



Librarians' and Information Professionals' Perspectives Towards Discovery Tools – An Exploratory Study



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ABSTRACT

Discovery tools are becoming popular all over the world. Yet, there is little information regarding discovery tool implementation and evaluation. The objectives of this study are to explore: (a) librarians' and information professionals' current use of discovery tools, (b) to what extent does the TAM explain librarians' and information professionals' intentions to use discovery tools, (c) to what extent do characteristics such as cognitive appraisals explain librarians' and information professionals' intentions to use discovery books, and (d) to what extent do personality dimensions such as openness to experience explain librarians' and information professionals' intentions to use discovery books. The research was conducted in Israel during the first semester of the 2015 academic year and encompassed 145 librarians and information professionals. Researchers used eight questionnaires and two open questions to gather the data. Findings reveal that the implementation of discovery tools in Israel is still in its infancy. Further, findings confirm that the TAM, cognitive appraisals, openness to experience, and importance of discovery tool features, affect respondents' satisfaction with discovery tools.

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INTRODUCTION

Discovery tools are Google-style search tools which provide one-box searching for all library content with a centralized consolidated index (Bull, Craft, & Dodds, 2014; Thomsett-Scott & Reese, 2012). Hofmann and Yang (2012) found that the number of institutions in the US and Canada using discovery tools had almost doubled in the last two years. Similarly, Spezi, Creaser, O'Brien, and Conyers (2013) found that 77% of academic libraries in the UK had already installed discovery tools; another 11% was in the process of doing so. According to their findings, the most popular products were *Primo* from Ex Libris (26%), *Summon* from Serials Solutions (36%), and *EDS* from EBSCO (24%).

PROBLEM STATEMENT

Discovery tools are becoming popular all over the world. In Israel, librarians and information professionals began to use them in 2010. Yet, there is little information regarding discovery tools' implementation and evaluation. This paper focuses on the situation in Israel and investigates how librarians and information professionals use and perceive discovery tools. Research has shown that many users have abandoned the library catalog and turned to search engines, especially *Google*, to begin information searches (Housewright, Schonfeld, &

Wulfson, 2013; Griffiths & Brophy, 2005; OCLC, 2006). Therefore, one of the questions that arises is which factors may influence librarians and information professionals when considering adopting and implementing discovery tools within their organizations. This question is important because these tools suggest a new, simple, and friendly environment that may influence different users to begin their search within the library platform and not to turn to different search engines.

This study seeks to explore whether librarians and information professionals are familiar with technological innovations, whether they are aware of their advantages, and whether they are ready to accept and use them in their organizations. This study is based on several theoretical perspectives. The study uses the technology acceptance model (TAM), a well-known theory for explaining individuals' technology behaviors (Davis, 1989). However, one criticism of the TAM is that it focuses on cognition and does not relate to the influence of emotion on technology adoption (Kulviwat, Bruner, Kumar, Nasco, & Clark, 2007). Hence, this study also includes an emotional variable (the characteristics of threat and challenge) that is part of cognitive appraisal theory (Lazarus & Folkman, 1984) and a personality dimension (openness to experience) that is derived from the Big Five model (Costa & McCrae, 1992). Various studies have been conducted around the world, but most have concentrated on the usability, usage, satisfaction, and access of discovery tools. This study adds another layer by exploring them from a different perspective: it attempts to predict factors that might influence their use by librarians and information professionals.

The objectives of this study were to explore: (a) librarians' and information professional' current use of discovery tools, (b) to what

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extent does the TAM explain librarians' and information professionals' intentions to use discovery tools, (c) to what extent do characteristics such as cognitive appraisals explain librarians' and information professionals' intentions to use discovery books, and (d) to what extent do personality dimensions such as openness to experience explain librarians' and information professionals' intentions to use discovery books. The research may contribute to the theoretical understanding of variables that influence librarians' and information professionals' intentions to use discovery tools and may lead to further inquiry in this field.

The remainder of the article is organized as follows: the next section introduces the theoretical foundations and hypothesis development for the proposed study. Research methods are provided next, followed by findings and discussion. The last section provides theoretical contributions along with a discussion of some limitations of the findings.

LITERATURE REVIEW

DISCOVERY TOOLS

Vaughan (2012) suggests that discovery tools are a development that has the potential to fulfill the task that libraries have been striving to find. Discovery tools will be able to easily connect researchers with the library's storehouse of information. With these tools, libraries will be able to provide a service capable of searching large amounts of pre-harvested and indexed content quickly and easily.

In recent years, much research literature was written on discovery tools and there was a large increase in the number of studies published in 2011 and 2012 (Richardson, 2013). An extensive review of the research literature relating to academic libraries and discovery tools appears in Thomsett-Scott and Reese (2012). They conclude that discovery tools offer many advantages to users such as a friendly interface, one-stop shopping, and limiting by facets. On the other hand, there are also disadvantages such as: too many results, lack of relevancy, missing content, and loss of specificity.

In a study conducted after the launch of a discovery tool in the University of Minnesota libraries, it was found that users kept their loyalty to the classic catalog. This is significant because the classic catalog is no longer the default search for these libraries. Results suggest that users have a lower perception of success when using discovery tools, and that it is necessary to improve the quality of the discovery experience (Hessel & Fransen, 2012). Skinner (2012) argues that in terms of user experience, the next-generation catalogs are a marked improvement over the classic catalog. However, the classic catalog has more advanced searching features, especially for known-item searches and the option for browsing authority files and using cross-references.

Concerning discovery tool interface, most of the studies found that users prefer discovery tool interface. Ballard and Blaine (2011) suggest that users are 15–20 times more likely to refine their searches when using a discovery platform and that the new catalogs are accomplishing their mission quite well. According to a study which examined a small group of five university students who used *Summon*, the new homepage design with a single search box was an effective interface for most users. The single search box discovery solution was simple to use, and seemed to deliver satisfactory results on a number of typical library search tasks (Gross & Sheridan, 2011). Further, Denton and Coysh (2011) found that users prefer a discovery tool interface over the classic catalog, as they like the facets and the richness of the search result listings.

Referring to satisfaction, Bull et al. (2014), conducted a survey at the University of Birmingham, after twelve months of the library's using the *Primo*-based *Resource Discovery Service*, and found that the overall level of satisfaction was quite high with 71.13% of respondents rating it "Good" or "Very Good." The survey participants included undergraduates, postgraduates, and academic staff. Undergraduates were most happy with the service and academic staff were the least satisfied. The

next section will present variables that might affect librarians' and information professionals' discovery tool usage and perceptions.

THE TAM

The objective of technology acceptance theory is to understand the causes that influence adoption of new technologies throughout a social system (Barnes & Huff, 2003); assuming people can choose whether or not to adopt an innovation (Gefen & Straub, 1997). The current research focuses on the technology acceptance model (TAM), which was developed by Davis (1989), and is based on the theory of reasoned action (TRA) that has its roots in social psychology. The TRA proposes that behavior can be explained by people's behavioral intentions, attitudes, subjective norms, and beliefs (Fishbein & Ajzen, 1975). The TAM (Davis, 1989) presupposes that user acceptance of technology can be explained by two main beliefs: perceived usefulness (PU) and perceived ease of use (PEOU). PU is "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989, p. 320). PEOU is "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989, p. 320). Through the years, TAM was examined by researchers in various areas. Examples are: perceived system performance (Sun, 2012), perceived user resources (Mathieson, Peacock, & Chin, 2001), prior experiences with similar technologies (Agarwal & Prasad, 1999), age and education (Agarwal & Prasad, 1999), e-learning (Aharony & Bar-Ilan, 2014; Calisir, Altin Gumussoy, Bayraktaroglu, & Karaali, 2014), personal innovativeness (Aharony, 2013), tourism (Pantano & Corvello, 2014), libraries (Aharony, 2013; Booker, Detlor, & Serenko, 2012; Jeong, 2011; Kim, 2010), and e-commerce (Gefen & Straub, 2000; Liébana-Cabanillas, Sánchez-Fernández, & Muñoz-Leiva, 2014). The present study explores the TAM in a new context: discovery tools in the library and information science arena. Based on the literature, H1 is developed:

H1. The higher the attitudes PU and PEOU respondents have towards discovery tools, the greater their satisfaction with discovery tools.

THE BIG FIVE

The "Big Five" model of personality is one of the most noted measures of personality structure in recent years (Golbeck, Robles, & Turner, 2011). It is considered an inclusive model that consists of five major variables representing personality traits: neuroticism, extraversion, agreeableness, openness to experience, and conscientiousness (Costa & McCrae, 1992). Different researchers have explored the model, finding validity and reliability across age, gender, and cultural lines (McCrae & John, 1992). Each factor in the model is bipolar and contains various aspects.

Wang, Jackson, Zhang, and Su (2012) suggest that neuroticism is in contrast to emotional stability and is characterized by anxiety, sadness, irritability, moodiness, hostility, and nervous tension. Extraversion is related to activity, energy, assertiveness, sociability, talkativeness, expressiveness, and positive emotions. Agreeableness is associated with altruism, warmth, trust, modesty, cooperativeness, and tender-mindedness. Openness to experience refers to the complexity and depth of the person's mental and experiential life, and is composed of curiosity, creativity, and preference for novelty. Conscientiousness addresses impulse control that contributes to task- and goal-directed behavior, and is associated with discipline, reliability, responsibility, and organization.

Various studies have examined the connection between the Big Five model and technology use. Terzis, Moridis, and Economides (2012) explored it in the context of computer based assessment. Others delved into the association between the Big Five model and Internet use (Amichai-Hamburger, 2002; Amichai-Hamburger & Ben-Artzi, 2003). More studies focused on the relationship between the Big Five model and the use of social networking sites (Aharony, 2014b, 2015; Deng,

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