Still more of the Same?

A longitudinal evaluation of similarity-based personalization in a news recommender system

Media Futures

Presenter: Mapalo Kayeyi (mapalo.kayeyi@student.uib.no)
Co-authors: Thomas E. Kolb, Alain Starke, Dietmar Jannach, Christoph Trattner

Problem

How much does personalisation really matter and is there evidence of a ceiling effect? Additionally, how can recommender systems effectively leverage the long tail effect to increase user engagement and diversify content suggestions? This work is a follow-up study based on Kasangu et al.'s [1] work on similarity-based personalization using a web-based prototype (Fig.1). In this work we investigate ceiling and long tail effects in a news recommender system by conducting a four-wave longitudinal study with four treatment groups (similar, dissimilar, increasing similarity and decreasing similarity). We propose an empirical evaluation of long-term effects of a news recommender system with four phases of data collection beginning with an initial preference elicitation and evaluation followed by multiple personalized data collections.

Research Prototype

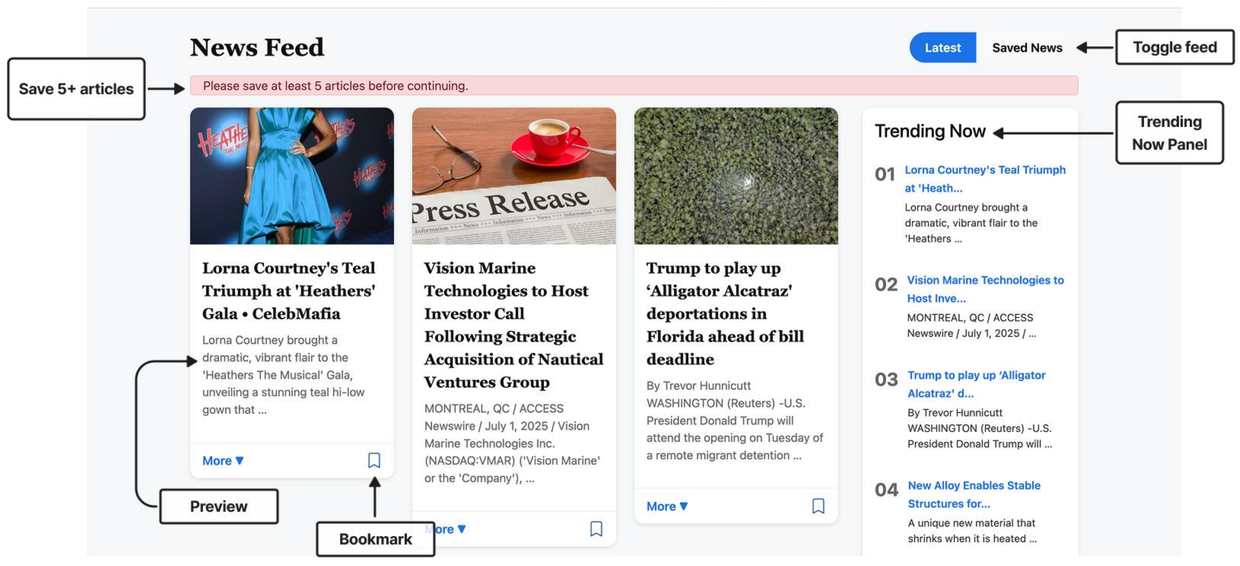

Fig. 1: Original Research Prototype as Introduced by Kasangu et al. [1]

Method

Research design: We will conduct a between-subjects longitudinal experimental design with four waves of data collection, conducted twice per week (Fig. 2). The four experimental conditions differ in the personalization strategy used to generate news recommendations in the later phases of the study. Participants will be randomly assigned to either a similar, dissimilar, increasing similarity or decreasing similarity group.

Participants: We aim to have 400 US based English-fluent adults which are recruited via Prolific.

Materials and Algorithms: We will source recent news articles via the NewsCatcher API, restricted to 15 reputable English-language outlets limited to the US region. Participants will browse the feed via our web interface, which supports bookmarking, and article previews.

Procedure: The study will consist of Phase 1: Preference Elicitation & Baseline, Phases 2-4: Recommendation & Evaluation.

Measures: We will track the clicks on recommended articles, as well as inquired perceived diversity & choice satisfaction. We will also examine whether users' category preferences changes over time.

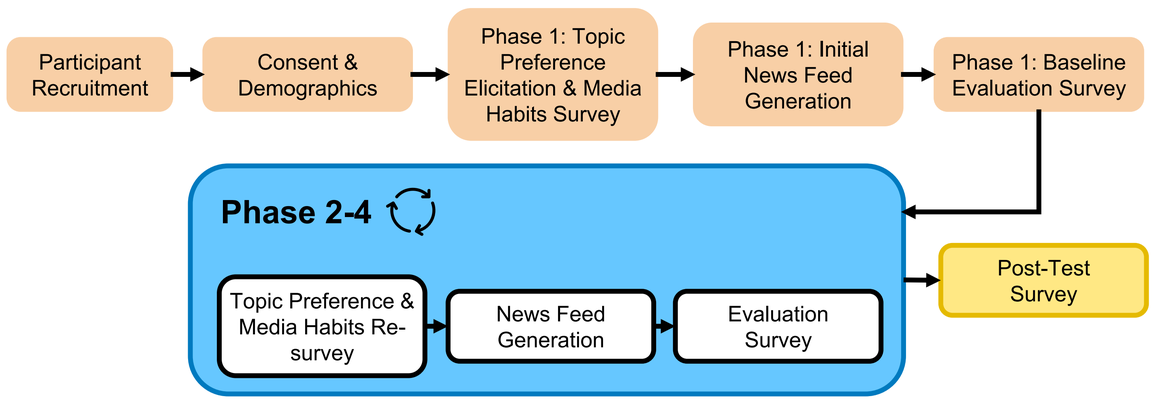

Fig. 2: Study Design

Research questions

1. To what extent does presenting news recommender content with **gradually increased or decreased similarity** (i.e., based on user-item similarity) positively affect choice satisfaction over time?
2. To what extent does user-item similarity affect a user's perceived recommendation quality and clicking behavior in a news recommender system?

Discussion & Outlook

Building on prior evidence that short-term increases in feed–profile similarity enhance familiarity without improving satisfaction, we will extend this work with a longitudinal design. One arm will **progressively increase similarity** (ramp-up) to observe how users adapt as their news feed becomes more closely aligned with their preferences over time. The other arm will **systematically decrease similarity** (ramp-down) to examine how users adapt to deliberate diversification. This two-trajectory setup will allow us to test whether gradual personalization sustains engagement and stabilizes topic preferences or instead narrows perceived diversity and content quality. Through this planned investigation, we aim to clarify the longer-term dynamics between personalization depth, user adaptation, and the overall news consumption experience.

[1] Gloria Anne Babile Kasangu, Alain D. Starke, & Christoph Trattner (2025). ***More of the Same? A Longitudinal Evaluation of Two Similarity-based Approaches in a News Recommender System.*** *In Proceedings of the 13th International Workshop on News Recommendation and Analytics (INRA 2025).*

PARTNERS

amedia Schibsted 2 VIZRT
NRK Bergens Tidende Faktisk.
nb.no Factiverse WOLFTECH
NORCE dn media group

HOST

UNIVERSITY OF BERGEN

FUNDED BY

This research is funded by SFI MediaFutures partners and the Research Council of Norway (grant number 309339).

The financial support by the Austrian Federal Ministry of Labour and Economy, the National Foundation for Research, Technology and Development and the Christian Doppler Research Association is gratefully acknowledged.

Forskningsrådet
Norwegian Centre for Research-based Innovation

More Info?