

Law and Economics Seminar
A fresh look at testing patentability criteria

Strasbourg, February 12th, 2013

KSR v. Teleflex – subject of the dispute

- Teleflex holds exclusive license for Engelgau patent, claim 4 of which discloses a position-adjustable pedal assembly with an electronic pedal position sensor attached a fixed pivot point.
- USPTO allowed claim 4 because it included a limitation of a fixed pivot position, which distinguished the design from prior art (Redding's patent).
- USPTO did not have all prior art available at examination (Asano patent)
- KSR has a patent ('976 patent) on adjustable pedal system for cars with cable-actuated throttles. When supplying GMC cars using computer-controlled throttles, KSR added a modular sensor to its design

KSR – standard for non-obviousness requirement

- Teleflex claimed KSR was infringing, KSR countered that one of the claims was invalid under 103 of US Patent Act.
- Under US patent law there are 4 patentability requirements
 - 101 – statutory subject matter, usefulness
 - 102 – novelty over prior art
 - 103 – non-obviousness over prior art
 - 112 – written description, enablement, best mode

35 USC § 103 - Conditions for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section [102](#), **if the differences** between the subject matter sought to be patented and the prior art **are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art** to which said subject matter pertains.

KSR v. Teleflex – developments

- District Court granted summary judgment in KSR's favor (invalidity of patent claim 4 under sec. 103 of the US Pat. Act)
- With principal reliance on the “teaching, suggestion, motivation” (TSM) test, Court of Appeals for the Federal Circuit (CAFC) reversed
- SCOTUS granted certiorari because it saw necessary to correct the very narrow conception of the obviousness inquiry by the CAFC reflected in the application of the TSM test.

=> SCOTUS reviewed the non-obviousness standard in the US patent law

SCOTUS: Non-obviousness standard in US patent law I

- “If a person of ordinary skill can implement a predictable variation, sec. 103 likely bars its patentability.”
- “the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for **a court can take account** of the inferences and **creative steps** that a person of ordinary skill in the art would employ.” (pg. 1741)

SCOTUS: KSR Non-obviousness II

- “The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. The diversity of inventive pursuits and of modern technology counsels against limiting the analysis in this way.” (pg. 1741)

SCOTUS: KSR Non-obviousness III

- “**Common sense** teaches,(...) that **familiar** items may have **obvious uses beyond their primary purposes**, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of puzzle”. (pg.1742)
- “A person of ordinary skill is also a person of ordinary creativity, not an automaton”. (pg. 1742)

Colleen Seifert: “The cognitive processes that create the obvious”

- Critique of the KSR decision based on theory and experimental evidence from behavioral psychology.
- 4 main points:
 - Problem space approach to innovation
 - Use of familiar objects in novel solutions
 - Planning and Searching for a solution in the pool of available information
 - Hindsight bias

Search space approach

- For the search space approach to work well, a clear goal and set of operators must be evident, however:
 - Search through a problem space would take a very long time
 - Innovative designs are not often a simple combination of known elements
 - Goals are often very difficult to determine
 - Goal identified must be the right one
 - Search itself is not a linear algorithm guaranteed to identify the solution
 - Search is often trial and error, hit or miss, accidental or nonlinear

Search space approach & KSR v. Teleflex

- Consideration of types of sensors, potential attachment points for those sensors, and various adjustable pedal sets delimits the problem space.
- Seifert: problem space for the technical design includes multiple design decisions (pg. 495).
 - See diagram on pg. 496
 - Several choices must be made and their “sequence” is not evident.
 - “working backward from the solution, a direct, short solution path can be identified” (pg. 496)
 - “working from the problem of computer-controlled throttles, the possible design choices seem much more open-ended” (pg. 496).

Familiarity of objects

- KSR v Teleflex: “familiar items may have obvious uses beyond their primary purposes”
- Seifert: empirical studies find that familiar objects are not often used in unfamiliar ways within designs
- “The problem seems to be that familiar objects do not suggest this unfamiliar plan.” (pg. 500)
- “Functional fixedness” suggests that it is difficult to go beyond object designs to consider new uses of old objects.
- Bias toward designed utility – seeing the way an object should be used (and ignoring alternatives) – good practice in engineering (pg. 500).

Relevance of solutions

- What planning will help notice potential solutions, when searching through information?
- Full specification is crucial & should include(p. 503):
 - Circumstances necessary for achieving the goal
 - Distinctive conditions for executing the plan
 - Clear formulations, so as to facilitate identification
- A general objective such as “improved design” does not produce the needed relevance
- However, ability to generate descriptions (of sought information) improves with experience in a domain.

Relevance of solutions in KSR vs. Teleflex

- In the opinion of the SCOUTS, patent examiner goes on “scavenger hunt” when assessing the technical solution described in patent documentation.
 - An examiner has a general objective such as “improved design”
- But: coming up with potential solutions requires as specific planning as possible.
 - General objectives do not produce the needed relevance to facilitate the search
- Objective consideration: time constraints of the examiner.

Hindsight – people cannot ignore relevant information

- People's estimates of causal forces change once information about the outcome is known.
- The past is thoroughly altered by the knowledge gained in the present.
- Nonobviousness standard requires a judgment of whether an invention would have been obvious at a time in the past but:
 - Seifert: “However unlikely the new device, now that the new design exists, it seems more likely and more obvious” (pg. 504).

Hindsight – people cannot ignore relevant information

- Can judges, patent officers, and juries avoid bias?
- Mandel: empirical studies on avoiding hindsight bias in judgments on non-obviousness.
 - correcting for hindsight bias is too difficult
 - ⇒ alternative method of assessing obviousness is needed
- “Knowledge of the bias does not lead to correction in reasoning.” (pg. 506)
- “Evidence from hindsight and memory correction studies suggests it is almost impossible not to be biased by knowledge of outcome”. (pg. 506)

Strengths and weaknesses of the article – what do you think?

- Strengths:
 - Provides a completely new perspective on patent examination
 - A lot of work put into experimental evidence
 - Corrects “common knowledge” of the Supreme Court in the area of cognitive processes
 - Great example of interdisciplinary work

Strengths and weaknesses of the article – what do you think?

- Weaknesses:
 - Only criticisms – no suggestions for improving the situation.
 - Addresses only the “psychological” considerations
 - Omits facts such as that patent law has “clearing house” mechanisms, such as opposition and invalidity proceedings.
 - No extensions and suggestions for interrelations with other disciplines.

Bigger picture – how does this article fit into L&E?

- Does not constitute part of the classical economic theories (rational choice assumptions)
- Is it at all economic?
- Behavioral law and economics:
 - Relaxing some of the assumptions of the classical theory
 - Not all 100% of decisions are made rationally by all 100% of individuals (in the market) => Bounded rationality

Additional resources

- Demo of the invention:
<http://www.youtube.com/watch?v=eVQLg7DFocY>
- Wright, Joshua D. and Ginsburg, Douglas H., Behavioral Law and Economics: Its Origins, Fatal Flaws, and Implications for Liberty (September 17, 2012). Northwestern University Law Review, Vol. 106, No. 3, 2012; George Mason Law & Economics Research Paper No. 12-63. Available at SSRN: <http://ssrn.com/abstract=2147940>
- Posner, Richard, A. Behavioral economics: a critique, 42 Economic Education Bulletin, No. 8, American Institute for Economic Research, Great Barrington, 2002,
<http://www.aier.org/sites/default/files/publications/EEB200208.pdf>

Announcements

CEIPI-BETA Law and Economics Project is online:

<http://www.ceipi.edu/index.php?id=13737>

Next workshops

- **March 5th**, 12:00 – 14:00 – at PEGE (61, avenue de la Forêt Noire) – Salle EHUD, no. 104.
- **April 9th**, 12:00 – 14:00 – at PEGE (61, avenue de la Forêt Noire) – Salle EHUD, no. 104.
- **May 14th**, 12:00 – 14:00 – location tbd
- **June 11th**, 12:00 – 14:00 – location tbd.

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