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# **THE ROLE OF NEWS RECOMMENDER SYSTEMS IN DIGITAL DEMOCRACIES**



## The role of news recommender systems in digital democracies

News recommender systems (NRS), based on algorithms, are used on social media platforms and online news portals to recommend content to users based on their previous usage. They are based on what a user has read in the past and what other people with a similar interest have read. NRS also take into account what users indicate as their preferences or what is currently popular.

What role do these systems play for media companies in Switzerland and the Netherlands, and how do users perceive these systems in an international comparison? A project at the University of Zurich and the University of Amsterdam answers these questions now as part of the National Research Program „Digital Transformation“ NRP 77.

## The most important takeaways

- 1 NRS can positively impact media companies and users if the necessary resources are available and technology demands are balanced with journalistic demands.
- 2 Institutionalized forms of collaboration and regular exchanges between IT, editorial, and business can prevent tensions.
- 3 To ensure that trust in the media is not compromised, it is essential that NRS are aligned with journalistic criteria (such as relevance and diversity) and that transparency and information about algorithms are provided.
- 4 To increase the acceptance of NRS, the benefits for users must be actively communicated, and fears about filter bubbles and data misuse must be avoided.
- 5 The preferences and attitudes of Dutch and Swiss media users are in many ways similar to those of users in other countries. However, Dutch and Swiss media users are more critical than users in countries where the use of NRS is more advanced (such as the US or UK).

## Expert Survey in Two Countries

In the first part of the project, 36 experts working in media companies in Switzerland and the Netherlands (e.g., NZZ, Ringier, Volkskrant, NU.nl) were interviewed. With their input, the research team gained initial insights into how media organizations use algorithmic recommendation systems, what works and what doesn't, and how these technologies contribute to changing newsroom work dynamics.

### Insight 1

#### Media organizations are still experimenting

Most media companies are still experimenting with NRS and looking for the optimal use of these systems on their news portals. The interviewed experts admit readers would welcome or even expect a more personalized news offering. Nevertheless, journalistic considerations and responsibility towards readers currently take precedence over cost considerations and personalization.

### Insight 2

#### NRS offer orientation in the maze of articles

News websites offer more space and constantly updated content compared to printed newspapers. NRS can assist users in discovering relevant content from this vast array of articles. With the help of algorithms, content can be offered to the right people at the right time. This not only boosts the number of readers, their engagement, and even trust in the news brand but also helps to maintain an informed public.

### Insight 3

#### NRS jeopardize editorial control

The experts fear NRS will make editorial considerations less important and reduce editorial control. This could lead to filter bubbles and the loss of a common ground for discussion. Users inevitably have some influence on what and how content is presented. However, the interviewed experts strongly emphasize that their readers expect media companies to provide them with all the information the editorial team considers essential.

### Insight 4

#### NRS influence media companies and journalism

In addition to management, IT and data science players are also involved in implementing NRS. Decision-making varies across different organizations and depends on the timing. However, journalists are rarely directly involved. At the same time, NRS is changing the journalistic profession: The interviewed experts emphasize that journalists will need knowledge about algorithmic solutions in the future to keep up with trends in their profession.

### Insight 5

#### NRS require new solutions in media organizations

These processes of change can create tensions within media organizations. Conflicts can arise between the need to satisfy user demand and the importance of upholding journalistic values. Additionally, there may be ten-

ons between IT departments and editorial teams. Many news organizations actively bridge the perceived gap between editorial and technology by promoting understanding, appreciation, and collaboration among employees from different departments involved in NRS projects.

## Conclusion

Many media professionals are skeptical about the concrete benefits of NRS, so the use of advanced NRS in Switzerland and the Netherlands will take some time. However, with the common goal of striking a balance between algorithmic personalization and editorial integrity, the development of NRS can move towards „responsible“ NRS that consider transparency, user control, and diversity. Ultimately, introducing NRS can also lead to new working practices and forms of collaboration that can positively impact news work.

## User Survey in Five Countries

In the second part of our project, we conducted a representative survey of users in Switzerland, the Netherlands, the United Kingdom, the United States, and Poland. We aimed to gain insights into whether users recognize the use of recommender systems for news, to what extent they believe that different media companies already use such systems, how they rate NRS, and how this relates to users' trust in news media.

### Insight 1

#### Users have differentiated attitudes toward NRS

In general, users have a positive attitude towards algorithmic news recommendations. Users rate algorithmic recommendations based on their behavior slightly more positively than recommendations from journalists. Respondents generally see a higher benefit of algorithmic recommendations in areas such as sports, entertainment, and celebrity news but less so for political and local news. Readers place less value on personalized recommendations on the homepage and have an even lower interest in receiving personalized newsletters and push notifications on their mobile devices.

Advantages of NRS from the perspective of Swiss users (on scale from 1 to 5)  
Mean agreement



Concerns about NRS from the perspective of Swiss users (on scale from 1 to 5)  
Mean agreement



## Insight 2

### Users overestimate and underestimate the use of NRS

Respondents believe that media companies already use NRS extensively. However, this often does not reflect reality. While the use of NRS by subscription newspapers tends to be underestimated, it tends to be overestimated for others, such as digital native media. One reason could be that users do not accurately recognize the difference between personalized news and targeted advertising. Another reason could be that users assume digital native media are more digitally advanced and innovative than traditional quality media.

## Insight 3

### NRS could undermine trust in the media

While most respondents find algorithmic news recommendations useful, it does not necessarily increase their trust in the news media. On the contrary, readers' trust in a media organization is lower the more they believe it uses NRS. In particular, people with significant concerns about NRS trust the media less if they think they frequently use such algorithmic systems.

## Insight 4

### Users want diversity, transparency, and control options

Just as news organizations strive for the responsible implementation of algorithmic technologies, users also desire such responsible NRS design. In particular, they expect transparency, i.e., they want information about how their data is collected and processed and how algorithmic recommendations are configured. In addition, users want more clarity about when algorithms recommend content. Users also desire more control over NRS, for example, through opt-out options or the ability to actively state their preferences.

## Insight 5

### Preferences vary slightly from country to country

While attitudes may only differ slightly across the five surveyed countries, there are some noticeable differences between them. For example, the Netherlands has the lowest level of appreciation for NRS, followed by Switzerland. In the UK and the US, where media companies already use NRS to a greater extent, users have, on average, a more positive attitude towards these systems. Interestingly, respondents in the Netherlands desire control and transparency more than in the other countries. Yet Swiss users do not consider control options as crucial as users in the other four countries.

## Conclusion

Even though users generally favor the use of news recommender systems and see many advantages, manual journalistic news curation is still rated higher than automated recommendations by algorithms. This finding aligns with the experts' assessment, who also emphasize the curation service and the democratic mandate of media organizations in the selection of news. Integrating transparency, control options, and diversity could be strategies to reduce users' concerns about NRS and counteract potentially negative effects on media trust.

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