

The Scent of Journalism: Interactions of Innovation Journalism and the Corporate Innovation System

Abstract:

“Innovation Journalism” is a new and as yet ill-defined term. This paper analyzes it in the scope of its effect at the receiver, the corporation, and how the innovation system within the corporation interacts with information. As such, it can be framed in various theories: Information foraging, opportunity cost, cohesive elements, etc. The paper presents an analysis of some of these, and points to the need for further research on receiver terms.

Introduction:

From a conceptual point of view, any organization can be modelled in terms of interacting systems. The cohesion of system is determined by the opportunity cost (as described by Coase)[1] – but in addition to the monetary cost defined by Coase, opportunity cost must be defined in terms of the other resources in a corporation, primarily the time of its employees.

The actors within the systems are constrained by these opportunity costs in terms of how and with whom they can interact. But they are also constrained in terms of their own environment, and habits they share (which can either be tantamount to group-think, or form a corporate culture; or both).

Opportunity costs does not only constrain the corporation into an organizational framework, however. It also constrains the various organizations within the company. Any company can be regarded as a set of interacting systems, which partially overlap. These are held together by the opportunity costs, i.e. outsourcing of a system can occur when a function is performed more cheaply and easily by alternate organizations. These organizations, in turn, make the outsourced function their core activity, and by this focus can generate savings and profits. But this is standard economic theory, and will not be further investigated here.

Organizations within the company, performing their function as systems, interact with organizations on the outside of themselves. For some functions, e.g. administration, legal, strategy etc, these organizations are required to be within the company. In another dimension, e.g. the professional dimension of the organization, the interaction takes place with peers outside the corporation. Members of the innovation system within the company interact with their peers outside the company, in similar organizations in other companies, academia, etc. The interaction with peers can be personal, but since the cost for this is vastly larger than alternate methods, this is constrained by the opportunity cost for the interaction (the budget for this will be limited, and prioritized for activities where the company can have a direct effect, such as standardization).

An alternate method of interaction is to read publications, and publish yourself. This is of course vastly less satisfying than methods which afford personal interaction, but may be preferable for purposes of understanding the message (i.e. for non-native English speakers, being able to read a text with a dictionary in hand is much more satisfying than being forced to listen to someone speak fast with a strong regional accent). The interaction this way is slowed down by several factors: The slowness of the publication, the habit of consumption, and the difficulty in finding information.

The latter two of these can be explained with in the same theoretical framework. The slowness of publication can be speeded up by non-traditional methods, especially if they do not include the peer-review process (and even if they do, at times). Examples include the

Physics Pre-Print Archive at Los Alamos (<http://www.arxiv.org>), but this is an ongoing discussion in the new media community. However, the process is frequently too slow for companies (incurring too high opportunity costs in terms of time).

Information foraging

As mentioned, the habit of consumption and the difficulty in finding information can be explained within the same theoretical framework. In knowledge-based organizations, finding and retrieving information is based on the foraging for information by the actors. Information foraging, first outlined by Pirolli (1999)[2], frames the search and use of information primarily in anthropological terms. Describing the innovation system as a food web provides an intriguingly simple model for how the senders and receivers interact.

If the information inputs into the innovation system are regarded in foraging terms, the collective foraging of the system constitutes a conceptual model for the peer interaction, and is also formative of the collective (collected) knowledge of the organization. This implies that apart from the organizational model which constrains their actions based on cost, they also share a conceptual model of how to interact with their peers, within and outside the organization. This can be based in patterns inherited from the education environment shared by the actors (community of engineers, formally and informally defined); by societal factors (the “directors clubs” where businessmen meet and interact). A constraint is also the tools provided by the organization for networking (e-mail system, discussion lists, web sites, informal Friday afternoon lectures, etc).

If expressed in foraging terms, the most frequently selected sources of information become those with the most heavily associated information scent trails. This settles the habit of consumption – actors tend to search for the information which their immediate peers consume, to make sure they have the same information, and implicitly the same information sources – and also establishes a collective method of finding information which has less resistance (lower opportunity cost) than other methods.

However, this also implies that alternate information sources will have a difficult time in establishing themselves, unless they can offer lower opportunity costs or heavier scent trails (i.e. lower opportunity costs). An example of this is the establishment of new media, focussed on one single industry, such as Light Reading (<http://www.lightreading.com>), which established itself as the primary publication of the optical communications industry based on the good industry contacts of its editors and its focus.

There are other constraints on the information foraging in the innovation system. There are a number of possible alternate information sources which may interact to form the “information food web” of the innovation system. These can be constraining to various degrees (and hence, in information foraging terms, variously nourishing). Constraints are brought by requirements on the result of the innovation system; these may include positive requirements (that a customer requirements, such as defined in a standard, has to be fulfilled); or negative requirements (i.e. that a product must not use certain methods, since these have been patented). Patents are examples of information which can be used as both positive and negative requirements, depending on the terms by which the corporation has licensed the patent. If no license exists, the patent will be a negative constraint, since to implement it would constitute a violation of the patent, and be costly; if, however, the corporation has licensed the patent, it turns to a positive constraint, since it is a known method which solves a problem.

Global cohesion

Patents and standards are not the only information sources which feed into the food web of a corporation. But they are global, and they share standardized access methods. This implies that both standards and patents have similar opportunity costs in all instances of a system within an organization. That means that there is an opportunity cost of NOT using them; in addition to the fact that they constitute the common glue that holds the innovation system in the industry together, which implies that there may be an additional cost of not using them, in terms of customer requirements (which, however, has to be weighed against the development cost of the corporation for the product addressing the customer requirement).

This implies that patents and standards are part of the answer to the question of how an engineer in Sweden know that his colleagues in Japan and Germany have the same knowledge, and share the same approach to solving a problem. Another strong cohesive factor is the educational system, which attempts to impose a global standard for knowledge. While you may say that “engineer” means the same thing in Japan as in Germany, there is no formal agreement that makes it so, and in fact even those degrees where a global standardization has been attempted can vary quite widely (e.g. a Ph. D. from a small Japanese university may not at all mean the same thing as a Ph. D. from a small Swedish university). That is why countries have to form bilateral agreement to accept each others degrees, or impose tests to verify them (the case of medical doctors being a case in point, where global mobility is actually supposed to exist, but does so only because of this).

Being part of the same global system also imposes a constraint on the knowledge of the individuals interacting within the corporate systems, however. If you are to be able to say meaningful things to your peers from other corporations, you have to speak the same language (at least, figuratively speaking). This implies that standards and patents also form a meaningful constraint in this regard, as does the research reports etc. that can be consumed as part of the information diet of the innovation system. Interestingly enough, innovations expressed as products (i.e. implemented software) tend to have higher information value than information expressed as conceptual descriptions (i.e. research reports), by virtue of demonstrating the concepts they attempt to communicate in a measurable way.

Another important constraint, which I have only cursory touched upon, is the attempt by the system to minimize the cost of the role the actor plays. Given that a system consists of a set of interacting roles, and the goal of the system is to provide an output which corresponds to a set of requirements with the minimum level of inputs, it becomes important to make sure each role does not consume more resources than necessary to fulfil its function (i.e. minimize the cost of the role). This implies a minimization of the cost of information, as well. As long as their cost is lower or equal (i.e. an engineer in India will be cheaper even if he uses the same patent information at the same cost as an American engineer, since his salary is lower) other factors will determine, such as the salary. An important factor is also the measurement of the productivity of the individual. If you are measured by the number of lines of code you write, you will not be more productive than your peers within the same production system if you look up information sources and learn a lot, unless the peers are given the same opportunity. And since measuring rods for productivity are notoriously hard to define, such simple measurements will constrain the innovation system to the same information sources as the innovation system it is attempting to replace. By the way, this implies that as Indian engineers, you will be locked into a follower role as long as your work is measured using that of those you are replacing. Outsourcing thus becomes a losing proposition for all parties. If all information consumed within an innovation system is directed by the downward cost pressure to be the same as that which it attempts to replace, how can new information sources establish themselves? And what is the role of innovation journalism?

The role of innovation journalism

Innovation journalism, defined as journalism with the intent to be input into the corporate innovation system, must fulfil a set of requirements imposed by its customer. Otherwise, its consumption will not add value for the customer and it will not be used. Sparsely used information sources, however, risk dropping out of the food web of the innovation system within the corporation, since their opportunity cost is higher than those of habitually used information sources. If an information source is to establish itself as a habitually consumed source (at the end of a heavy scent trail), it can conform to either of two roles:

- When interacting with a new or recently formed innovation system, it can establish itself as the primary source for information about primary information (e.g. describe which specifications have been released by standards bodies). This role was taken by magazines and web sites during the Internet boom (examples are Wired and xml.com); it also helps explain why the role does not necessarily have to be taken by the objectively best information source – it is all about the contacts you have, i.e. what scent trail you can entice others to lay down to you.
- The second role is that of a better source of information for an innovation system. If interacting with an established innovation system, providing it with more nutrition for the same amount of effort will lead to a heavier scent trail, and so the establishment of this media product as the leading alternative. Examples include PC World (which established itself as an alternative to industry leader Byte). The process of increasing productivity and so oust a competitor is by the way a regular economic process, and so follows regular economic theory.

In the main, there are two strategies to be considered nutritious by informavores: Small amounts of frequent nutrition, or larger amounts more rarely. If a scent trail is to be laid down to either, it has to be consistent and consistently renewed, so that the scent trail is renewed. These strategies are orthogonal to the establishment of the scent trail, but can be used to fend off competition, if applied correctly. The first role in particular points to the importance of establishing a contact network which can feed the scent trail to the publication. However, both roles have an underlying assumption, the production of which interacts with the production of the role: It has to be trusted.

Innovation journalism can also serve an important role in establishing trust. Secondary information services (such as Light Reading or xml.com) serve as aggregators, but they would not be a viable proposition unless they were able to establish themselves as a consistently trustworthy source. In that case, the scent trail devolves, and goes cold.

Trust can be established in two major ways: By being consistently as good as or better than expectations (earning trust); and by leveraging transmitted trust (being awarded trust). Earning trust takes time and is expensive, but is nevertheless necessary to establish yourself as a trusted actor. Leveraging transmitted trust is easier, and can be done either by leveraging non-monetary rewards (such as reputation), or by buying trust (by using spokespersons which are trusted, by advertising in trusted publications, etc). Both ways are possible, and usually a combination is applied.

Summary

Information access abides by the same economic constraints as any other corporate activity. If it is to fulfil a meaningful function, innovation journalism has to fit into the innovation system of the corporation. It has to do so consistently, to keep the trust earned, and at a lower opportunity cost than competitors. In informavore terms, it has to get a heavy scent trail laid down to it.

Disclaimer:

This paper describes a conceptual model. While my employer, Ericsson, is indeed a large and global corporation with a rich and vibrant innovation system, the model described here does not necessarily reflect Ericsson, neither in generalities or particulars.

References:

- [1] The Costs of Exchange, Alexandra Benham and Lee Benham, (Report), The Ronald Coase Institute, July 3, 2001
- [2] Information Foraging, Peter Pirolli and Stuart K. Card, UIR Technical Report, January 1999