

Adding To The Innovation Taxonomy

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ABSTRACT

Innovation might be described in a number of categories: radical, disruptive, incremental, or, by type, product, process, and service innovation. Social and conceptual innovations are decidedly more abstract. In recent years, open and also frugal innovation has been defined. This essay suggests and contemplates four additional concepts. Mesovation is in between radical and incremental innovation. Exovation stands for systematic ways to reduce barriers to innovation. Metovations are novel methods or systems affecting conditions for innovation. Lastly, ynovation would be cultural innovation.

Introduction

Taxonomy is often spoken of as an old-fashioned discipline, Edward O Wilson complains (Wilson2013). He then continues to underscore that, instead, taxonomy is plain fundamental. What holds for Wilson's biology holds for most of science.

In the field of innovation, Schumpeter included organizational innovation with product and process innovation. We have incremental, radical, and disruptive innovation, institutional (Hagel and Brown 2013) social and conceptual innovation (Vedin 2007). Often definitions and delimitations may be seen as problematic or diffuse, but highlighting problems can also be productive. When we leave technological product innovation, the term innovation may be invoked to add positive connotations, creating a value statement.

OECD has suggested that innovation be used for an idea translated into success with the qualifier "most often in the marketplace". Perhaps the qualifier must be dropped when it comes to social, conceptual, and other abstract innovations. The point is that an idea, an invention, something new, even a patent granted, does not equate with success, so does not per se qualify for the innovation label. (There is at least one case of a person who was just interested in acquiring patents without applications, as a kind of badges of honor, that was *his* measure of success. The Patent Office tried to prevent his practice as they regarded it as a profanation of the patent system. Patent fees made this hobby decidedly costly.)

In this article, I intend to add four types of innovation to the taxonomy (Futuretakes 2010-2011). Quite naturally, they feature numerous links to the more common innovation categories. Like much taxonomy they provide tools to help us contemplate. Others have also provided useful additions to the innovation taxonomy, such as the concept of 'frugal innovation'.

In praise of mesovation²

All too often, simplifications may lead us astray. Is taking radical as the opposite of incremental or in small steps one such contrived simplification – and one that risks misleading us?

Creativity researcher David Henry Feldman urges us to remember what he refers to as Middle C, in allusion to the musical note of the same name ("high C"). In other words, we tend to talk about Great Creativity, big ideas and radical breakthroughs, or (if we refer to them at all) we talk about the opposite – small creative incremental jumps – as more of an aside. This despite the fact that, when taken together, many small leaps can make a real difference.

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² Innovationmanagement. (2009, Dec 7) In praise of mesovation. Retrieved from the Innovationmanagement website <http://innovationmanagement.se/?s=mesovation>

The point of a Middle C is to remind us that we are dealing with a continuum – a continuous, sliding scale – where what is radical to a greater or lesser degree is in the eye of the beholder, determined by the observer's outlook or vantage point. If a researcher or practitioner focuses on the one or the other end-point of the scale, there is the risk of being led astray. In reality, how often does an idea actually reach the absolute extreme – high or low?

To refer to innovation instead – radical as opposed to incremental – is, of course, no different at all if we stick to creativity applied to technology or business in a broad sense. Quite reasonably, business idea or innovation competitions encourage what seems like big leaps, while work relating to improvements and sometimes suggestions for improvements – *kaizen* – is the preserve of smaller-scale efforts in terms of radicality: "middle" or "small i" innovation, product renovation.

After all, no-one is on the look-out for small advances, no-one competes to achieve modest innovation, and no-one receives recognition for a level of inventiveness that, despite not being low, is still only moderate: mesovation (micro, macro, *meso*). Do we not, then, run the risk that the best becomes the enemy of the good? Why not also reward mid-level creativity?

The same goes for those of us who are creativity and innovation researchers. By the very nature of things, it is the radical, attention-grabbing breakthroughs that end up in the spotlight. But what do we thus miss out? What do we lose in terms of a more general understanding that could be applicable at both high and low levels, both at the highly innovative and incremental ends?

Should this not be an appropriate aspiration for Swedes, who have a special word for that which is just right – *lagom* – a word lacking a satisfactory translation into many other languages: *appropriate* would be the appropriate English counterpart (almost)? Of course, it is hardly appropriate to call for an ombudsman to champion all that is *lagom*, but wherever an adequate solution is lacking, a niche arises for unique competitiveness. Within the market for goods and services, Middle C and mesovation could be a factor for gaining a competitive edge, while not something that creates its own specific industry. The challenge, and the productive question, might be how to meter on the scale from radical to incremental. Or perhaps this linearity is deceiving so more dimensions would be of utility? The distinction between market and technology comes naturally, as the one of process versus product – and then service! Are there, for example, particular evolutionary rules for transitions along that sliding scale?

When it comes to research and education, however, the situation is quite different: 'radical' may be a risky proposition, a stance apart, something too far from the mainstream to merit any attention. But if a field has not been studied, if the 'radical' proposition can be sustained, there are plenty of opportunities for making discoveries that bring their own reward – cited articles, titles, positions, and grants that belong to the realm of scientific endeavor.

Exovation– the flip side of innovation

It is unlikely that you have ever met the concept of *exovation* before (unless you low innovationmanagement.se)(Innovationmanagement 2010, Jan. 25); I invented it in April 2008. Invented? Yes, indeed – even if a Google search obtains a couple of hundred hits; but they have nothing to do with the concept as I have defined it. As you will see, presently.

What are the obstacles to innovation? Numerous, to be sure. A company credited with profound concern for innovation and thus featuring important qualities is 3M, the corporation of Scotch Tape and Post-It Notes fame. Academics and journalists alike have fallen for their charms, though criticism has also been voiced.

One of their innovation mechanisms is found in the establishment of what must be seen as outspoken and precise criteria for renewal. Each and every business unit has to get a certain share of their revenue, thus a quotient, from products that are younger than a certain amount of time. So X per cent of revenue must be generated from products that are no older than Y years. (The reason for not mentioning X and Y is that they have been adjusted at least once to reflect a need for higher speed, and I am not certain what the current levels are.) – The criticism I mentioned takes issue with a quantification that may be subject to manipulation, a risk when applying rules blindly and rigidly. So wisdom and common sense must prevail.

The obvious route to achieve the required share is to get new products going, to innovate. But do recall that I talked about a quotient: new products enter in the dividend, but to get the ratio, there is the divisor too. In this case, we have seen it consist of revenue generated by the 'old' products, aged more than Y years. So a complementary way of achieving the demanded quotient would be to reduce the divisor.

It is here that we find exovation, the power of GETTING RID OF (some of) prevailing products... Behind the 3M dictum we find the profound insight that there are older mainstay products that are just about marginally profitable, if even that and not just forgotten living dead, all the while requiring attention, engagement, involvement, management resources, routine but not-for-free upkeep such as storing, catalog updates, inventorying, information in data bases, and bookkeeping (and what more, on the downside?). All those activities take focus away from the creation of novelty, all such ties to the past, all routines that create lock-ins – demanding time, attention, interest, engagement, thinking, management concern.

Another large American corporation showcases a very different type of exovation: the organization of and in its future. They have recognized that the organization of today reflects and thus tends to permeate the past; while the only thing that is entirely certain is that the future will be different. Therefore they have created a skeleton *alternative* organization for the future as anticipated (in some kind of scenario/s), an organization with its own resources for creating novelties, for innovation. And creating vistas for closing down the past, routes to exovation.

Since the guesses about the future are certain to be wrong, or not entirely right, there are free resources for projects that do not fit either the current or the skeleton future organization but that still merit being treated as lottery tickets.

When Jimmy Carter was elected US president in 1976, an important pillar of his platform was better federal management. One particular management practice, fashionable then, that he had practiced as Georgia governor, was zero-base budgeting, and this was highlighted in his campaign (Carter 1976). The underlying philosophy is, in my parlance, about organizational exovation: in each and every organization, there is an inertia that makes it continue doing just as during the previous year – with 4 per cent more in the budget, "proceed as we have always done", or maybe a 3 per cent reduction on the margin.

The zero-base budgeting recipe demands starting all over from the very beginning every year, relying on first principles to really understand what is worth paying for, what merits resources, what the trade-offs really are. As with so many radical recipes, this would be just too demanding to be followed to the letter, overall and every year, but basically the recipe constitutes an important exovation proposition.

An obvious route would be to design several more practical means to translate 'more for the future, less to the past' in practice.

As Michael Hammer (Hammer 1990) said 'don't automate, obliterate' when preaching business process re-engineering: another attempt at exovation of sorts.

What might a program to develop methods for furthering exovation look like? An obvious route would be to design several more practical means to translate 'more for the future, less to the past' in practice. Another would be to have society at large, or government, be an exemplary forerunner rather than contributing to detrimental friction, utopian perhaps, but I have seen an example of how the soft infrastructure in society if not got on to furthering exovation, at least a novel rule requiring R&D investments compulsory in annual reports for public companies made for more focus on R&D, and, as a consequence, on innovation. Much the same may result from accounting practices and stock market information rules. Sunset legislation is a legal avenue to exovation. Sunset practices in organizations, in companies?

A natural approach for a researcher is to suggest that we collect, organize, and promote what we already know about how existing projects get in the way of new ones – like Thomas J Allen has demonstrated how dangerous it is to decide on one single development trajectory too early into a project. Above, I listed a number of ways in which existing products contribute to inertia; that list might be enlarged, systematized, and its various components given weights.

New opportunities, new rules(?) with metovation

Now for my next neologism: metovation (Innovationmanagement 2010, May 3). Meto- in metovation stems from the prefix meta- where I for easier pronunciation exchanged *o* for *a*. Meta is of Greek language origin and stands for the next higher level of abstraction.

Thus meta-art is art dealing with art – metaphysics would be that kind of physics that organizes the more concrete physics, only that the term ‘metaphysics’ has acquired a somewhat particular meaning.

Therefore metovation equates with novelties, with innovations in the very ways of producing the ‘ordinary’ innovations, thus new conditions for innovation. One obvious example is open innovation, something heralded prominently in more than a decade. A Google search for meta-innovation results in the suggestion of ‘systemic innovation accelerating innovation’ – so a condition again.

Conditions for innovation: that would involve the very fundamental settings for business, industry, and entrepreneurship too. The wisdom (and funds) of crowds can be mobilized. As an example, idealism and volunteering have always existed but the developments in open source and freeware must be regarded as contributing something fundamentally novel – when something is transformed from marginal to mainstream, it heralds a new dimension; quantity mutates into quality.

What, then, may be the reasons for working for free, to generate resources for others to utilize and exploit? One human motivator may be conscience and generosity– altruism – another a realization of that there is power in reciprocity and thus a plus-sum game – as I do, others will follow, which is to my gain. Yet another component may be reputation and track record, which may be translated into commissions and offers of employment. And there are other business twists, such as those who ‘sell’ freeware, that is, offer it for free but charge heavily for what might be called a user’s guide. Free apps contain taunt to buying additional allures. Donation-ware appeals to conscience and a sense of justice.

It is hard not to see the Internet as a metovation. It may be claimed to be an innovation, an infrastructure, a marketplace – as well. These alternate denominations capture different aspects of the Internet, and the very fact that several are needed makes it a metovation. The Internet has, for example, spawned Second Life where virtual creations (like avatars) may be exchanged for Linden dollars™, a currency that may also be exchanged for real money, real dollars. Linden Labs, the company behind Second Life, has created its innovation on the basis of the metovation the Internet.

How would an entrepreneur, an inventor, or the managers of companies regard and treat metovations? As these examples highlight, metovation is most often something too generic to benefit just a particular individual or corporation – metovation offers new opportunities, possibly on another scale, and here it is up to entrepreneurs and inventors to latch on. ‘Open innovation’ may open up new channels for otherwise homeless ideas, while its close relative innovation from pioneer users may cause upheavals in competition space. Likewise for freeware.

But new vistas by way of new business models open up, as the example of revenue-generating user’s guides for free software or Linden Labs currency demonstrate; the Internet and cyberspace positively brim with innovation. The Internet, Google, and many more also exemplify how sometimes the revenue model evolves or is invented only after the launch of an idea – and sometimes the expectation or hope that such a model will evolve turns out to be wishful thinking. Topsy-turvy business models is of course nothing entirely novel; a shaver for free to sell razorblades is a classic case, Xerox’ nice, reasonable way of charging per copy another example of a profitable prescription. The future has only just begun, tomorrow never comes...

The argument for ynnovation³

Let us dwell again on innovation as something – an idea or a family of ideas – that has become successful. Most often, that success has been achieved in the marketplace, but success may take on other faces as well. What about culture, and to what extent would culture be amenable to design? Let us consider some examples.

³Innovationmanagement. (2010, Dec. 21). Introducing ynnovation. Retrieved from the Innovationmanagement website <http://innovationmanagement.se/?s=ynnovation>

If you were to visit a Catalan village or town festivity, celebrating something, Midsummer, for example, you just might be struck by a seemingly odd scenery: people dancing around a pile of ladies' handbags, with some small kids topping the pile. The circle dance is *sardana*, possibly (if somewhat doubtfully) with roots in ancient Greece. Variations have been danced for centuries in Catalonia, been danced and been forbidden, the last time by Franco who judged it to be a symbol of Catalan nationhood.

The modern *sardana*, however, the 'long' one, is a more recent invention, music-wise by Josep'Pep' Ventura, and step-wise by MiquelPardàs. Ventura equipped the orchestra, the *cobla*, with eleven musicians – previously there had been a trio – and with a newly invented wind instrument, the *tenor oboe (tenora)*, possibly inspired by him and in any case developed by AndreuTouron in northern Catalan (thus in France) Perpignan; these developments occurred in the mid-19th century. The *sardana* thus designed became one of multiple symbols of Catalan culture during the *renaixença*, the renaissance or reawakening, which emerged at this time and grew increasingly vivid.

In the Estonian archipelago, a farm that previously had been a collective has remade itself (redesigned its 'brand') into a farm with Swedish roots – Estonia was part of Sweden for some 160 years, and already in the Viking age Swedish language farmers settled on some of the islands. For the collective that no longer was, this identity or brand had at best shaky foundations but after the Russian and communist epoch, a positive identity instead of a threatening one was eagerly sought.

About the same time as the Catalan renaissance, there was a movement in Norway to become more 'Norwegian', politically independent of Sweden (the two countries had one and the same ruler), linguistically substituting the written language, Bokmål, which in fact was written Danish, with something indigenous. One leading enthusiast was IvarAasen who toured the country to discover or compile the 'true' Norwegian, which he synthesized (designed?) into neo-Norwegian or, in Norwegian, Nynorsk. In reality, no outright substitution took place so Bokmål and Nynorsk now coexist (with state media by law giving each one equal billing). Several more 'modern' languages have a similar story of being 'invented' or 'reawakened' or synthesized (or indeed designed), Hebrew and Turkish among them. Esperanto is of course an example, out of several, of a fully synthetic – invented – language. (The bare-bones sketches here skip over intricacies and nuances of a vastly more complex reality.)

Americans more than others are alert to how original their political union of 1776 was: to obtain liberation from a 'mother' country – doing so by forming an association between thirteen separate colonies some of them starkly different – different with respect to, e. g., religious creed and economy – and with important power maintained on the individual colony, i e, state level; to create a republic in a world dominated by kings and emperors – Switzerland the obvious exception – indeed something sufficiently original to qualify as an innovation of sorts (a design, someone?). But what sort? (Oh yes, Athens had been republican of sorts, as was Rome before Cæsar.)

With the definition of innovation as an idea that has achieved success, the disparate examples given do qualify as innovations, don't they? But what should the category be termed? Cultural innovation would seem to apply more to new styles like rock, rap, gangnam style, surrealism, or cubism. Social innovation is a category already existing, and for something a bit different. Symbolic or semantic innovation?

Some thirty years ago, two Swedish researchers, Edquist and Edqvist, highlighted the sometime importance of *social carriers* for techniques for development (Edquist and Edqvist 1979).

Esperanto and Nynorsk obviously crave – serve as carriers for the need of – dictionaries and grammars: *cultural carriers*. *Sardana* is performed outdoors so the *cobla's* instruments have to produce sound sufficiently loud. And the 'long' *sardana* became a carrier for AndreuTouron's invention the *tenora oboe*, thus transforming it into an innovation, certainly a designed one. For unknown entities, mathematicians use x, y, and z. Let's choose to apply y and term this kind of innovation *ynnovation*. (Exovation might be spelled xovation, leaving only z to be employed.)

Cause-and-effect relationships can often be disputed or discussed, possibly generating an understanding of something as more of a symbiotic relationship; Darwinian evolution applies to culture, which Dawkins suggested encapsulating in the concept of *meme* (Dawkins 1976). The driving force behind all the examples here seem to be a striving for identity, and that identity was not just expressed through the *sardana*, Nynorsk, Turkish, or the American constitution but something wider and more profound. What other forces

might be conducive to ynnovation, with its elements – which are they? – of design? What might be the carrier for or impetus to ynnovation, and what might a particular ynnovation serve as a carrier for? What technologies and innovations might be spawned or brought into existence symbiotically, by or with ynnovation? Facebook and social media in general come to mind since they are currently so topical. As always, the challenge is to perceive the coming topicality before it occupies main stage.

So: our scope should be widened to encompass *ynnovation* as well. The attempted contribution here is to give it a name, to design it in the sense of giving it a sign, creating a concept without which the phenomenon might go undiscovered and untapped. Indeed a further opportunity for the exploration of a foreign ecology. Taxonomy helps us see.

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