

# Information Behaviors and Management of Wikipedians in the Context of Their Involvement with Hebrew Wikipedia / Yehudit Shkolnisky

## Abstract

This study aims to uncover how Wikipedians manage and seek information in order to expand the online encyclopedia, and update existing entries. It had three objectives: (1) Finding which *personal information management* (PIM) strategies Israeli Wikipedians employ when creating and editing Wikipedia entries. (2) Finding which *group information management* (GIM) strategies Israeli Wikipedians employ when creating and editing Wikipedia entries. (3) Examining the *individual information behavior* (IIB) and *collaborative information behavior* (CIB) of Israeli Wikipedians.

I chose to conduct a mixed methods study in two phases: a qualitative phase followed by a quantitative phase. The qualitative phase consisted of a series of in-depth semi-structured interviews with 20 Israeli Wikipedians. These interviews were carried out by phone, chat, email or in person. During the interviews, participants were asked about their methods for managing various kinds of information while writing and editing Wikipedia entries, and about their individual and collaborative information behavior. In addition, 40 Wikipedians were chosen from a list of active Wikipedians. For each one of these, we analyzed 10 random posts published on talk pages, and all of their sandboxes/subpages/drafts. In the quantitative phase of the study, a structured questionnaire based on the findings of the qualitative phase was administered. The questionnaire contained sections on individual and collaborative information seeking behavior; personal and group information management; planning and performing the tasks of writing and editing; and demographic data. In total, 80 Wikipedians responded to the questionnaire.

The findings show that Israeli Wikipedians employ personal information management (PIM) activities to support the group project. These activities consist of keeping activities (for print and electronic information), meta-level activities, and re-finding activities. Analysis of Israeli Wikipedians' keeping activities shows that most of them accumulate print materials without organizing them (more than 50% reported doing

that at least some of the time); store electronic files on a hard disk drive or an external removable drive, and organize their files in an existing hierarchy of folders (68.8% and 51.2%, respectively reported doing that to a great or very great extent). When engaged in meta-level activities, most Wikipedians are careful to give meaningful names to information items they intend to use for writing and editing Wikipedia entries (66.2% reported doing that at least some of the time). A considerable percentage stated that they changed their work practices as they gained more experience in editing Wikipedia. In addition, Israeli Wikipedians try to make sense of the information they acquire, using various methods that help them to understand it and its implications for the tasks of writing and editing articles. For re-finding information, most Wikipedians indicated that they navigated or browsed a collection of information items in order to re-find desired information items in a personal space, while a smaller percentage uses search methods in personal spaces. However, most Wikipedians use a search service to re-find information in public spaces on the Web. This accords with the literature, which consistently finds a preference for navigation over search in personal spaces, and the opposite in public spaces.

The current study found that Israeli Wikipedians take advantage of wiki technology features in order to keep, store, maintain and organize accumulated information in various spaces of Wikipedia and Wikimedia Commons. Wikipedians jointly create collaborative collections of information solutions that are gathered on Wikipedia project pages and in talk page archives. From the perspective of Wikipedians, these pages – which are used for purposes of documentation – contain relevant information that helps them write and edit entries. In addition, Wikipedians use information added to articles as a database for future writing and editing, they keep and store audio-visual information (images, sounds and multimedia files) by uploading it to Wikimedia Commons, and store information that helps them write and edit Wikipedia entries on user pages and subpages/sandboxes/draft pages. To assist in maintaining and organizing textual and visual content, almost all Wikipedians are involved in deleting information, correcting errors and reverting edits on Wikipedia entries where they are the main contributors. A considerable (but smaller) percentage of Wikipedians are involved in deleting information, correcting errors and reverting edits on Wikipedia entries where they are not the main contributors.

Israeli Wikipedians who participated in the study are involved in group and task-related activities. A majority of them depend on discussions with other Wikipedians for building consensus and dealing with group differences, and almost 60% of them participate in votes. Most Wikipedians use templates (e.g., In use, Cleanup) to visualize their work process, and provide references to their sources in footnotes, external links, and further reading. Only a few Wikipedians stated that they use information sources without giving credit. Other methods are most commonly used when providing references to the English Wikipedia: noting the source used for the article in the edit summary or in a talk page. A much larger percentage of Wikipedians use the English Wikipedia without giving it credit (unlike other information sources).

Israeli Wikipedians are in constant, active contact, primarily through communication interfaces provided by Wikipedia. Wikipedians also take steps to stay aware of events on Wikipedia, which allows them to respond appropriately. Most Wikipedians concentrate on monitoring articles that concern them personally, rather than monitoring changes that concern the Wikipedia project as a whole (e.g., changes in all Wikipedia entries). Almost all Wikipedians reported that they use the watchlist tool in order to track changes made to pages of their choice.

Wikipedians employ various mechanisms for maintaining privacy while accomplishing the tasks required to promote the Wikipedia project. However, as privacy pragmatists these methods are not employed very rigorously or rigidly. Therefore, they did not take extreme measures to hide their true identity, and only a small percentage stated that they use communication means provided by Wikipedia so as to not reveal their identity, or that they write and edit anonymously, under a pseudonym(s).

Israeli Wikipedians who participated in the study reported a variety of activities intended to help with planning and performing the tasks needed during the writing and editing stage. On their user pages and accompanying sub-pages, each Wikipedian creates and continually updates a list of the entries he/she wrote or contributed to writing. They use various methods for maintaining to-do lists of specific assignments they want to complete, but simply remembering the tasks they need to accomplish is the most common. Moreover, creating lists that might help manage writing tasks for the entire community is uncommon.

Wikipedians in the study described two approaches to planning the outline of new articles: planning the layout of a new article by creating an outline before starting to write (a “top-down” method); and creating a new article by gathering pieces of relevant information without having a predefined structure (a “bottom-up” method). These approaches were identified in the literature on Personal Project Management (PPM). In addition, the participating Israeli Wikipedians were found to prefer writing articles directly in the Wikipedia editing window of the particular entry. The study also revealed that Wikipedians may decide to publish the article they are writing or updating by uploading it to the main namespace at different points in its development. In some cases, an entry is published when it is completely ready (“baked”) but in other cases, while it is still “brewing” depending on when they feel the particular article is worthy of exposure.

The nature of Israeli Wikipedians’ collaboration during the process of writing and editing Wikipedia entries was also explored. In general, the study revealed that there is limited cooperation among Wikipedians concerning articles that have been uploaded to the main namespace. However, there is more cooperation in this stage than before uploading an article and/or information objects to the main namespace. In cases when there is collaboration after uploading an article and/or information objects, the majority of Wikipedians cooperate indirectly. That is to say, they encounter an article to which they did not contribute to its initial creation, and then unilaterally correct or add information. However, some Israeli Wikipedians exhibit a more direct style of cooperation, at the initiative of a Wikipedian who encounters an article, to which he/she did not contribute to its initial creation, but now corrects or adds information in dialogue with others by posting comments, questions, and criticism before making changes. It is apparent that there is limited cooperation before uploading an article and/or an information object to the main namespace. Only a few Wikipedians stated that they consult with others regarding the decision on which topics to write, or claimed that the writing or planning processes before uploading information to the main namespace involve other Wikipedians. This reaffirms the idea that Wikipedia is the product of a traditional writing process rather than a “crowd as writer-editor” process.

Israeli Wikipedians demonstrate individual, purposive and deliberate information seeking. Wikipedians in the study take a variety of steps during the process of

information seeking. Several motivations drive Wikipedians to write or edit an entry, and set the information seeking process in motion. A considerable percentage decide to write or update an entry in order to improve existing articles, add missing ones to Wikipedia, or comply with requests or suggestions from other Wikipedians who ask them to write or update certain articles. However, a majority are motivated by personal interest and curiosity about a particular subject when deciding what to write or edit. After deciding to work on an entry, various methods are used for finding information. Most Wikipedians use the Google search engine and the other tools that Google provides (including image search, book search, and Google Scholar) to find information. Another common information seeking method is browsing in the Wikipedian's personal library or a public/academic library. Wikipedia's search engine was also found to be a useful tool for finding information. Israeli Wikipedians supplement it with the strategy of following information, articles, internal links and categories in Wikipedia.

Once information sources are found using the aforementioned information seeking strategies, they are used for writing and updating Wikipedia entries. Corroborating the literature, Internet websites are the most frequently used sources of information, followed by the English Wikipedia, and print or electronic books. User-generated content websites (blogs, forums etc.) are the least frequently used information sources, although a considerable percentage of Israeli Wikipedians use Wikipedias in other languages (mainly English Wikipedia) as a means for identifying and accessing additional sources, and as a source of information to translate. Although Wikipedia is characterized as a user-generated content website, it is a common information source. Non-textual sources (e.g., audio-visual sources, information sources obtained during personal travel and field visits, and interviews with the subject of the entry) are generally used to a much smaller extent.

The findings revealed that Wikipedians invest time and effort in evaluating the information they found. Availability and accessibility, closely followed by quality and reliability, are the most common reasons given for choosing the information sources used for writing and updating articles. The literature describes two models for information selection, the least-effort model and the cost/benefit model. Both apply to Israeli Wikipedians. Consistent with the literature, most Wikipedians are responsible

information seekers who verify the information they find by cross-checking it in other information sources.

The majority of Israeli Wikipedians participating in the study seek information independently, and do not collaborate with other Wikipedians. When they do collaborate, it is mainly by seeking assistance from those who have already found (or possess) the information or knowledge they require. Only a few Wikipedians in the study were found to seek information together with other Wikipedians synchronously (in real time). The triggers that lead Wikipedians to collaborate with others are lack of expertise in the discipline, lack of immediately available or accessible information, and the need to cope with a complex problem.

In conclusion, the current study extends the existing knowledge concerning the informational aspects of being a Wikipedian. The picture that emerges from the current study is that Wikipedians work mainly in parallel and collaborate asynchronously and indirectly. However, they do collaborate directly when necessary and communicate with each other. In any case, they try to be aware of both content and community issues related to the project. While working on Wikipedia, they employ a broad range of personal information management (PIM) strategies and group information management (GIM) strategies in order to organize and manage the diverse information sources they find using varied information seeking strategies (carried out independently or through some kind of collaboration). Wikipedians are capable information seekers who are able to overcome the difficulties that might occur when writing or updating Wikipedia entries for which they have neither formal education nor expertise. This implies that Wikipedians' information practices (i.e. PIM strategies, GIM strategies, and individual and collaborative information seeking behavior) support them in their attempt to complete tasks that help construct an important repository of knowledge, Wikipedia.