

# Why “Open” Matters — from Innovation to Commoditisation

*Simon Wardley*

swardley@mac.com

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## Introduction

The Standish Group International recently published a report that highlighted how FLOSS (Free/Libre or Open Source Software) has cost software vendors almost \$60 billion in lost revenues. You could equally look at this as FLOSS saving industry \$60 billion in unnecessary expense.

Lost revenue or cost saving, it's a matter of perspective.

The commoditisation of IT as standard services is predicted by many technology pundits to cause sweeping job losses. What is often ignored however is that commoditisation leads to new innovations, a term known as creative destruction.

Lost jobs or new opportunities, it's a matter of perspective.

There are always many different ways to view the same problem; these conflicting descriptions can cloud underlying trends. To compound this, IT is currently under assault from a heady mix of terminology: utility computing, disruptive technologies, innovation, network effects, open source, agile development, software as a service, mashups, web 2.0, web 3.0 and so on.

It's easy to start drowning as wave after wave of new concepts and products crash in. This article explains the underlying processes behind this onslaught, and aims to provide the reader with a simple pattern to help explain both the maelstrom of change and why "open" matters.

Before I outline the pattern, I need to create a common foundation of understanding. With so much noise in our industry we need to start by defining a few terms.

***Innovation*** is the first attempt to carry out an idea into practice; the origins of any idea being derived from discovery or invention.

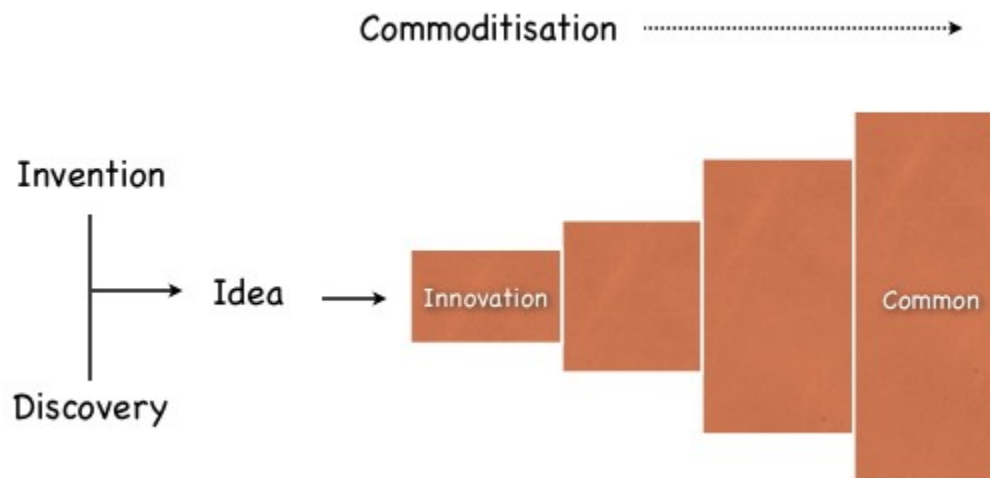
***Commoditisation***, a neologism, describes how an economic good that is distinguishable in terms of attributes (e.g. *uniqueness or brand*) ends up becoming a simple commodity in the eyes of the market or consumers; i.e. the change from monopolistic to perfect competition and the change from distinguishable to standardised.

A good example of the commoditisation of an innovation is electricity. In the 1890s electricity was novel and a poorly understood field. By the 1930s we had the national grid, standards and the use of electricity was common.

This transition from novel to ubiquitous is a commonly re-occurring pattern. In business, any innovation is a potential source of competitive advantage. If it *is* a source of advantage, competitors will attempt to emulate or copy it, often employing consultants to implement the innovative change. Hence an innovation tend to spread. As it becomes more common, standard products appear and, eventually, utility-like services. There is a constant pressure towards commoditisation of any successful innovation as everyone tries to take advantage of it.

I've illustrated this pattern in figure 1.

Figure 1 – A simple pattern.



## Understanding the pattern

An innovation doesn't have to be a specific physical product, it could be a methodology, a function of business or even an entire industry. Any activity (*process, product or service*) can become ubiquitous.

Over the last five years we have seen the rise of utility computing environments and the rapid commoditisation of IT. The once novel innovation of using computing resources within business is now increasingly available as a service. The term Software as a Service (SaaS) and its derivatives (\*aaS), simply refer to the commoditisation of the computing stack from a product to a service-based economy.

This move to a service-based economy coincides with other service approaches to architecture and design that have become popular in IT. Building with standard components increases the speed at which an organisation can adapt to changes in the marketplace. By its very nature, commoditisation leads to such standard components.

Consider implementing an idea for the first time. Initially there is much uncertainty about how it will work and what is required. Innovation can be described as a dynamic problem in that it operates in an emergent context; there are no case studies or previous examples. It's all new. As an innovation becomes ubiquitous, its context becomes more defined and certain: a static problem. That difference between dynamic and static, is the difference between building the world's first ever power generator to provide the electricity to make a cup of tea, and plugging a kettle into a wall socket. Without commoditisation and the subsequent creation of stable standard components, everything has to be built from scratch. Imagine trying to build Google without easily available power, data processing and communication.

Commoditisation therefore enables further innovation. There is a constant flow from innovation to commoditisation, from the novel to the ubiquitous, from the undefined to the defined and from the uncertain to the certain.

This underlying pattern is responsible for the maelstrom of change we are experiencing today.

## **Why “open” matters**

There are many accelerators within this pattern, including positive network effects, standards, the internet and even open source which removes barriers to adoption and overcomes the gap between distribution of ability and opportunity.

There are also many pitfalls. All businesses are built upon a mix of competitive advantage and cost of doing business (CODB) activities. An overall reduction in the CODB activities lowers the barriers of entry for competitors. The news industry, within which the once passive consumer has become an active participant, provides an excellent example of this.

So, until recently, such mass communication was only achievable through the use of expensive physical capital assets like printers. The necessity for huge expenditure on these limited competition and provided a powerful mechanism of control.

The growth of the personal computing industry, digitisation of content and the spread of the internet caused the commoditisation of the means for mass communication and undermined the entire news and broadcast industry. "Open source" has played a significant role in this transition, but the "open" meme has gone much further.

The commoditisation of the means of mass communication exposed companies to new competition as the physical capital barriers crumbled. However many companies were able to seek solace in their employees' skill and knowledge: human capital. "Open" content, e.g. wikipedia, threatens to undermine this too.

Traditional encyclopaedia manufacturers have faced this double whammy because not only have the means of mass communication been commoditised but the content as well. Both physical and human capital barriers to entry are demolished.

The remaining hiding places for companies preferring to compete through exclusion from capital assets or means of production, rather than through service, are diminishing. Even social capital is threatened with codification and commoditisation by the Enterprise 2.0 world. The means of production are eyeing a looming fabrication revolution nervously.

Industries from banking to manufacturing, and even IT, are facing a cold wind of change.

But change brings opportunities.

Along with new forms of business, the commoditisation of each layer of the software stack - from applications to frameworks to hardware - provides an opportunity to get rid of complexities, cost and capital expenditure. This isn't entirely risk free though, especially in these early days. Though SLA's can alleviate some concerns, fears can only be truly overcome once there's portability between providers.

This requires open standards, a marketplace of providers and, almost certainly, open sourced implementations. The first signs are appearing with standards such as the OVF (open virtual machine format) and the Open SDK of Google App Engine.

Not all companies will welcome this. Many who have seen their technology as the source of competitive advantage will face significant problems adapting to a world where *service* is the basis of competition. They may deny that change is occurring at all until they awake one day to find their product is competing against an emerging industry standard with hundreds of providers, a marketplace based upon portability and thousands of customers.

It'll be like watching an emerging national grid of providers and trying to convince your customers not to join because your flavour of electricity is somehow better or more reliable.

I suspect the real battle over the next few years will be for influence on those emerging standards. Not only has the "open" meme been driving this change, it's going to be a key tactical battleground.