Adding value to search results at 3M

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Abstract

In order to ensure delivery of search results in a large corporate environment, in high value, easily accessed formats, the authors describe techniques of adding value to search results at 3M. Two types of enhancement are described, one based on Microsoft® Word, the other on Lotus® Notes. In each case the improvements are measured against the six criteria of: ease of use, noise reduction, quality of information, adaptability, time savings, and cost savings.
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1. Introduction

With more than 55,000 products, 30-plus core technologies and leadership in major markets worldwide, 3M continues to develop ingenious solutions for a wide variety of business and personal needs. As a technology company, 3M competes in business areas where speed-to-market and intellectual property (IP) protection provide competitive advantages. In addition, 3M has a long-standing corporate intellectual property policy that states, in part, "Technical personnel shall know the worldwide patent and non-patent literature relating to their area of activity" [1]. The pace of innovation and growth in business needs leads 3M to be on the list of top 50 patent assignees [2], averaging 500–600 US granted patents each year. Six Sigma [3] business processes incorporate an assessment of the IP landscape early in the product development cycle. All these factors place a premium on information that is delivered in high value, easily accessed formats.

Several authors have attempted to quantify the value of information in a business and economic sense. Bouthillier

and Shearer [4] developed a methodology for evaluating the ability of an information system to add value to raw information. To have value, information must be formulated to be used; the value depends on a user's ability to access the information in context. Thus, software systems must contribute to the accessibility of information, make it easier to use, reduce noise from irrelevant material, and offer the ability to adapt the information to the user's specific needs. This evaluation process can extend beyond the narrow focus of evaluating software to the library itself. The primary function of a corporate library service is to add value to information, creating and contributing to an information culture. A corporate library has the potential to become a value center even if it cannot be a profit center.

Taylor [5] has identified six value-adding processes by which users evaluate systems and services:

- Ease of use.
- Noise reduction.
- Quality of information.
- Adaptability.
- Time savings.
- Cost savings.

In this paper, we will show two approaches to adding value to patent information, and use this framework to

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show how we add value to the delivery of search results retrieved from traditional online resources. In the first section, we describe enhancing results using a Microsoft® Word template and macros. In the following section, we describe how Lotus® Notes®-based databases can add value to patent information. A variety of approaches to organizing and preparing search results have previously been described. At Sopheon Teltech [6], a search and information consulting service, automated processing of text files resulting from an online search reduced the time to convert raw search results into a readable product for their clients.

2. Enhancing search results using a Microsoft® Word template and macros

The system we describe here uses Microsoft Visual Basic for Applications macros in Word to apply standardized formatting and text. The document template includes macros that add a standard cover page, format a table of contents, create and highlight topic headings, highlight text strings, and identify search strategy text for the client/consumer. The macros automatically insert request-specific client and searcher information from an in-house work tracking database. Finally, the template interacts with external software to add additional features to the search results that increase value.

Although the template provides standardized formatting, it also incorporates many variables that allow the opportunity to personalize the search result and act as a relationship-building tool between searcher and client (Fig. 1). The searcher is identified on every page of the search report, providing easy access for the client to follow up with questions. In addition, the search report is branded with the 3M Information Research and Solutions (IR&S) department name as a header on every page, contributing to the client's confidence in the validity of the results. Since printed reports are likely to be shared among end users, the department identification reinforces the reliability of the information for a broader audience.

2.1. Ease of use

Taylor's definition for ease of use includes features that enhance browsing, especially the arrangement of data, ordering and grouping, and orientation to the data. One way to increase ease of use is by creating a table of contents (ToC). The ToC is automatically generated by a Word macro which is customized according to the field tags and formats of the individual commercial sources (databases and vendors) of the information. One important point to note is that we typically use enhanced titles provided by database publishers Derwent World Patents Index® and IFI Claims in the ToC. These enhancements facilitate the client's ability to evaluate the sources rapidly before eliciting more detail from the search report.

Grouping search results in meaningful clusters is another way the searcher can add value for the client. One subroutine found in the template macro is to move selected text (a patent record) to the top of the search result
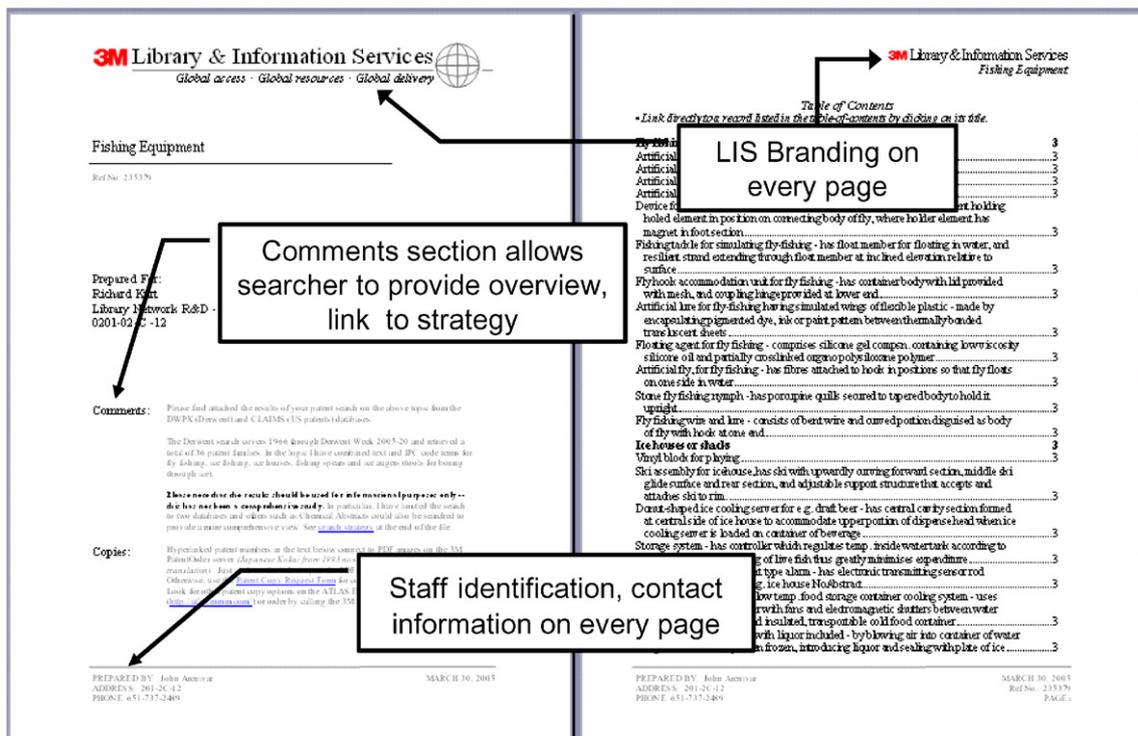

Fig. 1. Title page and table of contents page with highlighted features.