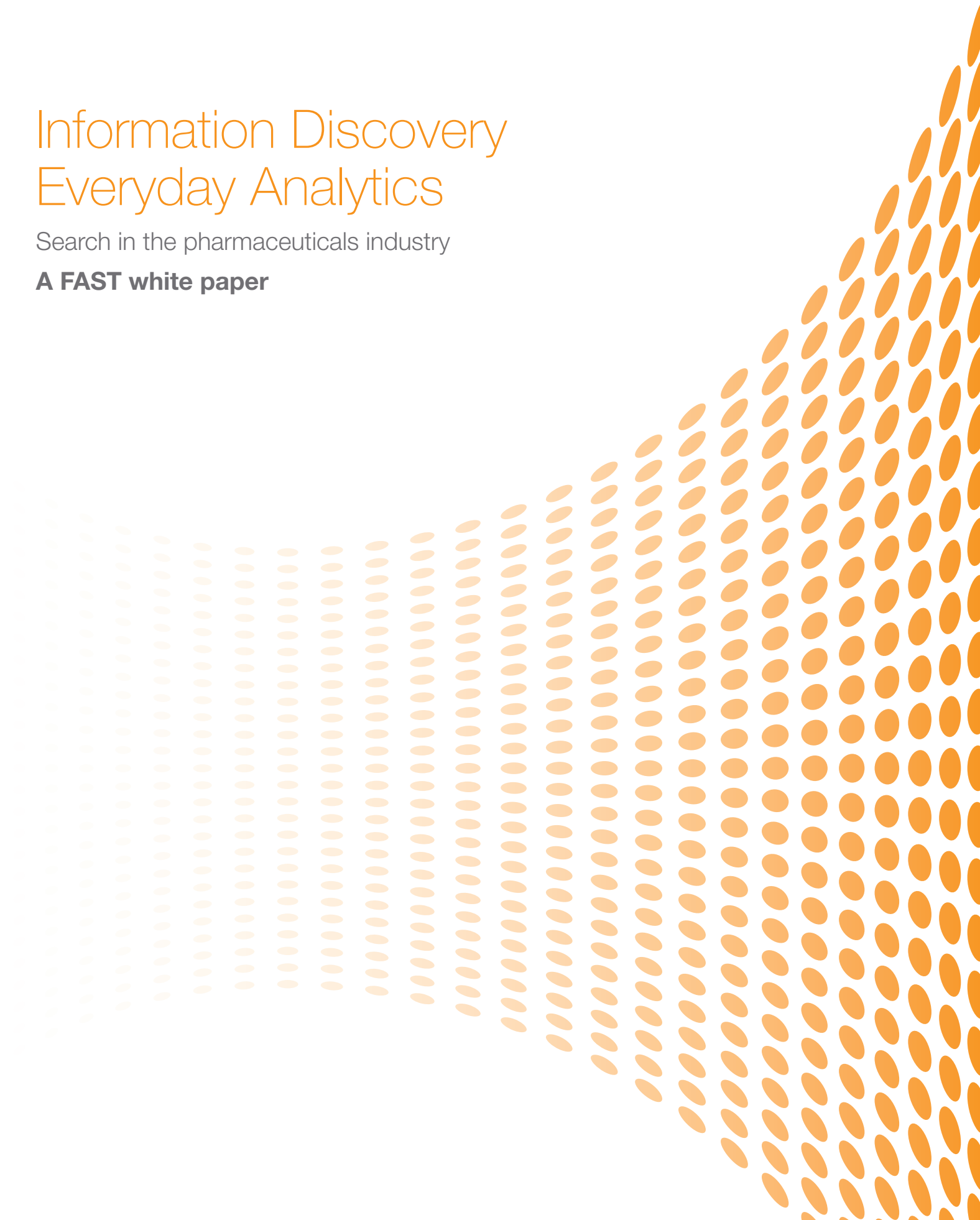




Information Discovery Everyday Analytics

Search in the pharmaceuticals industry

A FAST white paper



Background

Challenges in the Pharmaceuticals Industry

The dynamics of the Pharmaceuticals industry are challenging. There is a need to maximize the revenue from high-potential drugs by bringing new drugs through the pipeline faster, by reducing the cycle time for all business processes, and by minimizing costly exploration and duplication early on. Along with this, is the element of risk, whereby pharmaceutical companies are trying to limit risks associated with regulatory or marketplace issues. To minimize downside, companies are trying to make better risk-reward decisions that take into account all available information. They're also scrambling to respond to ad-hoc regulatory requests. It is often said that the economics of the pharmaceuticals industry emphasizes the speed of "fully-aware" decision-making.

In order to be one of the successful players, every pharmaco recognizes the need to improve its agility and the quality of its insights and decision-making. To decrease time-to-market, the firm needs to be able to make quicker go/no-go decisions in all functions of its business. It needs to improve its insight so that decision-making takes into account all relevant internal and external information. Currently, the firm probably has decades of information trapped in disparate, siloed business information systems. The information in many of these systems contains valuable knowledge that is not being utilized because it is too difficult to explore, tie together, and draw conclusions from. In our experience, the forward-thinking firms are embarking on initiatives to develop an information discovery solution that will unlock the institutional memory of the company. The goal of this information discovery solution is to provide a single source to access, federate, and consolidate the information spread across all of the pharmaceutical company's relevant business systems. Said simply, it is to provide a single version of the truth. This system will make information accessible and useful to the various consumers who need it to make better business decisions, more quickly.

The business benefits the drug company is aiming to achieve with this solution are plentiful. In its full vision, the solution would enable its employees to:

- Improve productivity by enabling better everyday search of documents
- Limit or stop costly duplication of exploration
- Respond more quickly to ad-hoc regulatory demands, avoiding fines
- Uncover linkages to associated data that yield net new observations and insights
- Pursue intuition to come up with fresh ideas

To achieve these and other business objectives, firms recognize that it is prudent to use a phased approach to enhancing its searching of information. In its initial instantiation, the initial solution must be able to provide tangible benefits along the first dimension of everyday document search. This is not trivial. It involves creating a tool that ties together numerous information sources, both internal and external. It also goes beyond basic search by providing navigation bars, clustering, and entity extraction, out-of-the-box. In summary, it should provide a markedly improved experience for the pharmaceutical company employee seeking to improve their productivity and ability to find the answers they need in their everyday document searches.

The second phase of this initiative will endeavor to provide more advanced solutions that have direct business impact on multiple business functions across the company. These new solutions will use the firm's understanding of each business unit's goals to suggest methods by which they can augment the search platform for optimum results, depending on the user and purpose. As well, the most thoughtful firms understand that this requires a change management program. Learnings from the first phase will be put into practice in a more advanced search solution and allow the leading-edge firm to derive measurable competitive advantage.

Business Objectives

Pharmaceutical Firms' Business Issues

Pharmaceutical companies are constantly looking for ways to develop insights into information to gain a competitive edge in the fierce marketplace. As the volume of information multiplies, pharmaceutical company decision makers are often overwhelmed with excessive amounts of data, and yet, they're not always able to find the information they need at the right time.

As the market for drugs becomes more competitive, the winning firm is the one that not only develops timely new drugs but also makes the best use of information about its customers and markets, to be more agile in its marketing and effective in execution.

Many pharmaceutical companies' business goals include developing market leading and differentiating products that not only target market demand and outperform the competition, but are also manufactured in a timely and costly fashion. However, the firms are faced with a variety of complex business challenges, such as high product development costs, competition internally and externally with new product projects, increasing regulatory hurdles, product liability, and protection of intellectual property (IP). To assist in achieving the business goals and minimizing the challenges, the firm and its supporting ranks of employees need simple and timely access to information, to enable them to make the right business decision with all the facts at hand—offsetting the potential for 'reinventing the wheel'.

Currently, lab/clinical researchers, project managers, and regulatory compliance employees all need comprehensive access to prior research documentation (internal and external), and they need to avoid wasting time looking for information, while shortening the response times to information requests (internal and regulatory). The aim of simplifying information access to all concerned is to avoid repetition, allow relationships to be extracted between different silos of data, and enhance the discovery and decision making process. While

investigating the applicability of search within the industry further, FAST has identified current information access barriers and the potential return on investment and total cost of ownership associated with information discovery.

FAST has identified 4 key areas, in which pharmaceutical companies could look to save costs when accessing information and making critical business decisions:

1. Everyday Knowledge Worker Productivity
2. Pharma Intelligence and External Discovery
3. Clinical Research and Internal Discovery
4. Responding to Regulatory Requests

Everyday Knowledge Worker Productivity

It has been estimated that 30% of knowledge workers' time at pharmaceutical companies is spent searching for information. With a moderate improvement in productivity in this dimension, these key employees can spend their time in customer-facing or other tasks that have more tangible business results. Existing business processes are often cumbersome and IT efficiency at pharma is comparatively low. Data integration and information discovery are significant components of efficiency savings to be accrued. Even the most risk averse pharmaceutical company would benefit from an enterprise search platform that provides a federated information access solution that not only saves knowledge workers' time but also improves IT efficiency through consolidation.

Pharma Intelligence and External Discovery

Competitive positioning means that the firm needs to better understand what is happening in the 'outside world'. A Pharma Intelligence-driven application enables the discovery of new drug relationships through systematic mining of information on the Web, journals, and other external sources. Being aware allows the pharmaceutical company to recognize the potential implications of new products and compounds that may impact its own product development. Monitoring and alerting of patent behavior can spot infringements and pushes role-based information and events to the researchers involved.

The upside of Pharma Intelligence applications mean that the company can avoid infringement litigation procedures, move early on expired patents and enable faster product development. Being able to have a unified view and exploit internal and external information, lab researchers can avoid rediscovery of known facts, minimize lost opportunity and personalize information delivery per researcher.

Clinical Research and Internal Discovery

In any innovation-based business, the key knowledge workers in PR&D must have the tools they need to minimize the amount of unnecessary time spent looking for key data, or find out about previously-conducted analyses. The more they can follow their intuition and leverage prior analysis, the sooner they can bring new ideas to market, shortening time-to-market.

The firm needs to leverage its institutional memory when researching and developing new products. Ultimately, the aim is to avoid the opportunity loss, accelerate information rediscovery, and enhance timely access and dissemination of information across all the lab researchers, clinical/project managers, and the affiliate sites. In the event of a particular product failing, the R&D team needs to know whether it is going to fail early and fail cheaply. Facilitating the data/information integration across legacy data stores will help sharpen the clinical research strategy across the many existing and new projects.

The benefits associated with improving the ability to leverage institutional memory related to clinical research and internal discovery include shortening time-to-market, improving historical awareness - eradicating duplicate efforts, allowing the company to fail early, and catalyzing the patent application process. In effect, this unlocks and allows the sharing of knowledge, removes associated dependencies, and avoids reinvention through fact and relationship mapping between data silos.

Responding to Regulatory Requests

Regulatory demands are asynchronous and often require an urgent and comprehensive response; they often carry stiff fines for non-compliance. Effectively managing the response process and staying ahead can significantly affect business results.

Currently, an average pharmaceutical company spends just over 1,000 person days responding to various regulatory requests—legal, health authority, safety, and executive requests. High costs are associated with these requests due to expensive legal counsel, unpredictable demand curves (timing, number of requests, nature of requests, etc.), immediate information need, and the penalty of non-compliance.

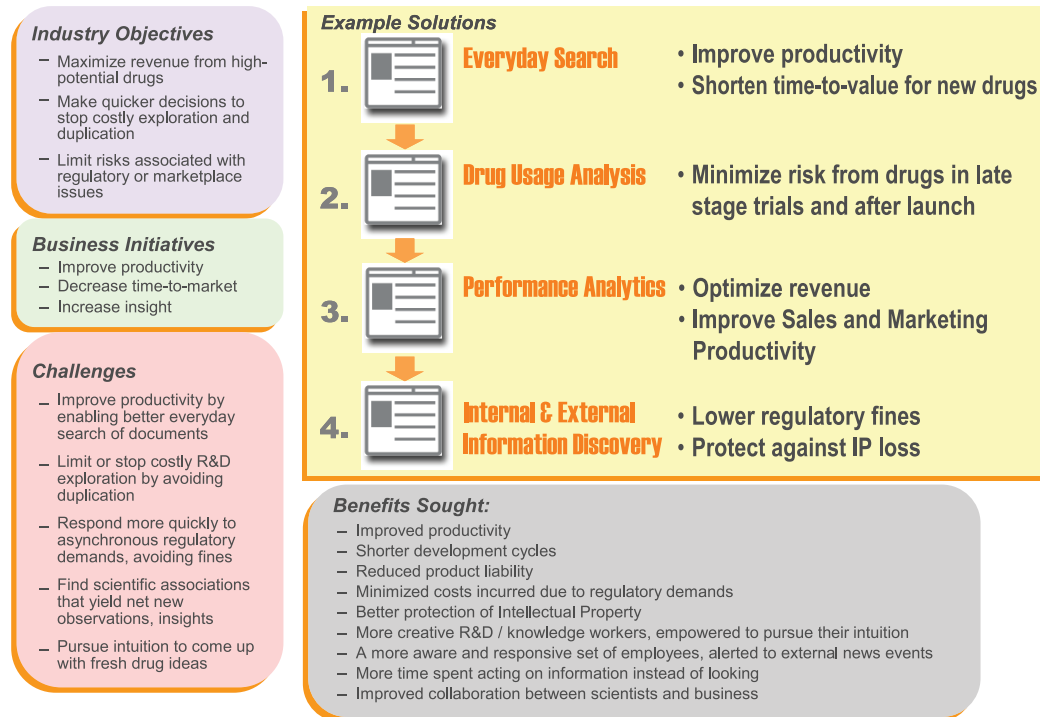
Desired Outcomes

Should the pharmaceutical company be successful at empowering its employees and improve knowledge discovery company-wide, the outcomes could potentially be tremendous:

- Improved productivity
- Shorter development cycles
- Reduced product liability
- Minimized costs incurred due to regulatory demands
- Better protection of Intellectual Property
- More creative knowledge workers, empowered to pursue their intuition
- A more aware and responsive set of employees, alerted to external news events
- More time spent acting on information instead of looking
- Improved collaboration between scientists and business

By leveraging knowledge discovery tools, the drug company can look to shorten the time it takes to respond with accurate and appropriate information, avoid legal penalties, and avoid litigation. Furthermore, the firm will now be in a position to shorten the turnaround time when tasked with “find everything (appropriate) and find it now”, reduce dependencies on experienced staff (in locating the information), facilitate better reporting, and protect external brand identity.

Figure 1. Lifecycle Roadmap for Pharmaceuticals



Solution

Working with FAST on an Information Discovery Everyday Analytics Solution

FAST recognizes that the first phase of this solution must provide tangible benefits in a short duration of time. While the lofty benefits can be achieved through a business transformation based on search, the first step is to develop a useful everyday search solution.

We have created a lifecycle roadmap for the pharmaceutical industry shown above in Figure 1. Prima facie, most firms are probably at the entry-level stage, seeking to improve the productivity of its workers. In order to prepare for the complete Information Discovery Everyday Analytics solution,

FAST recommends putting in place a roadmap which details how a pharmaceuticals firm and FAST get started to deliver quick wins, build an education, training, and best-practice sharing change program to accelerate adoption and gather requirements for the next phase, and eventually implement an information discovery solution which matches the business needs of the company.

About FAST

FAST is the leading developer of enterprise search technologies and solutions that are behind the scenes at the world's best known companies with the most demanding search problems. FAST's solutions are installed in more than 3500 locations.

FAST is headquartered in Oslo, Norway and Needham, Massachusetts and is publicly traded under the ticker symbol 'FAST' on the Oslo Stock Exchange. The FAST Group operates globally with presence in Europe, North America, the Asia/Pacific region, South America, the Middle East and Africa. For further information about FAST, please visit www.fastsearch.com.

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