How to Effectively Analyze a Patent Portfolio

By Ron Simmer
Patscan
University of British Columbia

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Why Search Patents

• ID Licensees, competitors, new hires
• Avoid reinventing wheels
• Infringement/litigation/risk info.
• Research & problem solving
• Model technology/business trends

Best Free Sites for Patent Searching

• CIPO site on Strategis
• IBM Intellectual Property Network
• USPTO Site - full text and images
• Espacenet thru the UK gateway - Full copies in PDF
• WIPO database of PCT apps. - from 1997
• Japanese sites - JPO has drawings
• IPC and US Class. Sites - you must have the tools
• Lexis Nexis best full text system
Patent Classification - The Classical Tools

International Patent Classification
• Current ed. 1994
• Updated on 5 year cycle
• Application Oriented
• Wide International Use

US Patent Office Classification
• Updated Continuously
• Function Oriented
• Finer Detail than IPC

How a Company Competes

• Technology - Indicated by Patents
• Products
• Organization
• Financials
• Strategic Alliances
• Manufacturing
• Marketing
• Image/Reputation

IP Data is Special
3 Functions in a Corporation

1. Corporate asset protecting price & market.
2. Insurance against legal action.
3. Poker chips in strategic alliance game.

Patent Data Issues

Quality
USPTO abstracts variable
Better retrieval with Derwent

Reliability
Error checking by Vendor?
Missing data?
Classification revisions?

Currency
How Frequent and thorough are updates?

Statistical Analysis Using Patent Data

Manipulate any patent data fields to extract trends:
• Rank assignees or inventors to identify trends
• Compare trends in patent filings over time
• Map density/activity of filing for competitors
• Chart a patent portfolio by classification
• View industry technological trends internationally
• Examine history of technology by citation analysis

United States Patent

Primary Examiner—Lloyd A. Guir

Abstract
A hydraulic actuated device of the type applied to the steering wheel of an automobile vehicle which automatically inclines to an applied position unless necessity of its use arises is provided with a means whereby it may be released for

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Comparing US Patents on Computer memory from Canada, Germany, Korea and Taiwan over 5 years

Activity Index Plot
for 8 companies and 4 technologies
DVD Technology Study - PAY: 1985 Thru 1995

Time Based Activity Profile

Citation Tree Illustrating Generations of Memory Enhancing drugs!

Analyzing Patent Quality at a Glance
1. Reputable corporate or institutional source?
2. Several Inventors?
3. Prosecuted by solid law firm?
4. How much prior art cited?
   Any literature cited?
5. Patent Co-operation Treaty Filing?
Patent Quality
Deeper Analysis
Using Patent Databases
1. How many recent patents cite patents in question?
2. How many foreign equivalents/counterparts?
3. Speedy prosecution?
4. Claims valid, supported and broad?
5. Infringement suits, Re-examinations?

Comparison of patent claims
- “Picture claims” (purely descriptive)
- "vs. well drafted claims covering broad functionality.
- See BUSTPATENTS.COM for
- many examples of invalid patents
  – (Greg Aharonian)

The Powerful Patent Portfolio:
A Mature Company
- Example: Eastman Chemical
  – Business and IP strategy integrated
  – IP builds on core technologies
  – Active licensing/acquisition program
  – IP intelligence program maps competing patent activity.
  – Strong R&D IP focus
  – Conservative, low risk attitude

The Aggressive Patent Portfolio: A Junior Company
- Example: Inex Pharmaceuticals
  – Objective is to build a critical mass of IP as quickly as possible thru licenses, alliances
  – Patenting around (bracketing) competitors.
  – extensive use of provisional filings
  – leveraging portfolio with new spin on old drugs for fast tracking FDA approval
  – prophetic patents on breakthrough genomic technologies
Portfolio Benchmarking

- A given company's portfolio best
- compared to those in same technology

- Example: CAE Newnes Machinery
  - World Class Competitor in revolutionising "old" tech with 21 inventions patented.

Two Most Important Variables in Patent Scenarios

1. Amount of Prior Art
2. Rate of Change in Field

Industry Scenarios for the IP Environment

- Sparse Art
- Slow Change
  - Old Industry
  - Competition not based on IP
  Example - Machinery manufactured for logging/mining/agriculture

Industry Scenarios for the IP Environment

- Crowded Art
- Slow Change
  - Little freedom to operate
  - Mature industry
  - Stable Technology
  Example - Pharmaceutical Sector
  High Investment Big Payoffs

Industry Scenarios for the IP Environment

- Crowded Art
- Fast Change
  - Improvement Valued
  - Niche Inventions
  - Pressure to License
  - Volatile technology
  Example - Computer Applications

Industry Scenarios for the IP Environment

- Sparse Art
- Fast Change
  - Broad Patents
  - File on all aspects of technology early and often
  - Profitable licensing
  Example - Genetic Engineering
Analyzing a Technology Environment

- Hot themes? breakthrough technologies?
- Maturity of field - Decadent? Volatile?
- Niches & opportunities developing?
- Example: CREO & printing industry

Analyzing the Strength of an IP Portfolio

1. Geographic coverage indicates market strategies
2. Review size & assess trends - age, filing frequency, product life cycles
3. Kinds of Patents and degree of protection for core technologies
4. Technology licensed or assigned in/out
5. Aggressive filing - provisionals

Japanese Pharmaceutical Patent Portfolio
International vs. Domestic Filings

Value of a Portfolio Depends Completely on Management
- Example from BC - High Voltage Power Instrumentation.
  - Carmanah Eng. Owned 2 patents.
    - Short term instrument market $15 Mil.
    - Long term metering market $600 Mil.
    - Merger of Carmanah and Honeywell sub to form NxtPhase boosts capitalisation 5 times

Accounting Methods of Patent Portfolio Evaluation
- Cost Approach - Cost to re-create technology
- Market Approach - Price paid in comparable transaction
- Income Approach - Present value of future income streams

Value of Portfolio Derived by Sale of Patents or Company
- Marketing and Positioning is Everything
  - Example: UBC force feedback Joystick Patents stagnated until sold to Immersion Co. for equity in company.
  - Now worth $6 Mil. to UBC.
  - Video game vs Industrial Market
Patent Litigation Value Bonanza

- Example: STAC develops data compression technology.
- Files patents and buys existing patents to build strong portfolio.
- Microsoft loses infringement case to the tune of $120 Mil. in 1994.
- Wake up call for IT industry.

- Rambus once allied with Intel.
- Now Rambus suing Hitachi for infringement of DRAM patents.
- Huge profits from extorting licenses.

Assessing the Human Capital Factor in an IP Portfolio

1. Stable R & D team with low turnover?
2. Inventors with high industry reputation?
3. University/Gov’t research links?
4. International literature cited in patents?

Measuring the Portfolio Against the Competition

- New technologies being substituted?
- Citation searching reveal competitors “Patenting Around”?
- Is IP protection a major factor in the market?
- Does a state of the art search reveal competitors leapfrogging ahead?
Strategies When Blocked by Competitors Patents

1. Buy the patent or the company (Microsoft vs Stac)
2. License or swap the IP (cross license)
3. Create better technology & patent around
4. Sue for infringement or invalidate patent by legal action
5. Oppose pending applications