

Systems Thinking:
A Review of the Sustainability Management
Research

PECS 2015

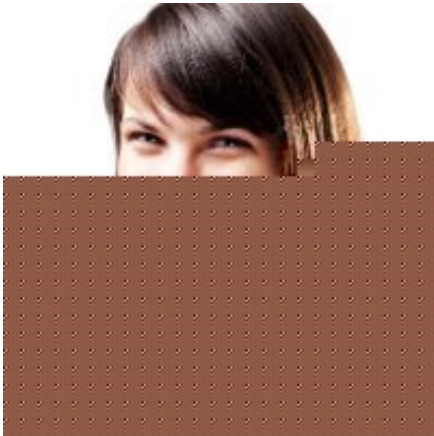
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Focus of the Review

- Sustainability Management
- Systems Thinking

Purpose of the Review

- Perspective of scale
- Bring focus to this theoretical areas
- Systematic review intended for publication



Erasmus University Rotterdam
Marie Curie Research Fellow
“Innovation for Sustainability”

Topic: World Business Council for Sustainable Development, Organizational Networks for Sustainability

Research interests: Collaboration vs. Competition, Vegetarianism in Organizations

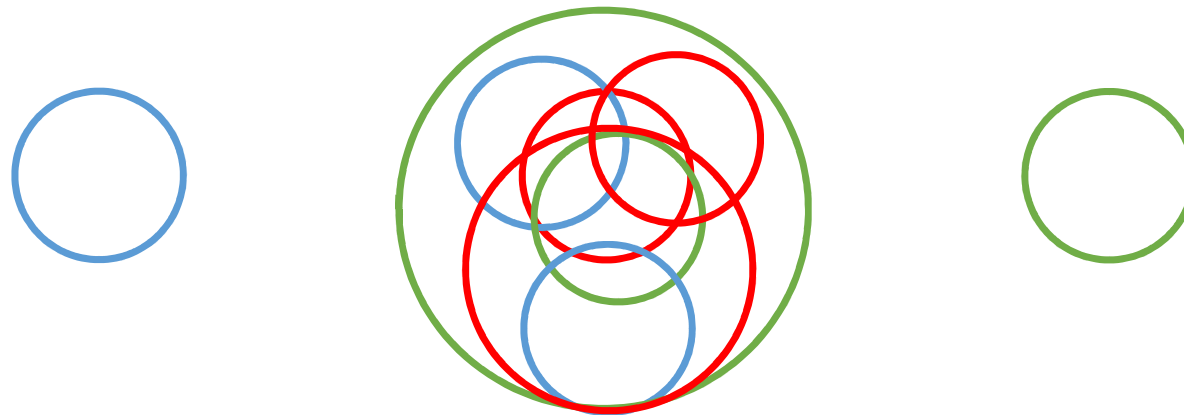


Graduate School of Business, University of Cape Town
Marie Curie Research Fellow
“Innovation for Sustainability”

Topic: Sustainability Leadership, Shared Values, Social Innovation, Scaling and Replicating Social Enterprises, Urban Farming

Motivation for this paper:

Relationship between business, society and environment?



How has management literature taken up systems thinking concepts when addressing sustainability?

Sustainability from a Systems Perspective

- Normative concept
- Thresholds of the planet
- To understand change across scales
 - Spatial
 - Temporal
 - Analytical
- -> understanding of these dynamics is essential to further sustainability

Methods: Process

- Followed process of other JoM reviews
 - Aguinis & Glavas, 2012; Fulmer & Gelfand, 2012; Pacheco, York, Dean, & Sarasvathy, 2010; Wassmer, 2008
- Conducted several searches for existing reviews
 - Mingers & White 2010
 - Bansal & Gao 2006
 - Berchicci & King 2007
 - Etzion 2007
 - Hoffman & Bansal 2011
 - Hoffman & Georg 2013
 - Russo and Minto 2011

Methods: Journals Included

- ACADEMY OF MANAGEMENT ANNALS
- ACADEMY OF MANAGEMENT JOURNAL
- ACADEMY OF MANAGEMENT PERSPECTIVES
- ACADEMY OF MANAGEMENT REVIEW
- ACCOUNTING AUDITING ACCOUNTABILITY JOURNAL
- ACCOUNTING ORGANIZATIONS AND SOCIETY
- ADMINISTRATIVE SCIENCE QUARTERLY
- BRITISH JOURNAL OF MANAGEMENT
- BUSINESS SOCIETY
- BUSINESS ETHICS QUARTERLY
- BUSINESS STRATEGY AND THE ENVIRONMENT
- CALIFORNIA MANAGEMENT REVIEW
- CORPORATE GOVERNANCE
- EUROPEAN MANAGEMENT REVIEW
- HARVARD BUSINESS REVIEW
- INTERNATIONAL ORGANIZATION
- JOURNAL OF APPLIED PSYCHOLOGY
- JOURNAL OF BUSINESS ETHICS
- JOURNAL OF INTERNATIONAL BUSINESS STUDIES
- JOURNAL OF MANAGEMENT
- JOURNAL OF MANAGEMENT STUDIES
- JOURNAL OF ORGANIZATIONAL BEHAVIOR
- LEADERSHIP QUARTERLY
- LONG RANGE PLANNING
- MANAGEMENT AND ORGANIZATION REVIEW
- MANAGEMENT SCIENCE
- ORGANIZATION SCIENCE
- ORGANIZATION STUDIES
- ORGANIZATIONAL BEHAVIOR AND HUMAN DECISION PROCESSES
- ORGANIZATIONAL RESEARCH METHODS
- PERSONNEL PSYCHOLOGY OR RESEARCH POLICY
- SLOAN MANAGEMENT REVIEW
- STRATEGIC MANAGEMENT JOURNAL
- STRATEGIC ORGANIZATION
- JOURNAL OF CLEANER PRODUCTION
- JOURNAL OF INDUSTRIAL ECOLOGY

Methods: Search Strings

Sustainability, ecology, adaptation, responsibility, triple bottom line, etc.

"sustainab*" OR "environmen*" OR "green" OR "ecol*" OR "adapt*" OR "resilien*" OR "responsib*" OR "triple bottom line" OR "cradle" OR "soci*" OR "ethic*"

Systems thinking, complexity, holistic

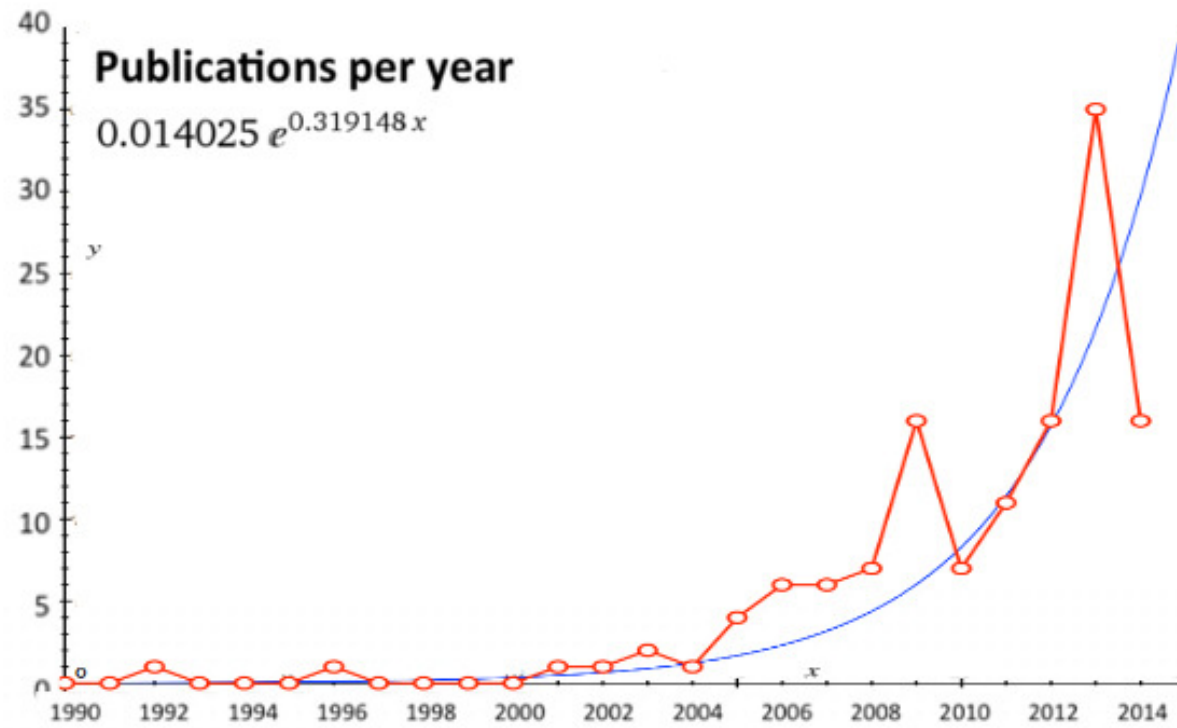
"system* theory" OR "system* thinking" OR "complex*" OR "holis*"

Methods

- 1509 articles in the first search
- Exclusion of articles based on criteria defined by the authors
 - Removed articles without a clear sustainability focus
 - Removed articles that did not take a systems theoretical perspective
- Two rounds of coding
- 132 articles in the final review

Journals include in the review

- *Journal of Cleaner Production* (76)
- *Journal of Industrial Ecology* (30)
- *Journal of Business Ethics* (7)
- *Business Strategy and the Environment* (3)
- *Academy of Management Journal* (2)



Level of Analysis

- Micro-level, such as leadership (3)
- Organizational processes such as innovation (9)
- Organizations (12)
- Cooperation between organizational networks (10)
- Socio-ecological systems (35)
- Paradigmatic perspectives (6)

Core Concepts

- Interconnections
- Feedbacks
- Adaptive capacity or resilience
- Self-organization
- Emergence

Research Themes

- Paradigms
- Behavioral Change
- Leadership
- Industrial Ecology
- Innovation
- Social-Ecological Systems
- Interventions

Systems Methods

- Systems Dynamics
- Life Cycle Analysis
- Agent-based Modeling
- Substance Flow Analysis
- Industrial Symbiosis

Future Research

- Dispersed application in mainstream management journals
- Integrated framework
- Organizational adaptation (not just limited to climate)
- Innovation in the systems building context
- Trans disciplinary research