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## Navigating the Intellectual Property Roadblocks to Open Innovation

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### OVERVIEW

In an effort to incorporate outside sources of innovation into their new product acquisition programs, there has been a significant increase in the number of firms opening their organizational boundaries to external ideas. Over the past few years, large multinational companies such as Kraft, IBM and 3M have initiated active open innovation (OI) programs. The benefits to the organization of accepting new product ideas are lower research and development costs and the more rapid procurement of new products to fuel sales, and to the submitter, this can be financially rewarding if their idea is selected for product development or commercialization. Consumer products giant Procter & Gamble estimates that as many as 1.5 million researchers and scientists could contribute materially to the efforts of their own 7,500 researchers and scientists in corporate research and development. However, the economic benefits of open innovation can be diminished if organizations do not effectively manage the legal issues and logistical challenges that are presented. They include the quality/quantity of submissions, and once received, what is the most efficient way to process the submissions received?

To be successful, organizations must be able to effectively sort through the potentially high volume of idea submissions, identify and then select the few that hold the potential of a profitable return. In addition, in patent-centric industries where intellectual property (IP) serves as a necessary barrier to entry, USPTO (US Patent & Trademark Office) restrictions and other legal issues are now more pressing than ever. The America Invents Act, which was enacted in September 2012, can seriously complicate the OI process if not properly addressed.

In this paper we'll examine the primary challenges of OI and outline how the introduction of web-based software tools can address these challenges. By integrating the best of the emerging OI practices, with a secure point of access on your corporate website, your organization will be able to deploy an IP safe portal through which to collect and manage the external submissions of new ideas, products and technologies.

## VALUE IN ADOPTING OPEN INNOVATION

In broad terms, open innovation is the process of obtaining, evaluating, selecting and applying ideas from outside an organization to improve products, services, processes or business practices. Alexy *et al.* (2010) studied the open innovation processes within 150 Fortune 500 companies, including Johnson & Johnson, Pfizer, GlaxoSmithKline, Xerox, Hewlett-Packard and others. Using a combination of direct employee interviews and web-based research, the study found that only 32% of the world's largest firms employ some form of unsolicited idea process. A separate Forrester Research survey found that 77% of companies surveyed have a mature or expanding OI program (16% mature, 61% emerging/expanding), and 19% have at least an experimental program already in place.

## LEGAL AND TRUST ISSUES

Addressing intellectual property and legal concerns is generally considered the most problematic and complex issue facing innovators and receiving companies. The potential for dispute over IP property ownership can forestall the OI process. The importance of this issue is further emphasized by the recent passing of the Leahy-Smith America Invents Act (AIA), which goes into full effect in March 2013. With the new AIA, patent rights are being modified from the "first to invent" to the "first to file" inventor. This increases IP paranoia and, at the same time, increases the urgency for companies to move from early stage concept to formal filing of patent-worthy ideas.

As OI evolves and expands beyond the consumer-oriented markets to more patent-centric industries, such as the life science markets, IP security becomes the chief concern of the submitting and receiving parties. The submitter needs to protect their invention details or trade secrets, while the receiving party could be exposed to litigation risk if the submitted information is not properly controlled or confidentiality is not maintained. For the life science and medical device technologies, IP often holds significant economic value for recovering R&D costs and as a barrier to entry for competitors.

In most cases, the ideation process involves an individual or small company submitting their innovation to a large company. The risk to the submitting party is that their idea is simply overlooked or used without their knowledge. Early stage and pre-patented technologies are especially susceptible due to the high cost and protracted time frame in developing novel new technologies. Consequently, many innovators are compelled to partner with larger companies in order to develop and market their invention. Companies that promote an OI culture must establish and maintain a reputation of trustworthiness and be viewed as a reliable development partner for external innovators. To that end, OI companies should provide clear and prompt communications to their innovation community, access to OI officers and, to contain costs, minimize the involvement of lawyers from initial technology assessment conversations.

The OI firm may also need to put mechanisms, such as firewalls or dedicated idea submission portals with structured IP disclosure processes, to prevent accusations of misappropriation of IP generated by others. Specifically, there could be a future dispute over the ownership of submitted IP. Concurrently, a dispute could arise if the received IP is very similar to existing internal research. In these cases,

documenting the timeframe and details of the submitted idea are critically important to preclude downstream litigation. As a precaution, corporate lawyers often insist on full ownership or limited disclosure of IP in conducting transactions with external innovators. Corporations taking this position will generally disqualify innovations at an early stage of development or where licensing agreements prohibit clear IP ownership. As shown in Table 1, understanding the IP class of ideas submitted through OI is essential in bilaterally protecting the confidentiality of the submitting party, as well as, the liability of the receiving company.

**Table 1 Intellectual Property Classifications and Characteristics**

<b>IP Category</b>	<b>Characteristics</b>	<b>Examples</b>	<b>OI Issues to Address</b>
<b>IP – Class 1</b>	Relatively simple, non-patented public knowledge or information	Recipes, clothes designs, paint colors	Potentially high volume, low quality need to be sorted for economical selection and application
<b>IP – Class 2</b>	Not always patented, however, patents or trade secrets can provide value	New combination processed foods, methods for producing a specific paint pattern	Idea sorting efficiency is key. IP protection becomes necessary
<b>IP – Class 3</b>	Patents and trade secrets essential as entry barriers and to recoup R & D costs	Medical devices, pharmaceuticals, semiconductors	IP protection from initial due diligence through licensing and technology development
<b>IP – Class 4</b>	Technology and trade secrets used for national or military security	Night vision goggles jet aircraft, weapons technology	IP and trade secrets typically cannot be openly shared due to national security concerns. Collaboration can exist with some basic R & D

**Adopted from Glassman and Walton (2010)**

To summarize, current OI tactics work well for Class 1 and some Class 2 IP, where the idea or innovation is in the public domain. For higher level Class 3 IP, where the IP is a technology differentiator and critical to the success of the organization, obtaining ideas or inventions from OI partners must be done in an

increasingly documented and systematic fashion that is respectful of the IP paradigm. If not properly conducted, the following issues could arise:

- Inhibit internal R&D efforts: through an unsolicited OI process, the received IP could be very similar to current or planned research at the receiving company.
- Corporate IP permeability: for instance, by submitting confidential information through emails, at trade conferences or directly via the Contact Us web page on the company's website – may inadvertently expose the company to IP litigation. The potential for digital IP permeability is heightened by not adopting a standardized format for idea submission.
- Downstream IP litigation: this could occur if the development time line is not well documented and a claim of IP ownership or misappropriation arises.
- Freedom to operate: if the IP is pre-patent protected but covered by a CDA, it may restrict the receiving company from pursuing similar research.

### **PROBLEMS WITH ADOPTING OI SOLUTIONS FOR COMPANIES SENSITIVE TO IP RISK**

From research by Alexy *et al.* (2010) and many others, the primary obstacles companies face in implementing OI include idea quality, quantity, processing efficiency and intellectual property legal issues. OI is easier to adopt, for instance, in the consumer product markets if the ideas being submitted are part of the public domain and do not contain IP that needs to be protected. However, these submitted ideas tend to be lower quality because they lack novel or patentable content. Conversely for patent-centric industries, such as medical devices, organizations need to be cognizant of legal and confidentiality issues, as well as the financial rewards and burdens. Companies in IP sensitive industries that adopt OI can control the costs and potential liability by using an automated system to optimize the effectiveness of their OI programs and addressing the following key attributes:

#### **QUALITY OF IDEAS SUBMITTED THROUGH OI**

The quality of ideas and innovations submitted through OI are largely dependent on how the ideas are solicited or collected. Without specific technical expertise or intimate knowledge of the receiving company's strategic plan, submitters may only contribute marginal value. In practice, the overall quality of ideas submitted through OI is improved when the receiving company indicates to potential submitters the types of innovations desired. It is also important to understand the utility of common OI sources such as crowd sourcing, qualified key user groups, as well as business partners, vendors and university collaborators, to effectively communicate the types of novel ideas the company is seeking.

#### **QUANTITY OF OI IDEAS**

In a truly "open" innovation idea capture process, the quantity of the ideas submitted is often so voluminous it can significantly hinder the efficiency of the company's OI process. Without a structured screening process and structured data, a high volume of low quality ideas may make it impractical to separate the valuable ideas from the others. This results in a bloated process with a heavy resource demand and severe financial burden, leading many receiving companies to defocus, diminish, or shutdown their OI efforts.

## IDEA PROCESSING EFFICIENCY

Idea filtration, management and selection, for many companies, are the key measures of OI success. The efficiency of identifying and selecting ideas, as well as the economic impact of problem resolution and developing new products and services, constitutes a company's "return on innovation". Ideally, the goal of filtration is to systematically and economically apply selection criteria to sort through a high volume of ideas and select the relatively few ideas that offer merit and fit the strategic direction of the company.

There are clear relationships between the quality and quantity of ideas obtained through OI, as well as the compounding effects idea quality and quantity have on the level of effort and efficiency in processing and selecting ideas. Specifically, the benefits of OI are maximized when an organization clearly signals their areas of interest to suitable collaborators and then employs an automated system to efficiently review and select ideas to pursue further or incorporate into new product or process development. A company's "return on innovation" can be measured by the costs and the level of effort necessary to identify, process and selecting those ideas. Another important benefit of processing efficiency is reducing the "time-to-market" for selected innovations thereby increasing the "return on innovation" and generating new revenue opportunities much sooner.

## SOLUTIONS TO IMPROVE THE EFFECTIVENESS OF OI IN PATENT SENSITIVE INDUSTRIES

### Increasing the Quality of Incoming Ideas

In support of market research, e-Zassi, a provider of specialized open innovation software solutions for patent centric industries, has developed the following strategies, tactics and systems to help companies deploy, manage and increase the value of their OI programs, see Figure 1. These include:

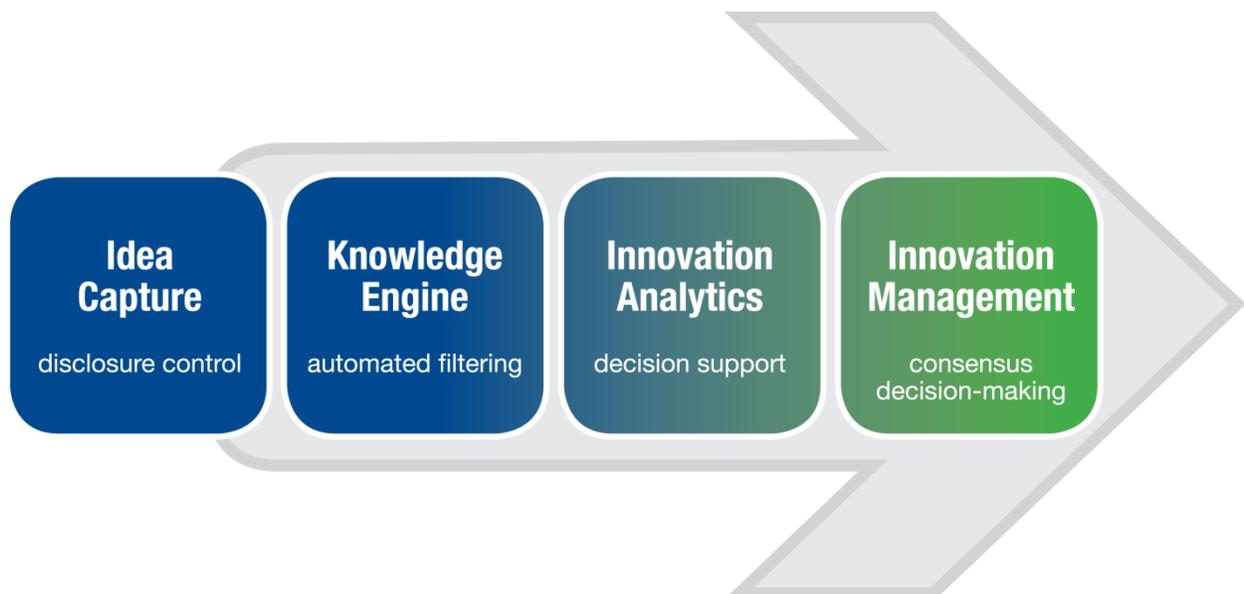
- 1) Signaling (garnering the right type of idea)** – While the objective of soliciting ideas from outside the firm is generally to solve problems or fulfill product development needs, the challenge remains how to get the right people with relevant technical competence to submit their ideas while still keeping the open innovation process alive. Conversely, how does the firm exclude certain unsolicited ideas that have no value to the strategic direction or product pipeline? The key to addressing idea submission quality and alignment of incoming ideas involves the proper signaling, or communication, to potential submitting entities. e-Zassi's OI Management System accomplishes this by establishing and promoting a customer facing "Submit Your Idea" portal or link on the company's website to share and publicize current and future areas of research, specialization interests, product or technology roadmaps and particular problems that need resolution.



**2) Structuring (standardizing the content)** –This process involves establishing and enforcing company procedures during the front and back end of the OI process. Most commonly, the structuring process establishes prerequisites for the submitter, such as technology focus (i.e., having a patent or patent-pending on a technology), or the acceptance of the receiving company’s legal terms and conditions. e-Zassi’s OI idea capture methodology provides the structure through a customized web portal (with inclusion, exclusion and special treatment criteria) to digitize and process the unsolicited ideas using a detailed business decision support format with automated comparative and analytical functions. In addition, e-Zassi’s process provides mutual confidentiality and limits IP legal exposure through structured questions and answers to control the submitted content.

**3) Selecting workflows to aid in due diligence** – Once ideas have been accepted, e-Zassi’s software evaluates the ideas for business value. This selection step involves establishing evaluation criteria and workflows to score, rank and share information in a repeatable assessment process. The e-Zassi OI Management System calculates factors, such as regulatory burdens, market size and manufacturing requirements, to provide a detailed technology assessment.

Typically, a cross-functional team would then rate, rank and vote on the merit of each OI idea using the same criteria applied to vetting internal ideas, such as technological merit, regulatory class, current maturity level, reimbursement criteria, future market direction and strategic fit. Most firms will include both a technical and legal review. In some companies, these two types of reviews are conducted in sequence and in others the reviews are conducted in parallel.



**Figure 1: The e-Zassi OI Solution**

## **CONCLUSION: OI PROBLEMS THAT NEW SOFTWARE SOLVES**

e-Zassi's cloud-based and SaaS OI Management System vastly improves the OI process for organizations involved with novel products that are IP-centric such as life science companies by automating the idea capture, filtration and selection process, while providing concurrent IP protection. The e-Zassi platform includes all OI solution elements advocated by researchers and successfully used by market leaders worldwide to optimize the quality and strategic relevance of externally submitted ideas.

Through the e-Zassi system, a series of simple questions allows innovators and companies to gain detailed, insightful information regarding the submitted innovation within the framework of a robust Intellectual Property protection system that fosters trust and confidence essential in meaningful collaboration. e-Zassi's standardized format minimizes digital permeability and provides bilateral IP protection to eliminate the need and cost for premature Confidentiality Disclosure Agreements.

Drawing on leading, market-specific databases, the e-Zassi systems knowledge engine generates a detailed InnoVision™ Report that generates powerful business intelligence information to aid in rapid due diligence of ideas. e-Zassi tailors this business intelligence by industry but in the case of healthcare clients this includes information such as regulatory criteria, FDA classification, reimbursement outlook, market potential, maturity level and manufacturing variables. From this comprehensive, decision support platform, companies gain immediate insight into the value of the submitted idea. Controlled workflows then allow assessment teams to score, share and track external and internal product and process development information. e-Zassi's customizable system is being adopted by organizations worldwide to capture, process and select ideas through OI, providing sustainable benefits to their organizations through collaborative opportunities with academia, customers, innovators and other companies.

For organizations looking to adopt the power of open innovation in order to procure and acquire more new products faster in order to fuel new revenues, this specialized software suite will elegantly address the operational and legal issues faced to ensure a secure system is in place to safeguard all IP issues for all parties involved.

## REFERENCES

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