

# Improving Relevance of Information Retrieval Systems and Users Preferred Search Language

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## Abstract

Enhancing relevance of search results is becoming a crucial challenge for search engines. Collection of implicit and explicit feedback as indicators of search result relevancy is currently a growing interest in information systems research. The current study pioneered investigation the users' preferred search language effect on the relationship between a number of implicit indicators (dwell time, number of clicks, and amount of scrolling) and user explicit rating.

**Methodology:** A lab experiment was conducted included 48 Arabic native speakers divided in 2 groups, where only one group was given the option to select a preferred search language. Implicit feedbacks were collected via recording software, while participants performing a self-pre-defined search task. Implicit data were compared with the explicit rating of search result relevance, completed by the users via a five point scale. The effect of preferred language on the relationship between implicit and explicit data was assessed for the two groups using correlation significance testing.

**Findings:** The study suggested cost-effective method for understanding user behavior in the context of multi- languages search-based recommender systems through the use of implicit feedback. The study verified the power of dwell time, number of clicks, and amount of scrolling in the prediction of search results relevance. The study suggested that this power is strengthened when users are given the option to select a preferred search language. The current results also suggest that using various user feedback within the same context, such as number of clicks and amount of scrolling, provides advantages over using dwell time alone, confirming the prediction strength of these implicit constructs over dwell time. Finally, the present study suggests that the prediction performance of dwell time varies from factual to intellectual task type. The results of the present study can contribute to a improve search result relevance for search-based systems.

*Information Technology Journal 2017, October*