

Using Intellectual Property Data for Supplier Intelligence — A Case Study

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Leaders responsible for research and development, engineering, product development, and other technical decisions routinely face this quandary: how can they simultaneously achieve competitive advantage and increase speed to market?

One recurring approach to the problem is open innovation. This is a recently coined term for the increasingly common practice of looking outside the enterprise for technical or process improvements, whether the source is a supplier, competitor, contractor, university, or startup. The practice of open innovation broadens the reach of organizations beyond traditional scientific and technological resources.

While open innovation increases competitive options, it also increases the need for due diligence, as well as the need to look early for the applicability of technology beyond its intended uses. Companies that can spot trends, opportunities, and threats related to nascent innovations will be best equipped to leverage them. Intellectual property (IP) data, when correlated with conventional market data, provide a unique source of strategic insight to improve or expand open innovation activities.

IP DATA LEAD TO STRATEGIC SUPPLIER INSIGHTS

By examining intellectual property and patent data in a classic duopoly – company Alpha versus company Beta (names scrubbed to protect the innocent) – we can illustrate how to better inform the sourcing of innovation from suppliers. [Note: Patent data were obtained from the Delphion database. Only 1976–2004 U.S. data were used.]

Most of the data relate to patent counts, or quantities of patents. Other data relate to citations or external information to consider quality. Both data types can provide essential insights. In the following examples, we will show how Alpha can leverage patent intelligence to improve its advantage over Beta and craft tighter supplier policies.

Primary Classification Analysis

Patents are classified using multiple systems; for this analysis, we will use U.S. Patent Classification (USPC) codes. These codes are divided into primary classes (425+ divisions) and subclasses (144,000+ divisions). Figure 1 shows the number of patents held by Alpha in each of the industry's top

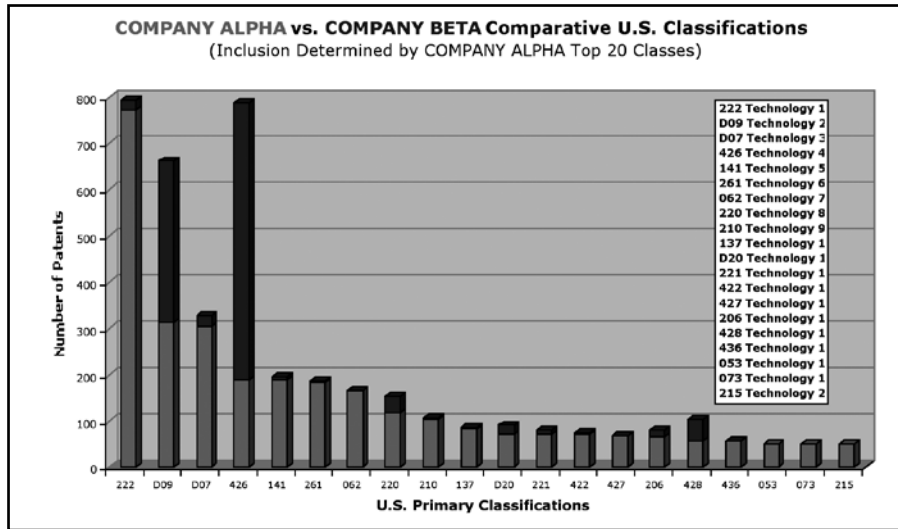


Figure 1: Alpha vs. Beta, USPC Primary Class Comparison

20 USPC primary classes, along with Beta’s presence in the same classes.

From the primary class descriptions in the graph, you can see that Alpha holds patents in almost every technical area required for leadership in their industry. Conversely, Beta appears to lead in patenting in only two primary classes: D09 (packages and containers for goods) and 426 (food or edible material: processes, compositions, and products). A closer look at Beta patents in these classes reveals the following:

- The D09 patents are very narrow and protect mostly ornamental designs.
- The 426 patents actually protect processes related to an ancillary segment of the business.

On the basis of these observations, Alpha holds patents in almost all the core technologies required to lead in the industry. Beta has almost none. How, then, can Beta have the freedom to operate?

There are a few possibilities that Beta:

- may infringe some of Alpha’s patents
- may rely on trade secrets that don’t infringe (thus eliminating the need for their own patents in the area)
- may license the intellectual property of others.

The last option is the most likely one, so the focus of our analysis turns to suppliers. If one player in a duopoly relies principally on external innovation, then exploitation of that dependency by the other player could create competitive advantage.

Subclass Analysis

If Beta relies on suppliers for its access to key innovations, in this narrow industry are these same suppliers also working with Company Alpha?

Figures 2 and 3 show the patent assignees in Alpha’s top two dominant USPC subclasses. In both figures, Alpha is a significant portfolio owner in these areas, while Beta has almost no presence. Since these subclasses represent the core industry technologies, Beta cannot afford to be without

freedom to operate in these areas. Another large portfolio owner in the same subclasses may be assisting Beta.

Across both figures, a significant patentee is the supplier Charlie, which owns supplier Daniel, supplier Edward, supplier Fred, and supplier George. When these assignees are “rolled up” into our data, Charlie is a formidable rights holder, second only to Alpha. This leads to the following essential questions: Is Charlie a key supplier to Beta? More important, is it also serving Alpha?

Research determined that Charlie serves both Beta and Alpha. The similarities between the innovations provided to

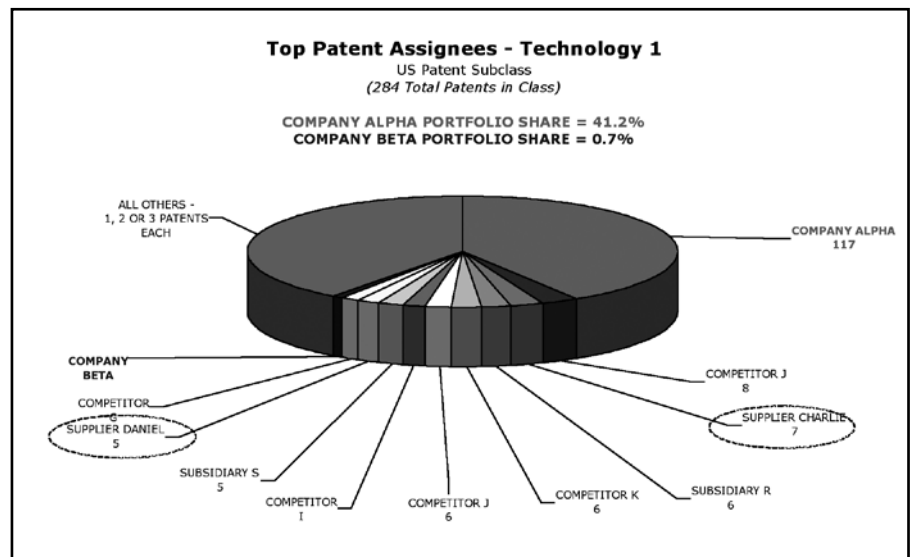
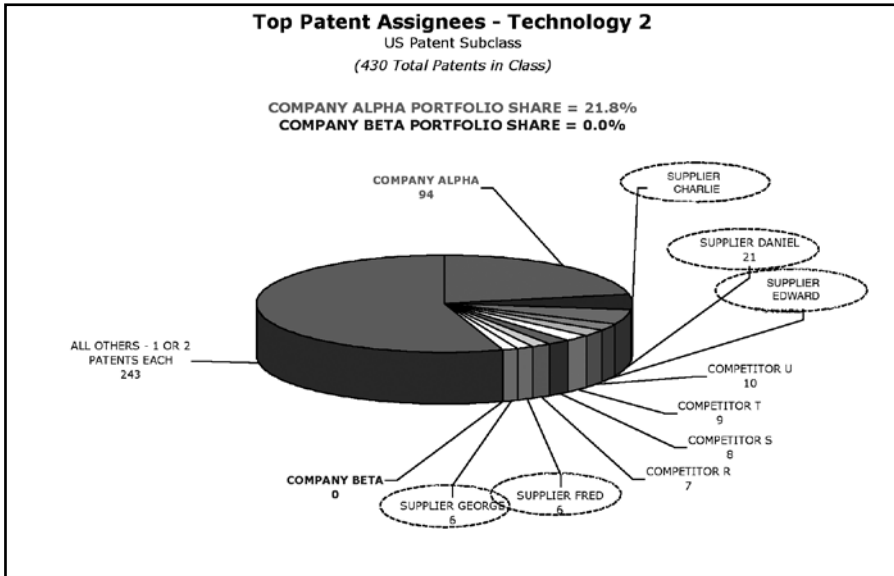


Figure 2: Alpha’s Most Dominant USPC Subclass, with Supplier Charlie Presence Noted



IP DATA WILL CONTINUE TO BE A RICH SOURCE OF INTELLIGENCE

The approach above shows that patent data can provide beneficial competitive insights when they are correlated with other publicly available data. These analyses can be even more useful if they incorporate financial, purchasing, distribution, or partner information.

In an era of open innovation, firms that are seeking competitive advantage and speed to market must critically evaluate the intellectual property landscape early and often. Enhanced understanding of patent data can accomplish the following:

- Speed identification of and access to owners of disruptive innovation.
- Determine whether key suppliers actually control all relevant rights to specific products.
- Provide valuable freedom to operate by pointing to patents that improve negotiation leverage with suppliers, partners, or competitors.
- Prove that key supplier relationships will or will not justify future investment.
- Anticipate competitive behavior by vendors and other industry players.

Building patent data analysis competencies will become a key component of leveraging open innovation strategies. If your company depends on technical innovation from suppliers, mastery of intellectual property and patent data analysis is essential.

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Figure 3: Alpha’s Second Most Dominant USPC Subclass, with Supplier Charlie Presence Noted

Alpha and Beta were too striking to ignore. This was proven by obtaining a Charlie technical manual detailing equipment designed for Beta. (We obtained the document by conducting a simple Google search of the www.SupplierCharlie.com domain, seeking only .pdf files.)

In the final analysis, a forward citation review showed that Charlie cited the Alpha portfolio more than any other company. This additional evidence of reliance on Alpha technology, in light of Charlie’s relationship with Beta and the other indications in the patent data, leads to some interesting conclusions about supplier Charlie and the innovation landscape:

- Since Alpha has such a vast patent portfolio compared with that of Beta, Alpha is likely to be driving innovation trends in their industry.
- Innovation leaders often teach their suppliers about critical problems, which become the basis for disruptive technology. By working closely with Alpha, supplier Charlie might be developing important know-how that could be inadvertently transferred to Beta.
- In fact, Charlie may be patenting technologies “taught” to it from know-how developed by Alpha.
- Therefore, improved supplier management policies—such as stronger nondisclosure, information handling, grantback, and work-for-hire provisions—could reduce Beta’s access to key innovations from Charlie (and others) and potentially drive more profits for Alpha.