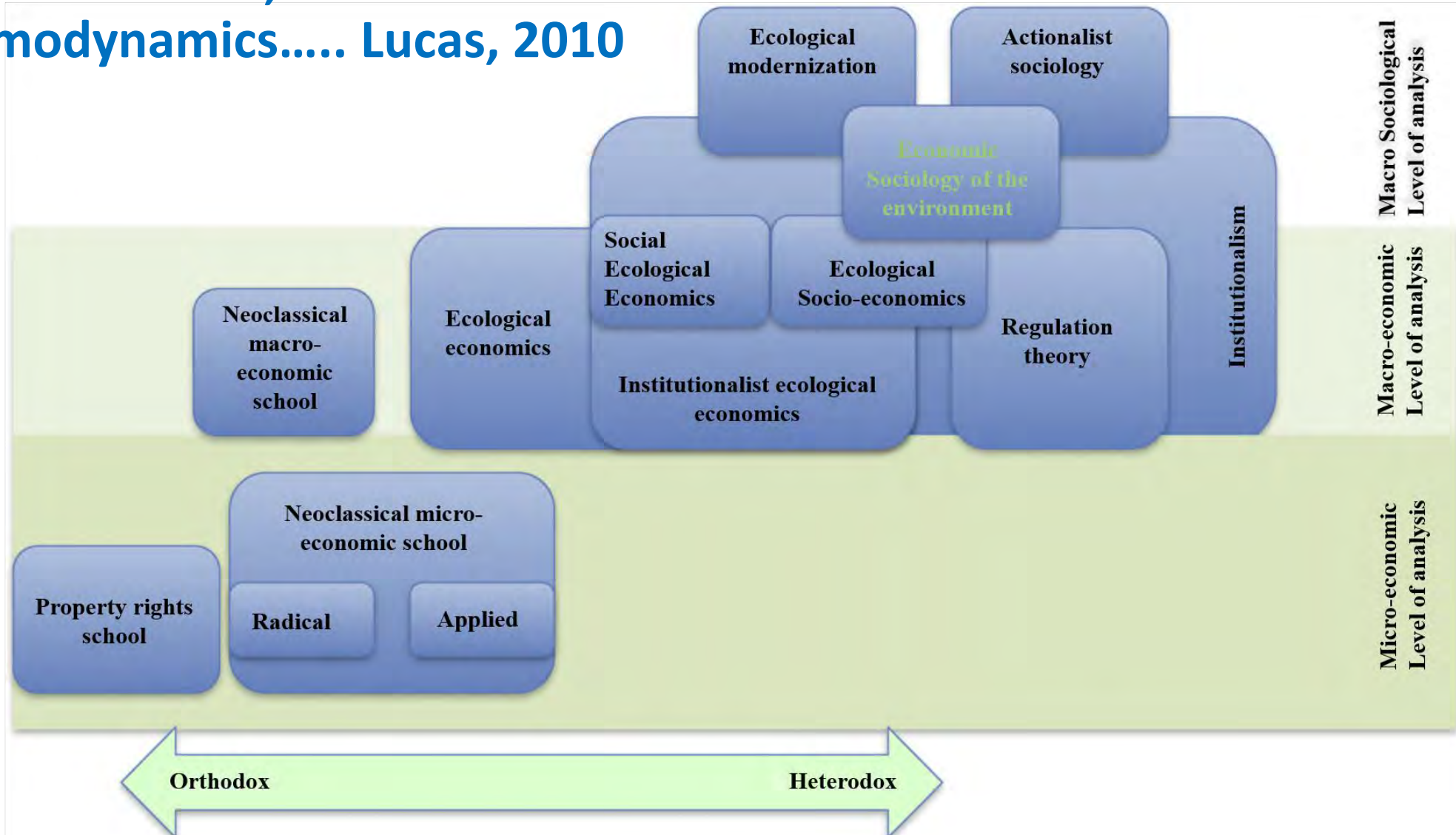
Hart's Natural Resource-Based View

- Hart basically adds the environmental dimension to the original Resource-based view of the Company (Hart, 1995).
- He states that the constraints imposed by the natural environment will provide new challenges and opportunities for firms.
- Recognizing, managing and leveraging the environmental constraints can build that competitive position.
- In the future, it appears inevitable that businesses will be constrained by and dependent on ecosystems.

Ecological Economics, Joint Production and Thermodynamics..... Lucas, 2010

- For ecological economists, human activities are ultimately a “sub-system of the natural environment” (Baumgartner et al, 2006, p 4)
- From a thermodynamic perspective every process of production can be regarded as transformation of factors of production: energy and matter. (Ayres and Kneese, 1969; Costanza, 1991; Daly, 1990; Faber et al., 1998, etc).
- In other words, one cannot make something out of nothing, and any waste generated by the production process can't disappear.
- A joint production is generated.

Ecological Economics, Joint Production and Thermodynamics..... Lucas, 2010



Ecological Economics, Joint Production and Thermodynamics..... Lucas, 2010

- A joint production insight leads to a re- assessment of both the full systems costs and the economic value associated with the products and by-products.

ORGANIZING ENVIRONMENTAL MANAGEMENT PRACTICES

- LUCAS, 2010 ORGANIZES EMPS based on the four major capital investment groupings (capital, human, social and organizational– Resource- Based perspective and
- Add the Add the Ecological Economics perspective of joint production to assess the impacts of EMPs.

Examples of Environmental Management Practices.

1) Investment in Physical Capital EMP's

Example: Pollution control, pollution prevention, prolonging the life of the product, reduction in resource consumption.

2) Investments in Human Capital

Examples: Environmental education and training programs, environmental leadership, evaluation based on env performace, etc

3) Investments in Social Capital

Examples: The New Product Design process, level of investment in environmental R and D., Cooperation with stakeholders on ecodesign.

More on examples of environmental Management....

4) Investments in Organizational Capital

Examples: Tracking of environmental information, Suppliers ISO 14,000 certifications, annual environmental management impact assessments, publication of environmental reports, consultation with local environmental groups, etc

Harvard Business Review, Nov of 2009

How to Jump-start the Clean Tech Economy by Mark Johnson

- Conventional approaches to renewable energy are falling short. The key is to shift the focus from developing individual technologies to creating whole new systems.
- Are business schools teaching systems-thinking to make the Green Tech and other revolutions happen?
- So far, the bulk of the investment has been in companies using conventional business models in an effort to fit clean technologies into existing systems.

Proposed model by Mark Johnson, 2009

- The key, says, Johnson (2009) is to understand that in a major infrastructural shift, technologies do not replace other technologies, rather, systems replace systems.
- Thomas Edison grasped the systemic nature of technological transformation a century ago when he introduced the electric bulb
- As Edison understood, that for advances to become viable they must belong to complex, interdependent systems. (e.g. cars, roads, gas stations ushered the automobile age)

Careful Market Adoption strategy and Favorable Government Policy

- In cases of high ambiguity take an emergent approach— that is, to make your best predictions about what might work and then find creative and inexpensive ways to test.
- Government support is most effective when its directed not just at nascent technologies but also nascent business models
- Governments must amend regulations that inhibited their development
- Policy makers should use limited regulatory experiments to generate political momentum (Mark Johnson, 2009)

Getting to a Better Place. Tel Aviv, Israel- Johnson, Mark (2009)

- Agassi asked himself: how could he get his native Israel out of oil?
- He fell in love with electric car technology.... And he early realized that the battery question was a huge impediment for adoption.
- He started thinking systems wide and realized that he should be in the business of transporting people by the mile..... Not in the business of owning cars.
- Agassi decided to sell electricity-miles rather than cars... actually, he was quite ready to give the cars away (not unlike cell phone companies).
- Are Business Schools preparing students for systems-wide and creative thinking?

A Systemic Model based on Agassi's Better Place:

- MARKET ADOPTION: Israel
- TECHNOLOGY: automated switching stations, charge spots, proprietary software
- BUSINESS MODEL: the batteries belong to Better Place, rebates for electric car purchase
- POLICY: Israel has dropped charges on electric car imports to 10% and increased other imports to 72%.



School of Business

Program Concept

Green Business Management and Sustainability

Green Business Management and Sustainability (“GRMT”)

Program Definition:

Green and Sustainable Business is an enterprise that has minimal negative impact on the global or local environment, community, society and the economy. A business that strives to meet the triple bottom line (economy, business and the environment). Often, sustainable businesses have progressive environmental and human rights policies. It usually matches the following criteria: 1) It incorporates principles of sustainability into each of its business decisions, 2) It supplies environmentally friendly products that replaces demand for non-green products, 3) It is greener than the traditional competition, 4) It has made an enduring commitment to environmental principles, 5) A sustainable business is any organization that participates in environmentally friendly or green activities, processes, products, manufacturing and distribution.

It has also been suggested (Villalba, 2016) that companies play an important role in the education of consumers concerning consumption and disposal of Green products and the mitigation of such consumption. We then suggest that Green Business Management presents a new paradigm for the sourcing, production, distribution, consumption and final disposal of society’s goods and services.

Having said that, this program is for any business professional that would like to work/ manage any organization that would consider incorporate sustainable or green objectives to any on-going enterprise.

Alignments of the Green Business Management and Sustainability – Grad Diploma

- 1) KPU Academic Plan (emerging areas of knowledge and exp learning)
- 2) KPU Research Plan
- 3) KPU Internationalization Plan
- 4) School of Business Academic Plan
- 5) Industry and Labour market alignment– BC Gov Blue Skills Plan, BC Labour Market 2022, Climate Change Plan
- 6) Principles of Responsible Management Education (PRME)

Further Alignments

- 7) Global Reporting Initiative Principles
- 8) Principles of Sustainable Development Goals of the UN
- 9) Canadian Federal Sustainable Development Strategy
- 10) Canadian Federal Funding in Green and Clean Initiatives
- 11) Government of BC Green Economy
- 12) BC Green Jobs Program
- 13) Metro Vancouver– Local Government Sustainability Plans

The program will prepare graduate students to:

- Integrate the study of management and the interdependence and co-evolution of human economies and natural ecosystems.
- Define and analyze value chain activities, relating to product cycles and be able to integrate sustainability initiatives of the value-chain.
- Measure, account and report sustainability initiatives as a means of driving their success
- Understand and make management-based decisions on renewable energies such as solar, wind, ocean, geothermal biofuel as they relate to cost-savings, business opportunities or innovation.

The program will prepare graduate students to:

- Contribute to policy discussions on renewable energies at the local, regional or extra regional levels
- Make marketing-based decisions on production of goods and services that are green or greening in nature.
- Utilize concepts such as cradle-to-cradle, mimicry among others to find consumer solutions and respond to system-wide sustainability concerns
- Deploy, use, recommend and advocate sustainability strategies as well as measure, report, monitor, the consequences of those decisions
- NOTE: THERE ARE OTHER PROGRAM OUTCOMES RELATED TO GENERAL MANAGEMENT COURSES

PROGRAM COURSES: General Business Management

- BUSM XX00 – Accounting & Financial Management for Managers - 3 Credits
- BUSM X110 – Business & Economic Decision Making - 3 Credits
- BUSM X120 – Project Management - 3 Credits
- TMAS X130 – Change Management - 3 Credits

PROGRAM COURSES: Specialization

- GRMT– 5200 Sustainability & Business Administration – 3 Credits
- GRMT– 5220 Green Marketing Management– 3 Credits
- GRMT– 5225 Ecological Economics for Organizations– 3 Credits
- GRMT– 5230 Principles of Green & Clean Technologies for Business – 3 Credits
- GRMT– 5300 Managing Innovations in Domestic & Global Contexts– 3 Credits
- GRMT– Coop Work Term and Launch Pad Term– 6 Credits.

General Conclusions

- A. There is a increasing societal concern for business to protect the environment
- B. Sustainability have become a component of career paths
- C. Business and Economics modeling adjusting to a green curriculum
- D. Abundant studies exist on competencies
- E. Active and transformational learning is required for Green programs
- F. The right university culture is needed for Green business programs

More on general conclusions....

- F. Entrepreneurial and soft skills are critical
- G. Specialized subject content (eg. Green reporting, clean tech) fundamental to a sustainability program
- H. Most programs developed very motivated graduates (ready to make a difference)
- I. Green business programs are good for the planet and for business
- J. Engage with external stakeholders on sustainability (PRME, GRI, etc)

Bibliography

- Atzori, Erika. Oil Giants Turn to Renewables. The Middle East. October, 2011. pag. 36-39.
- Brindley, Clare et al. Aligning the Sustainable Supply Chain to Green Marketing Needs: A Case Study. Industrial Marketing Management. On Line: September 2013
- Corporate Knights. 100 Shades of Green. Corporate Knights. Fall of 2014. pag. 41-45.
- Gendron, Corinne. Beyond environmental and ecological economics: Proposal for an economic of sociology of the environment. Ecological Economics. Vol. 105. pag. 240-253, 2014.
- Hoepner, Andreas et al. Environmental and ecological economics in the 21st century: An age adjusted citation analysis of the influential articles, journals, authors, and institutions. Ecological Economics. Vol. pag. 193-206, 2012.
- Jafari, Aliakbar. The New Rules of Green Marketing: Strategies, tools, and inspirations of Sustainable Branding. Journal of Marketing Management. Vol. 30. 2010

Bibliography. Page 2.

- Jayaraman Vaidyanathan, Shaouri. Proactive environmental strategies and performance: role of green supply chain processes and green product design in the Chinese high-tech industry. *International Journal of Production Research*. Vol. 54. No. 7. pag. 2136-2151.
- Johnson, Mark et al. How to Jump-Start the Clean Tech Economy. *Harvard Business Review*. Pag. 52-60. November 2009
- Klasen, Stephan et al. Economic and ecological trade-offs of agricultural specialization at different spatial scales. *Ecological Economics*. Vol. 122. pag. 111-120, 2016.
- Khandelwal, Utkal et al. Green Marketing and Sustainability Development: Marketing Professional Attitude Towards Green Marketing. *International Journal of Marketing and Business Communication*. Vol. 4 Issue 1. pag. 1

Bibliography page 3.

- Lucas, Marilyn. Understanding Environmental Management Practices: Integrating Views from Strategic Management and Ecological Economics. Business Strategy and the Environment. Vol. 19. pag. 543-556, 2010.
- Plumecocq, Gael. The second generation of ecological economics: How far has the apple fallen from the tree? Ecological Economics. Vol. 107. pag. 457-468. 2014
- Taj, Shahram et al. Sustainability and Business Model Innovation at the Bottom of the Pyramid: A Graduate Business Project. www.beijournal.com Vol. 8. Number 2. Dec 2016.
- Radulescu, Carmen Valentina. Premises of Green Business Strategies. Review of International Comparative Management. Vol. 17, Issue 2, May 2016.
- Weybrecht, Giselle. Grassroots. European Forum for Management and Development. Vol. 4., 2010