

the tragedy of the patent

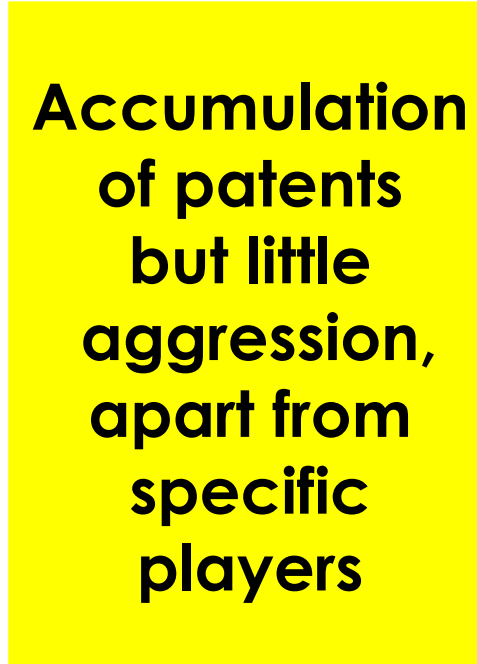
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Where have we been and where are we now?

1950-1980



1980 - 2006



2006 - today



A community of co-operating peers

Formation of proprietary blocks of IPR

Winter of our innovation

An extreme view possibly but highlights the trend to litigation replacing innovation – so could it lead to a freeze on substantial innovation?

“The tech world has recently seen an explosion in patent litigation often involving low-quality software patents which threatens to stifle innovation”

Google general counsel & SVP, Kent Walker, 04 April 2011, official Google blog

The basic thesis:

- The patent system was designed to encourage the free flow of ideas, in exchange for a temporary monopoly
- The trend in ICTs is that increasingly this is not working – and most good ideas could be commercialised with or without the incentive of a patent
- Instead of seeking monopolies on IP, companies generating real value should compete on delivery to the market

Knowledge capital is a key asset of EU economy

- According to the European Competitiveness Report 2010, creative industries account for 3% of employment (2008).
- 1.4 million European SMEs operate in the creative industries, with 6.7 million employees in 2008, across the EU-27. Overall employment in creative industries increased by an average of 3.5% a year in the period 2000-2007 compared to 1% a year for the total EU economy.
- Most of the new jobs in the EU created over the past decade were in the **knowledge-based industries** where employment increased by 24%.
- In contrast, employment in the rest of the EU economy increased by just under 6%.
- SME's offer the greatest potential for growth and job creation in the EU.

SOURCE: EC COM, 24 May 2011, draft EC3679, "A Single Market for Intellectual Property Rights, Boosting creativity and innovation to provide economic growth, high quality jobs and first class products and services in Europe"

Two major conflict areas:-

1. Market leaders in ICTs pay ever larger sums for acquisitions whose main asset is a set of patents with which to fight IPR battles, often hoarding IPR from very low bases in patents, eg web service providers:-

- Google lost bid for Nortel patents in July 2011 – to a consortium led by Apple, Microsoft and RIM who paid \$4.5 Bn for the Nortel patents
- Google replied with a \$12.5 Bn USD offer for Motorola Mobility, with its portfolio of 17,000 patents, in late 2011.
- Google also purchased 3,400 patents from IBM in 2011
- Microsoft paid \$1Bn for IBM patents
- How much Kodak will get for its image processing patents, eventually?

This 'arms race in patents' speaks of :-

A) Patents portfolios being a *fairly* recent phenomenon in the ICT business

B) Patents being bought as a competitive weapon. NOT to protect IPR.

C) We did without them before – so why not now?

2. More and more lawsuits over the last few years:-

- Apple versus HTC, and Samsung on design of smartphones & tablets
- Samsung banned from selling its tablet in Germany for now
- Samsung versus Apple, with complaint in Australian federal court
- GE SightSound versus Apple over iTunes' internet delivery of video & music
- Oracle pursuing Google over its use of Java
- Microsoft versus Motorola over its software

DEEP pockets for major financing are needed:-

- TO finance litigation - the legal teams and proceedings, over many years perhaps and in many countries, to pay the fines, or buy the assets for a cross-patent trade
- TO sustain operational business during the time when commercial operations may be suspended during a multi-year court case

The Case of the patent troll

- Today's situation – it is the **owner** of the patent, not the inventor or the user who is the key player, especially in the USA
- Increasing numbers of firms that only hold and licence patents – non-practising entities (NPEs) – sometimes termed 'patent trolls'.
- Business model:-

- Build large patent portfolio
- Extract rents
- Litigate as required



- **Model is based on premise of strong gains between costs of filing patents and ultimate rents**
- **Dramatically increases drive for patent filings worldwide (especially USA)**
- **Increased pressure for software patents to be recognised**

Should IPR be implanted as property ownership rights, in the form of patents?

The Case of the patent thicket

- Started with the US sewing machine innovations in 1850's
- A dense web of overlapping IPR – often with multiple IP holders that covers a commercial product with thousands of patents, often small increments
- Used to defend against competitors
- Obstructs entry to market and so impedes innovation *
- A key part of **the Tragedy of the patent** – too difficult to secure all necessary licences to build a product
- International patent pools - eg MPEG - try to solve problem by collecting all relevant IP into a pool and charging a single “rationalised” fee
- BUT pools become inadequate as thickness of patent thickets increase - cannot keep up with sheer volume & complexity of motivations / interests

*Hargreaves, Ian (2011) , **Digital opportunity: Review of IP and Growth, UK government, independent review**

The Case of the confusion over standards

- Two smartphone manufacturers clash in court over use of the 3GPP patents pool for mobile phone standards in its smartphone (MAY 2012)
- But these 3GPP FRAND patents (fair reasonable and non-discriminatory) should be open to all, on payment of 'reasonable' fees*
- And use of FRAND patents in a patent dispute might also subsequently involve anti-trust transgressions

* What is reasonable for a large global supplier and for a small supplier may be quite different, especially if cross-patent trading is involved

The Case of the patent ambush

- Either international, national or industry standards body agrees to use a collection of IP that is contributed by the participating standards committee members
- Subsequent patenting of IP used in the standards is then performed by an attending member company, unbeknownst either to the organising body or to its members
- This is sometimes referred to as 'patent ambush' – whereby patents underpinning a standard are concealed until the standard is adopted by others
- So generally the organising body requires all participating companies attending the standards setting to declare any related patents owned, pending or intended.

REF: Jaffe AB, Lerner, J.,(2007) *Innovation and its discontents*, Princeton University Press; and European Commission antitrust investigation, July 2007-2009 under Article 102

Patents open the door to significant market power in the ICT industry - and thus to the potential for abuse of that power

Effectively the way patents have come to be used in the ICT industry over the last 5 years means that patents:

favour the large company

.....penalise the SME

.....and thus tend to restrict innovation

Patents may give the large player unfair market leverage

- Patents have a power of increasing returns – the greater the acceptance and use, the greater is the profit extracted – both directly and by forming an eco-system of support around a patent or a patent pool - so patents have a non-linear impact on the market when they define a technology
- Large players can afford large portfolios in a market governed by scarcity
- Major corporate owners of patents can:-
 - afford to defend patents globally, which smaller companies cannot
 - use them to threaten rivals, especially effective against small companies - and can extract rents which may not be justified
 - use them to trade with in patent pools and thus gain entry to pools that are used for standards at lower cost than for a small company with little or nothing to trade
 - use them to stifle innovation just by the threat of litigation – this also affects VC investment – so certain technological areas become off-limits to all SMEs, if a large player is interested in that area

This conflict situation has stimulated debate over the two key features of patents:

- Their creation of a monopoly -the absolute control over their licensing
- The potential threat of false infringement, backed by significant legal power (SLP)

The questions we are left with for the future

- If IPR is essential for progress, does it really need protection from others, for 20 years at least using patents, in order for the **owners of the patent** (not necessarily the originator) to benefit from it?
- Is the current patent system positive or negative for encouraging new IPR?
- Can a start-up or SME (who are the creators of new jobs and much innovation) benefit from patents – or are patents actually a threat to their survival?

Positive solutions to encourage innovation

- a new type of DSO (Digital Switch Over)
- but for IPR

So for today's situation, really there are 3 types of solution:

- Do we *constrain* patents to certain very particular situations?
 - Or, do we *replace* patents with something else (usually)?
 - Or, do we need patents at all? (& if so, where?)

1) Licences are not patents

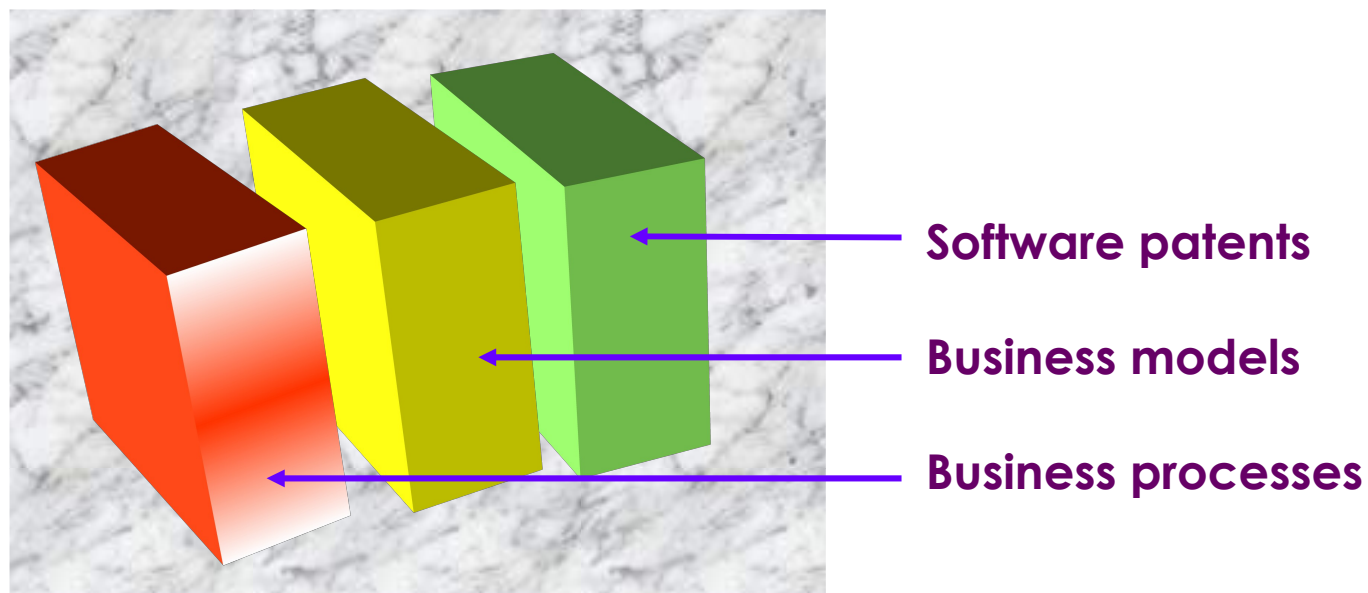
Can still *licence a technology* without a patent

Whether there is any added protection from a patent is unclear – as it depends on:

- a) Finance - funds available to defend it
- b) The strength of the case in court

2) Avoid these 3 barriers in ICTs

The USA endures 3 key barriers to effective use of IPR



- These 3 patentable items are highly regretted by many in the US ICT industry, being ill-defined and so ideal for legal transgression challenges
- Software patents blamed for high costs of development and a lack of innovation - so suggested repeal beneficial to ICT industry as a whole (and for business process and business model patents).
- Note that all these three categories of conceptual content cannot be patented in the EU - **Europe may be a better location for ICT innovation.**

3) Leverage our innovation heritage – OSS,
today's platform for everyday business and
tomorrow's innovation

**UNIX operating systems
& kernels**

Linux

Android

iOS

Reality is that:-

- The computer industry, since its inception in the 1950's
- The web and internet, today, and since their inception
- Today's consumer electronics industry and web services
- Tomorrow's mobile internet

- are all dependent for their foundations on open source software (OSS).

If we go back to the beginnings, many ICT businesses began on 'borrowings' or quite low cost transfers from others (even the x86 instruction set – from CTC; MS-DOS, bought as 86 Q-DOS from Tim Paterson, Seattle Computer Products, MOSAIC the first browser, free use but not OSS, from NCSA and the basis for the first IE)

The way forward – Open Source Software has some lessons for patents

An IPR commons

Sharing for free – open use of a pool of IPR.

- Could also have a return clause, ie some contribution, or all improvements, must be returned to the commons ('GNU'-like licence)

- Use for IPR for international standards (as in patent pool)
- A commons should protect and encourage SMEs
- Create design libraries

An IPR exchange

- Freedom to use in any way (the 'BSD' licence)
- Sharing through standard agreements through a trusted third party at very low cost
- Payments based on size of company (revenues / staff)
- Payment on a produced unit basis or possibly revenue generated
- No permission directly from originator to avoid selective bias in granting patents to competitors

- Aimed at supporting the SME, with costs based on production levels
- Takes the competitive advantage out of patents in denying market access

One form of implementation of these concepts is mass co-design through a creative commons

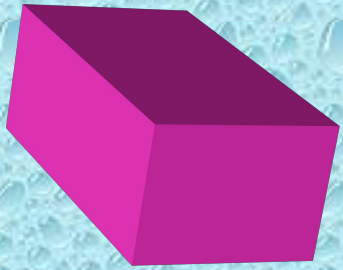
Conventional today:



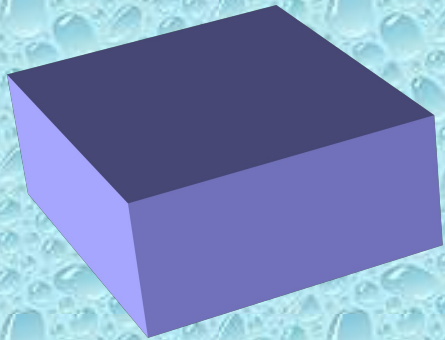
Creative co-design:



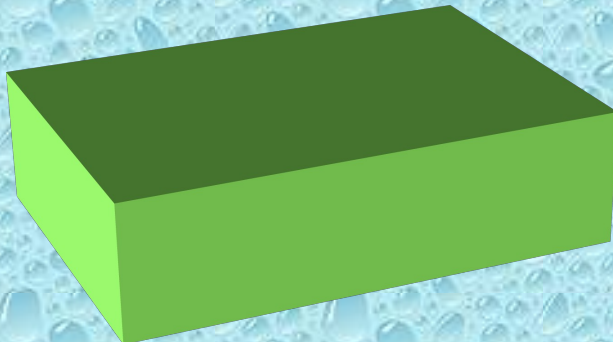
Open, shared & pooled innovation may have 3 main layers



Commercial products - little or no IPR sharing is the rule, but could have more freedom to “use as wish” in the future - eg for consumer mash-ups



Derived designs and software that can be shared in special interest groups to innovate using pooled IPR, including industry standards – useful for SME and building eco-systems



Open source designs and software– as in the foundation of key operating systems, WWW, etc - open for innovation

4) If patents are to be kept in some areas, take pragmatic measures

The Twitter suggestion

- Engineers retain all rights, not the company
- Only use the patent for defence if attacked on its IPR subject matter
- Patents cannot be bought up

- Gives protection without aggression
- All rights are due to the true inventor only and remain with that originator for the life of the patent

Shorter validity: 3 years

- For ICT patents
- Enables immediate exploitation and reception of revenues

- Enables IPR to be shared in shorter timeframe
- Removes threats of constant attacks from large patent holders and non-performing entities (NPEs)

5) Should Patents be applicable by discipline ?

Where useful	Where less useful
<ul style="list-style-type: none">▪ Mechanical engineering▪ Electrical engineering▪ Some bio-sciences▪ Chemistry	<ul style="list-style-type: none">▪ ICT in general▪ Software in particular▪ Human genome (discovery not invention)▪ Business processes & business models

We need to consider patent free 'virtual innovation zones' in the EU

- Pools of shared IPR where IPR controls are absent, deliberately, innovation is easier, faster and greater (the NDC syndrome)
- IPR pools for sharing (the DLR syndrome)

This requires a phased transition:-

- 1 Roll out the new framework to get a working alternative in place
- 2 Open new structures, eg design libraries (as in robotics) and other commons
- 3 Shut down existing regulation and processes - no legacy cases

In industrial policy, the EU has strong competitive advantages **now** - and in its potential for moving to open innovation, & so to recap -

- Borrowings and low cost IP transfers are the heart of innovation in the history of Silicon Valley and the ICT industry - underpins much commercial software today
- To encourage innovation such free exchange is necessary
- Much of our current innovation and software, especially for web, and mobile web has OSS foundations
- Remember even Apple came into being in 1976 in the shadow of free exchange of IPR – such as the Homebrew Computer Club
- In the EU we should aim to recreate the innovative free environment from the 1960s up to 2000
- We need consider some form of ‘free IPR zones’ for exchange of designs, concepts and theories for ICTs, aimed at SME innovation

To end: a quote made 50 years ago notes that
Theories have 4 stages of acceptance:

- i) This is worthless nonsense
- ii) This is an interesting, but perverse, point of view
- iii) This is true, but quite unimportant
- iv) I always said so.

[Haldane, J.B.S., (1963) *Journal of Genetics*, Vol. 58, page 464]