

## Illumin8 – Turning Innovation Into A Workflow

### Insights



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The functionality of Elsevier's innovation discovery tool, illumin8, has been enhanced by the introduction of customizable documents that users can create to share their findings and analysis. Launched in 2008, this latest upgrade shows how databases can quickly morph into sophisticated workflow tools.

**Important Details:** An increasing number of knowledge-led companies are outsourcing some or all of their research activities, driven by the perception of the benefits of "open innovation". In the old "closed" paradigm, the creation of intellectual property went on behind lock doors, impervious to the fact that there might be other, better ways of solving the same problem being invented elsewhere. In a world of widely-distributed knowledge, companies can no longer

afford to rely entirely on their own research, but are beginning to buy or license processes or inventions from other companies, or to develop ideas and technologies outside in the form of spin-offs or through licensing agreements.

An example of a company that embraced this philosophy early in the noughties is Procter & Gamble (P&G). P&G is a global manufacturer and marketer of consumer products involving complex operational networks. The company today works on a 'proudly found elsewhere' culture which has opened the door for many innovations.

One of P&G's strategies involves communicating their needs on a public website so that anyone who is interested or already has the solution to a problem can propose their ideas and get them assessed by a specialized team. Rewards for a successful adoption can range from US\$10,000 to US\$100,000. A similar business model is followed by the virtual contract research company, InnoCentive. (See *Insights*, 21 April 2009, NPG and InnoCentive: Crowdsourcing)

But this approach does not necessarily support the very early stages of innovation when the net for ideas needs to be spread extremely widely - and this is where Elsevier has spotted a growing niche - particularly in the automotive, chemicals, consumer package goods, energy and high tech markets.

illumin8, a web-based research tool, supports an organization's innovation process by helping to identify new technologies and applications for product development, supporting risk assessment prior to entering a new market space, uncovering competitor activity or helping identify potential new partners or suppliers. It does this by accessing the 5 million full-text scientific articles in ScienceDirect, 40 million abstracts from 19,000 journals indexed from 5,000 publishers in Scopus and 23 million patents from the five main patent offices, plus content from the web and other news feeds.

Unlike regular search platforms, illumin8 is able to easily identify and show semantic relationships between concepts and entities such as technologies, organizations, products, and scientific approaches - which are often buried in document text and could take many weeks to capture and assess. Furthermore, the system can identify words that might indicate benefits or problems associated with a particular technology, key nuances that are at the heart of the process of ranking specific technological innovations.

At the beginning of a project the system prompts the user to develop the initial search in a structured way, and then delivers the results faceted by organisation, products, people, underlying technologies and so forth. Additional filters are available to restrict by source and date and to see time trends. This "explore" phase provides a quick overview of the organizations, products, people and approaches related to a technology or other topic, allowing users to quickly grasp the "who and what" of a market space from a list of snippets from relevant documents in which the context of the search terms is highlighted.

The next stage of the process, "evaluate", supports the investigation of related benefits and applications of a technology/process/product. Potential risks and problems are signalled by highlighting the occurrence of corresponding problem terms. Once further selection has taken place, the user can proceed to the "compare" phase where the system generates side-by-side views to support the evaluation of current or potential competitors or to help identify a final list of possible partners.

Finally, the new "report" feature summarizes the findings and builds shortlists of products, potential partners, etc together with the users own notes and packages the information in a way that can be conveniently circulated or integrated into longer reports.

Implications: Illumin8 is a nice example of what can be done using semantic technologies and a rich corpus of full text documents and abstracts. By designing the interface around the presentation of relevant snippets and appropriate highlighting of terms it makes the process of review and selection easy and efficient. (Another example of this type of "content interoperability" in the innovation area can be found in Innography's newly-released extended reference feature that links forward citations from patents to journal articles.)

Elsevier is putting a lot of energy into pushing the envelope around the design of technological databases such as illumin8. We commented recently about Geofacets, a tool designed for geoscientists who are working in the early stages of upstream energy exploration. This product uses geo-referenced geological maps to enable users to assess a region or basin's geologic efficiently. [See "Elsevier Announces Partnerships With IHS, Wood Mackenzie - Maps New Content Synergies, Creating Geographical Workflow", an Outsell Insight published on May 31, 2011.]

Furthermore, there is the recently announced Elsevier Biofuel tool, which enables specialists in the area to navigate the Elsevier corpus for appropriate content and the new Genome Viewer which displays detailed gene or genomic sequence information on the genes mentioned in an article in ScienceDirect. All three of these initiatives make the point that Elsevier sees specific workflows as being part of the key to its strategy for shifting some of the value of STM content away from plain vanilla access to full text to applications that can answer questions and solve problems of importance for the end-user.



These specialised tools may not become tomorrow's blockbuster products, but they do mark the beginning of the proliferation of a new market place for the technical or "T" portion of STM. As we have seen in healthcare (the "M" in STM), from such small acorns, mighty oaks can grow! See Report, 9 June 2010, Growth Trends in the Market for Clinical Decision Support Tools.

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