

# The Principle of Sustainable Innovation

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## Introduction

I begin this essay with an open confession of my intent to exploit the ambiguity of the term ‘sustainable innovation’ in the title above. Indeed, there is an intentional double entendre at work here, one that I feel I should acknowledge and explain before I proceed. On the one hand, there can be sustainable innovation in the sense that what gets produced or created by a firm or, indeed, the enterprise itself, is sustainable. On the other hand, there can be sustainable innovation in the sense that the innovation *process* employed by a firm is sustainable.

To illustrate my point using an exaggerated example, consider a firm that has devoted all of its human resources to innovating new products or services with, say, environmental stewardship in mind. While the rate and quality of innovation in such a firm might exceed all expectations, its innovation regimen, per se, would hardly be sustainable. Despite the merits of its enterprise, with everyone engaged in product and service development, there’d be no one left to tend to the day-to-day needs of the firm, such as making products, filling orders, or dealing with customers. Clearly, there is a difference between the notion of sustainable innovation in the *enterprise* or work *product* sense of the term, versus innovation, per se, that is sustainable in the work *process* sense of the term. The former deals with innovations and the enterprises in which they are produced, while the latter deals with the innovation

process, itself, as a component of the value chain and which is independent of products produced or the sustainability of a firm.

With this important distinction in mind, I choose to use the term, sustainable innovation, in such a way that both senses of the term are invoked. In my vision of sustainability in business, the idea not only applies to *outcomes* in the product or enterprise sense of the term, but also to the *process* through which outcomes, or innovations, are created. In fact, I believe that sustainable practice in business (outcomes) are utterly dependent upon whether or not sustainable innovation *processes* are in play – the former cannot exist without the latter. This is not to say, however, that sustainable innovation programs will always lead to sustainable businesses, or that firms which practice sustainable innovation will always be sustainable in their commercial affairs. But I do believe that sustainable commerce in business is at least unlikely in the absence of sustainable innovation.

## Unsustainable Innovation

Let’s turn back the clock of time for a moment and go back to the period during which the company, Johns Manville, started to become aware of the disturbing reports on the dangers of its asbestos products to human health. Let’s assume that those reports were known to management, as the legal record suggests they were; and let’s further assume that instead of concealing that knowledge from its employees and

from the public at large, the adverse effects of its products on human health were freely publicized and openly shared by management there. How many Johns Manville employees, if given the chance, would have opted to move ahead with the company's products in the face of that knowledge? A majority? I don't think so. Chances are that Manville's patently harmful products would have been stopped dead in their tracks at the first sign of trouble in the marketplace. Why? Because they were unsustainable – *to say the least*.

Now let's take the same trip backwards in time to the tobacco companies and ask the same question of their employees. Next we move on to the workers of NASA prior to the Challenger disaster (O-ring failure), and ask their employees. Then on to the workers of Ford and Firestone (tire failures); Monsanto (biospheric and genetic contamination); Texaco (racism); Royal Dutch Shell (cultural and environmental devastation in Africa); DuPont (ozone layer destruction by CFCs); and Exxon (the Valdez disaster). Instead of deferring to the closed-door policy- and decision-making regimes of all these practitioners of questionable commerce, what if the patently unsustainable nature of the practices planned and authorized by each of them had first been subjected to critical review by their employees, their customers, the communities in which they operate, and society in general? What if, instead of confining the innovation process in each case to secretive centralized teams, ideas planned for commercial deployment had been hatched, instead, by broad coalitions of stakeholders as opposed to oligarchical authority structures operating in the shadows of senior

management? Under the close scrutiny of stakeholder review, how many of these offenses would have ever seen the light of day? Not most, I think.

After years of witnessing such travesties in business, not to mention the less disastrous but no less questionable decisions firms make about their own core businesses from one day to the next, one starts to get the impression that things may have far less to do with bad decisions being made by bad decision-makers than they do with bad-decisions being made by bad systems! Is it possible, I've asked myself, that the knowledge-making or innovation regimens employed by mainstream businesses are somehow corrupt, and that they are responsible for the poor quality of decisions so commonly made by even the most successful, most experienced firms? My conclusion? Not only possible, but probable. Why? Read on.

### **Politics of Knowledge**

The questions I often ask about how innovation is handled or managed in a firm include queries like: *How is innovation structured in the firm? Who gets to make business strategy here? Who gets to decide on which products or services to offer? Who gets to determine what business processes will be followed? Or what markets to be in? Or whether or not to bribe that dictator in Africa whose forests we plan to rape and whose people we plan to displace? Who gets to decide what we'll do on these and other matters? In short, who gets to participate in making the knowledge here that we'll all be asked to embrace and support? How does knowledge making happen around here?*

I also find it useful to think of knowledge making in political terms. I call this idea the *Politics of Knowledge*. When viewed from a political perspective, knowledge making in business usually takes the form of oligarchies, or worse yet, authoritarian dictatorships. In any case, knowledge making power is usually vested in the hands of the privileged few in most firms, those we call senior management. What a waste we make of the creative power of the vast majorities who work in such firms as Ford, Firestone, DuPont, Exxon and the others, but who happen to lack a seat at the knowledge-making table, as it were. I am convinced that at some point in the hopefully-not-too-distant enlightened future, managers will look back on the politics of knowledge as it existed in the late-twentieth and early-twenty-first centuries and say to themselves, '*What a foolish waste of human capital that was! This business of relegating innovation to the hands of a few while ignoring the power of the many. What could they possibly have been thinking?*'

Under these circumstances, it's no wonder that the outcome of such distorted knowledge-making regimes so often consists of extraordinarily bad ideas. Peer review and the kind of vetting that comes only from stakeholder and community validation is endemic to effective knowledge making in human social systems – *whole* human social systems, not just their politically privileged subsets. Sociologists know this. Anthropologists know this. Even the science of complexity has acknowledged this principle as beautifully expressed in its *complex adaptive systems theory*, or 'CAS' theory. CAS theory is, by any other definition, a theory that explains the

ontogeny of knowledge making and organizational learning in living systems, including human systems.

### The 'Knowledge Drive'

Human social systems come pre-programmed with knowledge-making routines that have evolved over the millennia, and which inevitably emerge under their own steam from within the social milieu found in all organizations. Indeed, innovation is a self-organized, self-propelled process in human social systems. Organizations, societies, communities and businesses are all *knowledge-making regimes* at their most fundamental level. That's what they do! Moreover, they require no special management or supervisory direction to engage in innovation. Rather, human social systems tend to self-organize around the production, diffusion and use of new knowledge purely as a consequence of the interplay between individuals and groups engaged in the pursuit of common goals.

It is perhaps important to point out here that the corporate form of business organization, and its attendant management hierarchy, is only a 100-year old concept. Somehow, we all managed to get along just fine in the millennia that preceded the corporation when it came to innovation and the advance of human knowledge. It would seem worthwhile, then, that we give some serious thought to the manner in which humanity has managed to produce its knowledge during all those centuries without the benefit of centralized planning and control. Shouldn't today's attempts to improve business innovation be subject to inspiration and enlightenment from such insights? Is, as the *Wall Street Journal* recently

speculated, *self organization* ‘the next big thing’ in business?

Self-organization is not only real, it accounts for how human knowledge has evolved over the millennia, and for how we have, until recently that is, always managed to innovate in sustainable ways. Now, however, we seem content to forget or ignore this hereditary social process and to distort it with the most unnatural, disruptive knowledge-making routines found on earth. We treat innovation as though it were an administrative process, as if we were commanding plants to grow in a garden while foolishly overlooking the fact that plant growth stems from endogenous forces, not human design. Only we humans do this.

To achieve this we create artificial knowledge-making groups and give them names like R&D, or Product Development, and we command them to make new knowledge. Meanwhile, the vast majority of our business populations stand by and wait for the next great idea to come flying over the wall with corresponding marching orders for the masses. We’ve reduced the bulk of our workforce in business to a regimen of knowledge-following, while we systematically ignore their infinite knowledge-making potential at the same time. In the process, we infantize the majority of our workers and expose ourselves to the limitations of oligarchical knowledge making and to the dangers of unvalidated innovations.

This is our common approach to innovation in most firms, and it is utterly unsustainable because it conflicts with the manner in which human social systems are pre-programmed to make new knowledge. It should come as no surprise to anyone, then, that the fruits of such systems are, themselves,

unsustainable. How could they be otherwise; they’ve not been subjected to peer review or community validation? Indeed, unsustainable innovation regimes routinely beget unsustainable human behaviors and work products. The one inevitably leads to the other.

This takes me to my notion of ‘policy synchronization’ as a sound basis for achieving sustainable innovation in *both* senses of the term. I believe that the ways in which we organize for innovation in a firm should be aligned with the endemic patterns of knowledge making I referred to earlier. Think of it as analogous to the sex drive. You don’t legislate sex, you get out of its way and adopt policies that foster its natural expression. Or at the very least, you avoid adopting policies that might conflict with its self-organized fulfillment. This is not to say that artificial insemination and reproduction are not possible. Of course they are, and we practice such methods. But all of them are predicated on a deferential understanding of how reproduction unfolds in its characteristically self-organized way. In other words, we defer to *its* process, not ours, and we tailor our policies and practices, accordingly.

With this principle of self-organization in mind, I ask why our approach to knowledge making should be any less deferential than the one we take towards sex making? If knowledge-making behaviors, like sexual behaviors, are truly intrinsic to human social systems, then the best approach to enhancing innovation is arguably the same one that has worked so well for us in the domain of sexual affairs for time immemorial: *accept the fact that it’s a self-organized process which works best from the bottom up, and which is free from meddling management!*

Innovation-related policies and programs should be crafted, accordingly, especially those conceived with innovation *enhancement* in mind.

What I'm suggesting here is that innovation-related policies in human social systems should be synchronized with the endemic tendency of such systems to self-organize around the production, diffusion and use of knowledge. While in most management circles conventional wisdom tells us that 'behavior follows from policies,' in the domain of knowledge making and business innovation, it is precisely the opposite that holds true: *policies should follow from behavior!* By synchronizing innovation-related policies and programs with implicitly-held patterns of self-organized knowledge-making behavior (i.e., the "knowledge drive"), businesses can realize the incomparable advantage of achieving *both* sustainable innovation and sustainable business in commerce.

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#### About the Author

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Prior to forming his company, Mr. McElroy held such positions as Partner at KPMG Peat Marwick, Senior Manager at Price Waterhouse, and Principal at IBM's Knowledge Management Consulting practice in Cambridge, MA. In all, he has 23-years' experience as a management consultant.

Mr. McElroy also holds various leadership positions in the Knowledge Management Consortium International (KMCI), including Chairman of the KMCI Institute's Governing Council, the educational arm of the organization,

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