Intellectual property and innovation in ICT – An introduction

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JRC-IPTS Workshop on Digital Innovation

Seville 22nd and 23rd June 2015
Aim of the study

Survey of the economic literature on the role of patents, copyright and trademarks in ICT industries: theory and evidence

→ a focus on the software industry

Setting the stage

• ICTs: short product life-cycles, cumulativeness of innovation, complexity of technologies/products

• EPO-OHIM (2013): ICTs intensive in the use of different IPRs
Patents in ICTs

Theory
• cumulative innovation ➔ i) hold-up of follow-on inventors; ii) imitation might even stimulate innovation

Numbers
• surge in ICT-patentning
• cumulativeness + complexity ➔ emergence of patent thickets
  • triple counts concentrated in Telecoms and Comput. Tech.

Consequences of the surge in patenting & thickets
• SMEs and individual inventors likely to be mostly harmed
• decrease in patent quality (especially software-related)
Fixes to the surge in patenting & thicketts

• Patent pools, standard setting organizations ...
• Crucial role: market for ideas and intermediaries

Policy issues
  • quality, quality & quality
  • transparency of the system (e.g. registration of patent ownership)

Research agenda
  • role of intermediaries and of PAEs (little evidence for Europe)

Policy + Research: new unitary patent system
  • reduction patent-related costs & harmonization in the enforcement
  • research: new strategic options available to companies
  • policy: more favourable context for PAEs, increase in patent applications, quality of patents
Copyright

Literature: focus on **creative industries** (music), more recent contribution on

- effects of **digitisation** and file sharing
- **open source software**

Overall: not a strong case in favour of copyright as an incentive mechanism for artistic creations

- **royalties not the main source of income** + presence of **non-monetary incentives** (artists and sw developers)

**Policy & Research issues**

- copyright provides too strong a protection?
- crucial issue not whether file sharing reduces revenues but its impact on innovation
Trademarks & IP bundles

Trademarks

Literature: relatively less developed, not ICT-specific. Evidence

• ICT companies make **intensive use of trademarks**
• trademarking and innovative activities appear to be **correlated**

IP bundles

Few contributions on the joint use of different IPRs

• **firm-level** analysis: significant presence of bundles in telecoms and manufac. of computer, elect. and opt. products
• but, few available **product-level** evidence: bundles not so pervasive

Research agenda

• more product-level evidence needed
• **interplay** (e.g. complement./substitutab.) between different IPs
IPRs in the Software industry

Sw patents are becoming increasingly important

• in 2010, **33% of applications at EPO were CII**s; 78% of them filed in manuf. sectors

Different routes for sw patentability followed by US and EU: patentability *per se* vs **technical character** requirement

**Open source software (OSS)**

• **copyleft** provision
• different commercial strategies based on an alternative use of copyright are viable
Policy and research issues

Are patents suited to software?

• characteristics of sw: short product life-cycles, cumulativeness, high level of abstraction
• patent quality ➔ sw patents more likely: i) to have invalid claims ii) to be litigated ➔ US-based evidence (little is known for EU)

Clashes with the OSS

• starting from the SCO-case ... to Open Invention Network

Emerging markets

• preliminary evidence: app developers make little use of patents
• need for more research on their monetisation strategies
THANK YOU FOR YOUR ATTENTION

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