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Evaluation of Web Discovery Services: Reflections from Turkey

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Abstract

After the occurrence of Google and failure of federated search engines against Google, web discovery services appeared as a savior for libraries. Main importance of web discovery services is a google-like single search box, speed and comprehensiveness. This study aims an overview for web discovery services and analyzing the use and awareness of these services in Turkey. Web Discovery Services are used by 52 of the Turkish universities, 39 state universities and 13 private universities (August 2012). Ebsco Discovery Service (EDS) and Serial Solutions Summon are most commonly used discovery services in Turkey. EDS have 101 users (31 Universities, 3 Institutions, 1 Military Institution of Higher Education and 66 Ministry of Health Training and Research Hospitals), Summon have 21 users that all are universities. The other two discovery services, OCLC Worldcat Local, Encore Synergy and Primo Central don't have any user in Turkey library market for now. According to the results of the conducted survey (February 2012) to all 160 higher education institutions in Turkey, 63 of the 74 respondents have information about web discovery services. About half of the 39 nonuser institutions attempted for using a discovery service.

Keywords: Web discovery services; web-scale discovery; federated search; Turkish university libraries

1. Introduction

The main goal of libraries is to connect users with the information they seek. Because of the significant changings in scholarly use of information services in recent years, getting the most relevant information as quickly as possible have a great importance for today's users. Google has a very important impact on users' experiences and expectations mainly in the last decade. Positive experiences of users with Google have raised their expectations; they want same performance from libraries. They don't want to jump from one interface to another; instead they prefer a single access point that has the ability to search multiple resources simultaneously.

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They want the library catalog to foresee what they are looking for based on the words they type in the search box. They expect no separation between searching and finding, or discovery and delivery; they expect these two activities to be one. Shortly, they want a research experience mirrors the one they live with Google. For many users, the quality and reliability of the results are less important if it is easy and quick to find information. For these reasons, the library has declined steadily as starting point for research. Research process is no longer begin with asking reference services of libraries or with searching library catalog. Libraries are often not the first stop for research, or maybe not a stop because of the numerous alternatives for discovery out of library. It turned to network-level services, includes general purpose search engines mainly [1-9].

Many academic libraries are redesigning their websites to compete with Google and to provide their users a Google-like experience, in other words for students' and researchers' continue to use library resources and for libraries' continue to be significant for academia [1, 10]. Web discovery tools reflect the searching way that users want and answer the initial question of searching, "where do I begin" [8]. They respond to many of the user issues that libraries are facing such as speed, relevance, response time, increased consistency, simplified interface, intuitive design, simple and direct searching, more accessible useful metadata, links to full-text, spell checking, and a variety of social networking options (reviews, tagging, etc.) [1, 8, 10, 11]. Web-scale discovery services harvest content from local library resources and hosted repositories and create a comprehensive centralized and unified single index for institution's information resources, with the other words they unify the content that traditionals separate them as library owned and licenced, physical and digital. Web-scale discovery services have the capacity of connecting researchers with a great amount of content that includes physical content that is locally held, such as books and DVDs; local electronic content, such as digital image collections and institutional repository materials; digital collections, such as full text journals, e-books, abstracting and indexing resources purchased or licensed by the library and open access repositories. Shortly, they combine purchased, licensed and free information. Web-scale discovery services provide users to search most of the library's collection all at once. This is a big change for users that they no longer need to choose a specific search tool to begin their search. While users can search across a broad range of content, they can also limit their search for only the available sources at their own institutions. Web-scale discovery services have a Google-style single search box designed as a single access point to wide range of library content, eliminates the need to merge results, allow easier deduplication and provide rapid search, quick and relevantly ranked results. It also have advanced searching capabilities [1, 10-17].

Because web-scale discovery tools are new for the information market, library environment are not necessarily aware of them [15, 17], they will start to gain more attention with the implementation of these tools by a growing number of academic libraries [1]. Academic libraries spend lots of money for purchasing online databases, electronic collections etc. and lots of staff time for supporting these services [10]. They must evolve in response to the rapidly changing information environment for not losing their potential users and to make the users to put more value to gateway role of libraries to information that own licence valuable and costly full-text databases [4, 6]. This paper aims to introduce the concept of web-scale information services, understand the need for web discovery services and provide an overview information for librarians want to know about web-scale discovery services; to make them consider about these services, begin or continue investigations on these services.

2. Web Discovery Services

Evolution of information discovery tools within the library context started with card catalogs. As a next step, those card catalogs transferred to online integrated library systems (ILS). These were only available in the library. In the 1990s, with the development of the web, HTTP web-based online catalogs were created. Electronic journal content, e-text and e-book content, abstracting and indexing databases also appeared in 1990s, but firstly in CD-ROM format [15-16]. In 1998, a new search engine developed by two Stanford graduate students. It was Google which is often first and mainly the last stop for todays' users who have grown up with Google for information discovery [15]. Google became the standard for users with its simple interface as easy as entering

keywords in a single search box, speed, accessibility wherever a searcher can get Internet access, broad content and quality results [4, 17-18].

In contrast to Google, libraries generally subscribe about 100-400 databases each of which have different interfaces [4, 17]. Federated searching also known as metasearching, identified by Roy Tennant and others during late 1990s and early 2000s, was supposed to be simple interfaces providing seamless searching across logically clustered databases of information and being a way of meeting the expectations and needs of Google generation, that they would allow users to search, retrieve and display content from multiple resources such as abstracting and indexing databases and full-text databases simultaneously as easy as entering keywords in a simple search box. In other words, they could allow libraries to become "one-stop shop" for their users. It is one of the major advantages of federated search to access library resources without having to select a specific database and without repeating the search that users do not want to jump from one interface to another when they are searching for information. The biggest players in this market are MuseGlobal, Serials Solutions WebFeat, and Fretwell-Downing [3-4, 11, 15-16, 18-20].

The development of federated searching had become one of the main growth in academic libraries at that years that many libraries thought federated searching instead of Google because of including more scholar sources than Google [4, 9, 18]. Federated search tools have not been able to achieve to provide a Google-like search box that can quickly retrieve information for all library resources for several reasons [19]. Over time, it has been clear that federated searching are not meeting the needs of users [9]. Issues raised on the capabilities of federated search mainly as difficulty, complication, slowness, merging of resources, deduplication (merging results) and ranking of retrieved results [9, 15, 17-18, 20-23). Beside these, the number of individual resources that can be simultaneously searched was limited with federated search tools [3, 17]. It may be better for smaller libraries or public libraries to use federated search tools for providing access to a selected group of databases [20].

In 2000s, library web catalogs changed as "next-generation" library catalogs. Next-generation library catalogs such as Encore, Aquabrowser, Exlibris Primo were more functional that they had "Web 2.0" features like tagging, submission of reviews, facets etc. and a user interface with popular sites like Amazon. They provided harvesting of records from various locally hosts; catalog records from one host, digital collection records from another host. They search, retrieve and present results in a single next-generation catalog interface. It was believed that this modern looking interfaces would retake some of the users from Amazon and maybe from Google but they have failed so far, users continued to use Amazon, Google. Library Catalog was used more to check whether an item they found in Amazon or Google was available in the library. Next-generation catalogs are still new technology for many libraries [15-16, 24].

Development of Google Scholar next to these issues about federated search and next-generation catalogues, a quest began for a new kind of resource that would compete with Google Scholar both in terms of speed, scope, harvesting and preprocessing of information [3, 19]. Beside these, the new kind of resource is supposed to suggest better searh terms, spell check, suggest other terms based on the entered search terms, easily live help, relevance ranking as default display, helping links, include less jargon such as Boolean, ISSN etc. [8].

After the failure of Federated search engines and Next generation catalogs, libraries began to suffer against Google and Google Scholar. A few months after Google Scholar start in November 2004, Marshall Breeding discussed that federated searching could not compete with Google Scholar's speed and power. He called for a "centralized search model" [3, 11]. Web discovery tools became the latest attempt to solve this problem, providing a Google-like single search box that have access to all library resources [1]. Different from federated search engines which searches multiple databases and aggregates the results, they search a unified index and presents search results an a single interface Federated search engines results rely on each tool's search algorithm and relevance rankings as well as the federated search engine's. Web discovery tools import metadata into one index and apply one set of search algorithms to retrieve and rank results [11]. First web discovery service appeared in late 2007 was OCLC WorldCat Local. In the middle of 2009 Serials Solutions announced its web-

scale discovery tool Summon. Others followed with similar products, such as Ebsco's Discovery Service in early 2010, finally Encore Synergy and Exlibris Primo Central in mid 2010 [12-13, 16, 25-26]. The approach of Encore Synergy to web-scale information discovery is a bit different from the other four. It doesn't create a preharvested control index. Ebsco Discovery Service and Innovative Interfaces Encore Synergy were released in 2010. There is not any studies on these Web Discovery Services yet [14-15, 24, 26]. Also some open sourced Web-scale discovery services, such as eXtensible Catalog (XC) Project by University of Rochester were developed [15].

Summon was announced in January 2009 with Dartmouth College Library and Oklahoma State University Libraries as beta sites [27]. University of Sydney, and the University of Liverpool were the other two beta sites [28]. Summon launched commercially in July 2009 and recognized as Best Enterprise Search Solution at 2011 CODIE awards by the Software & Information Industry Association (SIIA). It has the capability to search more than 800 million records that is more than even the size of the largest traditional library database. It contains more than 35 Open Access repositories and more than 90 institutional repositories, providing the most full-text searchable content. The service is openly available for searching without authentication [17, 19, 29]. It includes content and metadata from more than six thousand publishers, database producers and content providers. The content consists of different type of sources such as manuscripts, archival materials, journal articles, monographs and sound recordings. For harvesting content, Serials Solutions' Summon has been contracting with dozens of content producers, publishers including the American Institute of Physics, the American Psychological Association, Cambridge University Press, Oxford University Press, and Springer. Summon is also capable of utilizing OpenURL and Digital Object Identifiers [28]. Summon is able to search better than even the best federated search tool. Unlike from Google Scholar, Summon is tied to a library's resources. Finally, unlike federated search or Google Scholar, Summon's normalized data also allows for a greater level of purification of data before and after the search [17]. John Law who is the director for Serial Solutions Summon noticed that Summon had a very significant impact on library usage. From the publisher side, libraries using Summon have increasing use of their content [26].

Sam Brooks indicated that the main aim for developing the EBSCO Discovery Service (EDS) was helping libraries compete with Google and Wikipedia that one of the most important content of EDS is academic encyclopedia [26, 30]. Millersville University's integration to EDS was easy because of common using of EBSCO products in this university. Usage of some subject databases increased after EDS, it also prevented the cancellation of some. Carl Grant pointed out that the libraries using Primo have increased average number for search sessions, on the other hand, decreased session length. They thought this situation as the effect of quickly finding of what is looked for by users. Chip Nilges states that OCLC WorldCat Local came along for integrating library collections that provides a single search of all library collections. University of Delaware (UD) was the first place of production for WorldCat Local and it was a major conceptual change for the library staff of UD [26].

There are different criteria to consider while selecting a web discovery service for your library/institution. Some of the important criteria are scope and depth of content, richness of metadata, simplicity of interface, customizing of interface, supporting of mobile access and of course cost. Diane Bruxvoort, summarized main issues for selecting discovery services for an academic library as prices, top criteria of the institutions, discovery service providers, time you need to get ready for a new product etc. [26].

Carl Grant think that the next steps for discovery services are "personal relevancy ranking", "improved mobile interfaces" and "addressing of growth in e-book usage" [26].

3. Web Discovery Services in Turkey

There is no study on Web Discovery Services in the national literature apart from the symposium organized by Turkish Librarianship Association Istanbul Office in October 3, 2011 with the aim of raise awareness for these

services. Turkey representers of Web Discovery Service providers' introduced their products to library environment with this symposium titled as "Web Discovery Tools and Services in Libraries" [31-32].

EDS is the most commonly used discovery service in Turkey. According to the information received from Erol Gökduman, Regional Sales Manager at EBSCO Publishing, Turkey, EDS have 101 subscriptions in Turkey distributed as 31 Universities, 1 Military Institution of Higher Education, 3 Institutions and 66 Ministry of Health Training and Research Hospitals [30, 33]. Summon has been used by 21 Universities [34]. OCLC Worldcat Local used by Pamukkale University for a while but then the subscription has been cancelled. Encore Synergy and Primo haven't been in use in Turkey market yet [33]. Totally, 52 Turkish universities (49 state and 13 private) are subscribed to a web discovery service. In the view of such information and universities list of the The Council of Higher Education [35], it is clear that one third of the Turkish universities subscribe to web discovery services. According to Erol Gökduman, web discovery services spread faster in Turkey than Europe [30].

A basic web-based survey consist of six questions developed with SurveyMonkey, a free online survey software [36], and sent to 160 higher education institutions (96 State Universities, 50 Private Universities-Institutions of Higher Education Established by Foundations, 5 Turkish Republic of Northern Cyprus Universities, 4 Vocational Schools of Higher Education Established by Foundations, 2 Military Institutions of Higher Education, 1 State University with Special Status, 1 Institution of Higher Education Affiliated with Police Organization)† [35, 37-38]. 74 (46%) of these higher education institutions replied the survey.

As the first question indicates 63 (85%) of the 74 institutions have information about web discovery services, 11 (15%) don't have any information about them. Higher education institutions are mostly informed of Ebsco Discovery Service (84%), Summon (71%) and OCLC WorldCat Local (55%). There are 6 institutions haven't been informed about any of the web discovery services. About half of the 74 institutions (53%; 39) don't use a web discovery service, 19 of the institutions use Ebsco Discovery Service, 15 use Summon. Approximately the half of the 39 nonuser institutions attempted for using a web discovery services. Only 11 of the web discovery service subscribers made studies (survey, user statistics etc.) to understand the effect of these services on the library use. An example to these subscribers is Izmir Institute of Technology. Library management had a survey on the library web page mainly about Summon consists of four questions (February, 2012). They asked where do the users begin to search, where do the users begin to search in library, if they know about Summon and if they use Summon. They don't have a report for the results of this survey on their web page. Gültekin Gürdal, Director of the Library indicated that they also used a focus group study carried out in 2010 for subscription decision. They asked 15 Institute member about response rates, search results by categories, page design, user help, easily finding what you search, displaying content without losing search results, showing the number of materials contained by each of the search filtering options, ease of using adding to folder" option, ease of processing for sending the user to a new page. According to these questions, very positive responses were observed about Summon and this study had effect on subscription decision of the library management [39-40].

Another example is Bilkent University. They conducted a user satisfaction survey in 2011 [41] after they subscribed to Ebsco Discovery Service. We compared the results of this study with a similar survey conducted in this library in 2008. The number of users think that the library catalog is fast increased 65% in 2011 while it is 58% in the 2008 survey [42-43]. This is not a vital increase of course, the most crucial changings are about library website. While the %31 of users are satisfied with accessibility, %29 with content, %18 with interface in 2008; these number changed as %76 accessibility, %80 content and %70 interface in 2011 [44-45]. Overall

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† Totally 183 higher education institution exist within the structure of the Council of Higher Education including 103 State Universities, 65 Private Universities, 7 Vocational Schools of Higher Education, 5 Turkish Republic of Northern Cyprus Universities, 5 Military Institutions of Higher Education, 2 State Universities with Special Status and 1 Institution of Higher Education Affiliated with Police Organization (The Council of Higher Education, 2012a, 2012b, 2012c). Some of these are so new that their library websites are under construction, some of them don't have a library web page by its structure and some don't have an electronic mail address for their library on their web page. Web-based survey is mailed to all institutions that are relatively easy to access (160 institutions).

satisfaction from the Bilkent University Library is increased to 86% from 49% [46-47]. All of these increases may be the effect of Ebsco Discovery Service.

4. Conclusions

This study summarized the history of information discovery in libraries before web discovery services, evaluated the web discovery services which are so new for library market, and finally pointed to the use of web discovery services in Turkey. These services have an increasing awareness and use in Turkey.

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