



Proposal to the Eastern Academy of Management to conduct a discussion symposium regarding a systematic review of the body of research on innovation for sustainable business

Corporate Practices that Inhibit and Drive Innovation for Sustainability

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Background

We at the Organizational Dynamics Program at the University of Pennsylvania are engaged in a project on innovation for sustainability. The first phase of our research involves a comprehensive review of the existing body of research on innovation for sustainability. We are also planning to embark on a second phase of field research to document successful innovation for sustainable development.

We recently submitted a proposal to the Network for Business Sustainability (NBS) in response to a Call for Papers to conduct a *systematic review* (see Appendix A for references on systematic reviews) on “best practices” on innovation for sustainability. Such a review, while desirable, is a challenge for several reasons, including the sheer volume of material and the flaws inherent in a best practices approach. Those challenges are detailed below.

We seek a forum to discuss our research on innovation for sustainability at EAM’s upcoming conference on the implications of technology for today’s managers. We believe a symposium at the conference will educate participants on a critically important aspect of innovation for today’s organizations – that of sustainability and sustainable technology. We also believe that the discussion sessions that we propose at the end of this document will help advance our research on this topic.

Before discussing the structure of the symposium, we first consider the challenges to conducting a *systematic review* of the literature, the general challenge of innovating for sustainability in the workplace, and some of the benefits of a systemic approach to the research. We conclude with our goals for a symposium on innovation for sustainability at the EAM conference, with details on the format of the discussion, the questions to be considered, anticipated time frames, and the potential for conference participants to contribute to the discussion.

The challenge of conducting a systematic review on innovation for sustainability and the problem with a “best practices” focus

A Google Scholar search of *innovation* and *sustainability* identifies 400,000 works; adding review as a search requirement only narrows that to 181,000. Of course, much of these are tangential to our topic, but still they need to be filtered, and this before even considering synonymous terms, related topics or key works on innovation or sustainability that do not explicitly consider the correlate. To say nothing of pre-published work, or non-scholastic, professional insights that constitutes an integral part of a systematic review.

How then do we gain a handle on the material? The Network for Business Sustainability suggests a search for Best Practices, but we see several major problems with such a focus.

Best Practice Problem #1: a skewed literature

Published accounts inevitably over-report “findings” and underreport “non-findings.” A single successful initiative may generate an extensively cited laudatory report while hundreds of similar – but unsuccessful – initiatives will likely go unheralded. For every firm audaciously profiting by refusing to accept “the tyranny of the OR” [11]¹, how many silently decline for lack of decisiveness in accepting difficult choices?

Best Practice Problem #2: faulty methodologies

Scholars investigating the predictive power of the three over-the-top best-selling best practice business books of the past decades, *Built to Last* [11], *Good to Great* [12] and *In Search of Excellence* [13], find that the lauded firms did not, going forward, outperform by any metrics [14, 15]. Not surprising, given two serious (though common) methodological flaws.

- A. the *halo effect*, i.e., attributing causality to independent variables such as strategy, corporate culture, or “leadership” based on ex-post ad-hoc rationalizations [16]²
- B. *Sampling on the dependent variable*, i.e., ignoring selection bias. In the real, physical world these mistakes can be catastrophic. In essence, this was the error that led to NASA’s fatally flawed Challenger launch.³

1 Collins and Porris “six-year study of the world’s most successful and enduring firms” is widely accepted as a seminal popular book on best practices for both innovation and a kind of sustainability. The authors claim that their identified “Visionary Organizations” refuse to accept “the tyranny of the OR” e.g., a refusal to accept stability or progress; trade-offs between making money and quality or making money and doing good. They strive for both. Similarly, the authors claim such organizations refuse to be constrained by apparent limitations; rather they adopt “Big, hairy audacious goals,” i.e., make bold commitments that grab people in the gut.

² The halo effect: When a company’s financial or operating performance is strong, managers, consultants, journalists, and management professors tend to rate strategy, culture, and leadership highly, while rating the same strategies, cultures, and leadership poorly when a company’s performance is weak. [16]

³ For further explanation of *sampling on the dependent variable* and an example of the potential pitfalls – or catastrophes – that can result, see Freeman lecture notes on The Challenger Disaster, http://cpor.org/lecture_notes/CarterRacing.ChallengerLectureNotes.pdf

Best Practice Problem #3: biasing promotional incentives

Because innovation and sustainability are such hot topics, common distortions are magnified. Organizations, consultants and scholars alike have strong incentives to appear to be – and able to advise others on how to become – innovative/sustainable.

Best Practice Problem #4: anti-systemic, anti-organic

Thinking systemically implies thinking about whole systems rather than substitutable parts. Ferrari engines may well be in some way the world's "best," yet installing one in a Volvo is certainly sub-optimal and installing one in a Hyundai will likely make it inoperable. [17, 18] One company's best practice is not only unlikely to work equivalently well in another; it can destroy it. Conversely, practices or people rejected as worthless in one setting may be valued in another; for example, Specialisterne's success in employing autistics as highly specialized software testers. [19] No doubt many firms do benefit from HR "best practices" involving extensive social interaction⁴, but Specialisterne was able to find success, and its autistic workers an unexpectedly satisfying employment situation, precisely because they *ignored* HR conventions. Every organization and situation is unique, so no cookie-cutter solution can be optimal. The innovative ideal may even be entirely contrarian.

Searching for best practices regarding innovation is particularly -- and ironically -- misguided. Innovation can be broadly categorized as incremental or radical (evolutionary or revolutionary), but either way mimicry is antithetical to the process. Incremental innovation is a quintessentially systemic process, occurring as those who perform tasks reason about and experiment with alternatives. Adopted "best practices" interrupt this organic process of workers thinking about what they do in the context of how it's done, and finding improvements through organic experimentation. Radical innovation occurs when altogether new approaches are conceived. Almost by definition, adopting a best practice obstructs radical innovation. Adopting practices already established elsewhere preempts even the possibility of a new, organic innovation. [20]

The general challenge of innovating for sustainable business

Innovation and sustainability both represent extraordinary challenges for established organizations.

With roots in the 19th century⁵ military corps and 20th century mass production [1], modern organizations are literally designed to stamp out creativity. The 19th century army was designed to direct instruction downward, with the task of those below being not to reason why but rather to do and/or die. This all works well enough (at least for those at the top), when in fact they know best what ought to be done. Alas, successful innovations tend to occur almost exclusively

⁴ For example: Mariano Corso, Andrea Giacobbe, Antonella Martini, (2009) "Designing and managing business communities of practice", *Journal of Knowledge Management*, Vol. 13 Iss: 3, pp.73 - 89

⁵ For more on the military model and the European armies that were the first truly large, modern organizations, see Christopher Bassford, *Clausewitz in English: The Reception of Clausewitz in Britain and America*. (New York: Oxford U. Press, 1994). Revised and abridged, *Clausewitz and his Works* (2008): <http://www.clausewitz.com/readings/Bassford/Cworks/Works.htm>

at the lower levels where tasks are actually performed. The mass production factory achieved its extraordinary competitive advantage over the craft producers it replaced by standardizing parts and processes, enabling easy substitution of parts, people and programs. But standardization means stamping out deviation, a *sine qua non* of innovation. To innovate, organizations must do things almost inherently against their nature.

In some ways, sustainability is yet more antithetical to modern business than innovation. Modern organizations may not innovate well, but they don't question its value⁶, and even the most staid, rigidified enterprise has a founding story rooted in innovation. In contrast, executives view sustainability, whether used in an economic or environmental sense with circumspection. The first commandment of the modern public corporation is growth. Firms that cannot continually increase earnings cannot maintain investor support. Even a manager that secures highly sustainable profitability for the foreseeable future will nevertheless find his own position unsustainable if those profitability projections are flat rather than rising. The second commandment is the bottom line, to wit the long-standing, institutionalized corporate game of privatizing gains and collectivizing costs. A green-minded U.S. manager who chafes at this formula and foregoes even a penny of profit for the sake of environmental concerns is in violation of his legal fiduciary duty. A shareholder would be well within her rights to demand he be relieved of his responsibilities, and she'll find support from a vigorous movement for "better corporate governance." [3]

Parallel challenges in undertaking and understanding

We've delineated challenges in organizational innovation and business sustainability efforts because they actually parallel the research challenge. A systems approach suggests a parallel explanation of the challenges of both embarking on innovation for sustainability and studying it.

Change initiatives usually fail -- at every level: organization, department, individual, national. [4] The overwhelming proportion of organizational change initiatives are unsuccessful, and this is true even when we're talking about changes much more aligned with core organizational capabilities and values than innovation or sustainability ever can hope for. [5-7]

A broad explanation for unsuccessful change initiatives and un-illuminating research on organizational change is failure to account for system dynamics -- an understanding of living systems as homeostatic, that they (we) tend to a quasi-stationary equilibrium achieved by a balance of forces. [8] A change in any force or group of forces will move the equilibrium, and these are in operation all the time, but homeostatic systems resist change -- to try to maintain their integrity. So new forces are met with (usually hidden) counter-forces. To intentionally change the equilibrium of a dynamic system, one must understand the forces acting on it.

Forces motivating the sustainability movement are increasingly manifest. We can't help but see news of environmental degradation around the world, and see it directly in our own neighborhoods. Most people at some level fundamentally understand, for example, that an

6 Ranked #1 problem by University of Michigan Ross School of Business Executive education students [2].

ever-increasing dependence on fossil fuel leads to global warming, increased air and water contamination, and the search for ever riskier, more damaging sources of energy.

A would-be change-agent has two broad strategic options: (1) add or enhance driving forces, or (2) remove or reduce restraining forces.[9] The vast majority of change initiatives and studies of change initiatives invoke *option 1*; many seem never to even consider *option 2*. Applying force is the more natural choice because it can flow directly from an executive. It is easier to study such applications because they are more visible. But pressure usually generates counter-pressure. For example, in recent years, as environmentalists, scientists and public-spirited people of all stripes make increasingly dire pleas; correspondingly shrill pronouncements of global warming as a hoax increasingly confuse the U.S. public, and scare legislatures into relegating environmental issues to the bottom of the priority bin.[10]

The alternative of removing or reducing restraining forces is time consuming and not directly under anyone's direct control. Nevertheless, this strategy can be effective, and regardless, it helps *reduce the overall level of tension in a system*. Restraining forces are likewise far more difficult to identify and study. Often they are covert, and often just potential. But studies that do in fact identify these forces are likely the key to understanding when and how innovation for sustainability is successful and when how and why it stumbles, what are the leverage points and vulnerabilities.

A Systemic Approach

Including negative search terms such as "barriers," "failure," "restraining," or "tension" does in fact seem to generate articles with thoughtful observation and insights, especially among the non-scholarly literature, e.g. references. [21-24, 25] Another possibility is to look for what we might call "meta-practices" that incorporate systemic insights within their framework.

We may also begin with questions such as:

- Can we discern organizational conditions, contexts and agents that enable effective processes of innovation and change for sustainability?
- Can we identify organizational climates and cultures that allow innovation and change processes toward sustainability to emerge and agents to be effective?

As a step in the learning process, we believe that we can gain much from an exchange of ideas with the EAM conference participants as set forth below.

We take a systemic approach in order to avoid the pitfall of focusing on "best practices." That is to say, we do not want to identify successful traits, techniques or solutions and advocate that they be installed as replacement parts in other organizational settings. Our approach is more about enabling organizations to "discover what to do" than "decide or choose what to do." We will take a Complex Adaptive Systems (CAS) approach to this exploration of innovation for sustainability. [26] Innovation for sustainability will be examined as emergent, self-organizing

phenomena.

We hypothesize: If organizations effectively create *containers* and hold space where *differences* of thinking among agents and organizational stakeholders are expressed and exchanged, then significant *transformations* (breakthroughs/innovations) are enabled and can occur.

Discussion Symposium: Goals and Activity

Our goals in the discussion symposium at the EAM conference include:

- Explaining our research on innovation for sustainability and its importance
- Engaging participants in discussion of innovation for sustainability
- Learning from the information exchange to advance our research
- Getting this group of academics and business leaders thinking about innovating for sustainability and how myriad conditions in the workplace, including technology, might promote or inhibit such innovation

Activities and Structure:

We propose a 90-minute panel discussion with conference attendees as follows:

- Innovation overview – ideas associated with enabling innovation cultures, and the “story” (or stories) of an innovation journey in sustainability (30 minutes)
- Breakout sessions to explore key questions in innovation by drawing on the experience and expertise of attendees (30 minutes)
- A wrap-up session in which we reconvene all participants, explore critical themes in innovation for sustainability, summarize the takeaways, and chart a path forward for our research (30 minutes)

In the preliminary session, two of our team members will provide an overview of our research on innovation for sustainability – including Complex Adaptive Systems (CAS) concepts regarding innovation. This session will also frame a challenge. We will discuss the merits of a structured process to innovation, while also introducing the antithetical nature of implementing a *process* for innovation – as processes by nature are designed to limit change. We will use the actual story of an innovation journey in sustainability to help lay the groundwork for the breakout sessions.

We will then facilitate breakout sessions in which we split the participants to focus on any of several distinct discussion questions depending on the number of attendees and their specific interests. These will include:

- What elements of organizational culture tend to enable, or inhibit, general business innovation?
- What are the additional challenges associated with innovating for sustainability?
- How can we embed innovation for sustainability in organizational cultures so that it remains rather than fading away?

We will conclude with a third session bringing the groups together to share the results of their discussions. Drawing on participants' experiences, we will discuss the challenges of innovation and the additional challenges of innovating for sustainability – which we view as a “game-changer” for today's organizations. We will touch on concepts such as incremental versus radical change, managing failure, minimizing constraints to innovation, and the merits and challenges of a systemic approach. We will capture data on enablers and inhibitors of innovation with a focus on developing ideas on how to let innovation for sustainability *emerge* in organizations, and how best to learn from the journey.

We believe that this discussion process will build upon the main theme of the Conference, that of how technological innovation impacts today's managers, and prompt participants to think more broadly about how to innovate to drive sustainability in organizations – which is arguably one of the most pressing issues of our time.

The University of Pennsylvania Organizational Dynamics Program

The mission of Organizational Dynamics is to create and deliver multi-disciplinary and integrated education to enable our working students to be more effective leaders and sources of sustainable development and creativity in their professional pursuits.

Through exchanges and critical evaluation of theory and practice, our students and faculty enhance their competencies and creativity thereby increasing personal and professional value, effectiveness and satisfaction. Organizations, as sponsors of many of our students, also benefit from the practical application of the program. Through supervised coursework and collaborative projects, students deliver opportunities to have their organizations' challenges better understood, properly framed and efficiently addressed. Organizational Dynamics is committed to being a strategic educational contributor that enables individuals, groups and organizations to more effectively navigate an increasingly complex, rapidly changing and culturally diverse world.

Appendix A: Articles on Systematic Reviews (or related topics)

*Briner, Rob & David Denyer. 2010. “Systematic Review and Evidence Synthesis as a Practice and Scholarship Tool.” Chapter in Denise Rousseau (Ed.) *Handbook of Evidence-Based Management: Companies, Classrooms, and Research*. Oxford University Press. Retrieved November 11, 2011 from <http://www.cebma.org/wp-content/uploads/Briner-Denyer-Systematic-Review-Evidence-Synthesis.pdf>.

Campbell Collaboration. 2010. Retrieved November 11, 2011 from www.campbellcollaboration.org.

Denyer, David, and David Tranfield. 2006. “Using qualitative research synthesis to build an actionable knowledge base.” *Management Science*. 44(2): 213-227.

Higgins, Julian and Sally Green. (Eds). 2009. *Cochrane Handbook for Systematic Reviews of Interventions Version 5.0.2*. Retrieved Sept 22, 2010 www.cochrane-handbook.org.

LePine, Jeffrey A. & Adelaide Wilcox-King. 2010. "Editors' Comments: Developing Novel Theoretical Insight from Reviews of Existing Theory and Research." *Academy of Management Review*. 35(4): 506-509.

Mulrow, C.D. 1994. Rationale for systematic reviews. *British Medical Journal*. 309: 597-599.

Petticrew, Mark & Helen Roberts. 2006. *Systematic Reviews in the Social Sciences*. Blackwell Publishing.

Tranfield, D., D. Denyer and P. Smart. 2003. "Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review." *British Journal of Management*. 14(3): 208.

Tranfield, D., D. Denyer, and J. Marcos. "Co-producing management knowledge." *Management Science*. 42(3/4): 375-386.

Actual Systematic Reviews

References

1. Perrow, Charles (2002) *Organizing America: Wealth, Power, and the Origins of Corporate Capitalism* (Princeton University Press)
2. Prahalad, CK and MS Krishnan (2008) *The new age of innovation* (McGraw-Hill)
3. Karnani, A. (2010) "The case against corporate social responsibility" *Wall Street Journal*. 23: p. 1-5
4. Schein, E. H. (1987) *The clinical perspective in fieldwork. Qualitative Research Methods Series. Vol. 5* (Sage)
5. Kotter, J.P. (1995) *Leading change: Why transformation efforts fail. Vol. 73* (Harvard Business School Publ)
6. Kotter, J.P. and L.A. Schlesinger (2008) "Choosing strategies for change" *Harvard business review*. 86(7/8): p. 130
7. Beinhocker, E.D. (2007) *The origin of wealth: Evolution, complexity, and the radical remaking of economics* (Century)
8. Lewin, Kurt (1952) *Group Decision and Social Change. Reading and Social Psychology*. New York: Holt, NY
9. Schein, E. H. (2010) *Organizational Culture and Leadership. 4th Edition* (Jossey-Bass Publishers)
10. Pielke, Roger A. (2010) *The climate fix: what scientists and politicians won't tell you about global warming* (Basic Books)
11. Porras, J.I. and J.C. Collins (1994) *Built to last: Successful habits of visionary companies* (HarperBusiness)
12. Collins, J.C. (2001) *Good to great: Why some companies make the leap--and others don't* (HarperBusiness)
13. Peters, T.J. and R.H. Waterman (1984) *In search of excellence: lessons from America's best-run companies* (Warner Books)
- Adams, Richard, John Bessant & Robert Phelps. 2006. "Innovation management measurement: A review." *International Journal of Management Reviews*. 8(1): 21-47.
- Joyce, K., R. Pabayo, J.A. Critchley & C. Bambara. 2010. "Flexible working conditions and their effects on employee health and wellbeing." *Cochrane Database of Systematic Reviews*. ISSN 1464-780X.
- Karjalainen, Katri, Katariina, Kemppainen & Erik van Raaij. 2009. "Non-compliant work behaviour in purchasing: An exploration of reasons behind maverick buying." *Journal of Business Ethics*. 85(2): 245-261.
- Pittaway, L., M. Robertson, K. Munir, D. Denyer, A. Neely. 2004. "Networking and Innovation: a systematic review of the evidence." *International Journal of Management Reviews*. 5-6(3-4): 137-168.
- Walker, Kent. 2010. "A systematic review of the corporate reputation literature: Definition, measurement, and theory." *Corporate Reputation Review*. 12: 357-387
14. Resnick, B.G. and T.L. Smunt (2008) "From Good to Great (review)" *The Academy of Management Perspectives*. 22(4): p. 6-12
15. Niendorf, B. and K. Beck (2008) "Good to Great, or just good?" *The Academy of Management Perspectives*. 22(4): p. 13-20
16. Rosenzweig, P. (2009) *The Halo Effect:...and the Eight Other Business Delusions That Deceive Managers* (Free Press) <http://www.the-halo-effect.com/>
17. Ackoff, R.L. (1994) "Systems thinking and thinking systems" *System Dynamics Review*. 10(2): p. 175-188
18. Ackoff, R. (1970) "A concept of corporate planning" *Long Range Planning*. 3(1): p. 2-8
19. Wareham, J. and T. Sonne (2008) "Harnessing the Power of Autism Spectrum Disorder (Innovations Case Narrative: Specialisterne)" *Innovations: Technology, Governance, Globalization*. 3(1): p. 11-27
20. Dougherty, Deborah and Trudy Heller (1994) "The illegitimacy of successful product innovation in large firms" *Organization Science*. 5(2)
21. Quinn, JB (1991) "Managing Innovation: Controlled Chaos in Entrepreneurship Creativity at Work" *Harvard business review*. 81: p. 94
22. Kanter, R.M. (2006) "Innovation: the classic traps" *Harvard business review*. 84(11): p. 72
23. Loewe, P. and J. Dominiquini (2006) "Overcoming the barriers to effective innovation" *Strategy & leadership*. 34(1): p. 24-31
24. Pontiskoski, E. and K. Asakawa (2009) "Overcoming barriers to open innovation at Apple, Nintendo and Nokia" *World Academy of Science, Engineering and Technology*. 53: p. 372-377

25. Andrews, Peter (2006) "Five barriers to innovation: Key questions and answers" IBM November 2006

26. Olsen, E. and Eoyang, G.H. (2001) Facilitating Organization Change: Lessons from Complexity Science (John Wiley & Sons, Inc.)