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Artificial Intelligence in Journalism

How does the public perceive the impact of artificial intelligence on the future of journalism?

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Key Findings

Journalistic work is undergoing a process of change as a result of digitalization. Within this process, artificial intelligence (AI) plays an important role. AI systems can not only assist journalists in the distribution of news, but also support research and even write articles autonomously. But what does the German population think about these developments? We investigated precisely this as part of our Opinion Monitor Artificial Intelligence (Meinungsmonitor KI [Me:Mo KI]). Our results show that the use of AI in journalistic newsrooms is viewed very critically by the German population. Not only is there little to no presumed improvement with regards to overall journalistic quality, many citizens are also in favor of strong regulations for AI systems in media and journalism. Despite the overall critical assessment of its use, the surveyed citizens expect AI to be able to perform some journalistic tasks better than human journalists. Journalistic editorial offices should therefore only use AI technologies in a well-justified and transparent manner.

Background

Journalism has been under scrutiny for years. In addition to financial losses, the question of trust is often raised. Keywords such as 'fake news' come up again and again. At the same time, it can be observed that journalism is undergoing a technology-driven transformation. In the light of digitalization, AI systems are being increasingly integrated into editorial work. AI systems promise to reduce the costs of journalistic work and to relieve the overall workload of journalists. As such, AI systems are suitable for numerous different applications: For example, AI is used for research purposes, to identify emerging topics, as well as for news recommendations tailored to individual consumers. Furthermore, AI systems are nowadays even capable of producing texts autonomously.

In the field of journalism *research* there are numerous studies dealing with this new phenom-

enon under the keywords "automated journalism" or "robojournalism". Graefe et al. (2018), for example, show that in some cases consumers cannot distinguish between a news item written by humans and one generated by an AI and judge them to be equally credible. Furthermore, Thurman et al. (2020) show in a cross-country comparative study that automated news selection based on past usage behavior was judged to be better by news consumers than personalized news selection by human journalists.

Even journalists themselves see considerable potential in the use of automated tools. Schapals & Porlezza (2020) conducted qualitative interviews with journalists from German editorial offices and show that the majority of the interviewed journalists welcome automated journalism. The authors state that journalists particularly value the reduction in workload, which

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would provide them with more time for other activities. Furthermore, after interviewing British journalists, Thurman et al. (2017) found that the main potential of AI systems in journalism is perceived to be the enhancement of journalistic objectivity and accuracy.

Little is known, however, about the general attitude of the population toward the use of AI in journalistic work. Knowledge about this is relevant, however, as media (reporting) has an important social function and the assessment of

journalistic work can be reflected to no small extent through the public's acceptance and credibility assessments of news. In our survey, we therefore deal with this topic in detail. In doing so, we examine both the consequences expected by the population for journalistic quality standards as well as the desired regulatory measures. In addition, we also measure the performance expectations that the population has for AI systems in comparison to human journalists.

Methodology

Method	Online Survey
Executing Institute:	forsa Politik & Sozialforschung GmbH
Population:	German population over 18 years of age who use the Internet at least occasionally
Sample:	Weighted random sample (N=1.035)
Weighting Criteria:	Age, gender and region (federal state)
Survey Period:	2020, December, 07-11
Further Information:	Detailed Methodology Overview for the MeMo:KI project [in German language].

Only every fifth person is in favor of the use of AI in media

First, we asked respondents about their general approval of AI in various areas of society. For this purpose, the measurement was taken from the standard MeMo:KI survey and was extended to include the application field "in the media". The long-term observation of the approval of AI in various areas of application can be observed and analyzed in our [dashboard](#).

Our analysis of the approval ratings shows that the use of AI in the media is viewed rather skeptically. Only about one in five respondents is in support of the use of AI in journalism (21%). This puts the approval rating for AI in the media

in ninth place out of the eleven areas of society that were surveyed; only the use of AI in the courts and in political decision-making meets with even lower approval. In contrast, the use of AI is supported - as our long-term results also show in a consistent manner - in industrial production (72%) and in transportation (43%). The use of AI in healthcare is also viewed positively by a sizeable portion of the German population, with an approval rate of 38 percent.

The following table shows the frequencies of support for AI in the various fields of application (values 4 and 5) as a percentage.

Table 1: Approval of AI in different fields of application.

Rank	Field of application	Approval
1	Industrial production	72,3%
2	Transportation	42,6%
3	Healthcare	37,7%
4	Schools and universities	36,9%
5	Public administration	34,8%
6	Banks	33,8%
7	Police and security	25,3%
8	Daily life	21,9%
9	Media	21,2%
10	Courts and the justice system	9,1%
11	Political decision-making	8,1%

Annotation: N=1.035, All values in percent.

Question: *There are different views in society regarding the use of artificial intelligence in various areas. Some people are more in favor, some against. Below you can see a list of different areas in which artificial intelligence could be used in the future. Are you more in favor of or opposed to the use of artificial intelligence in...* (1=strongly opposed to; 5=strongly in favor of)

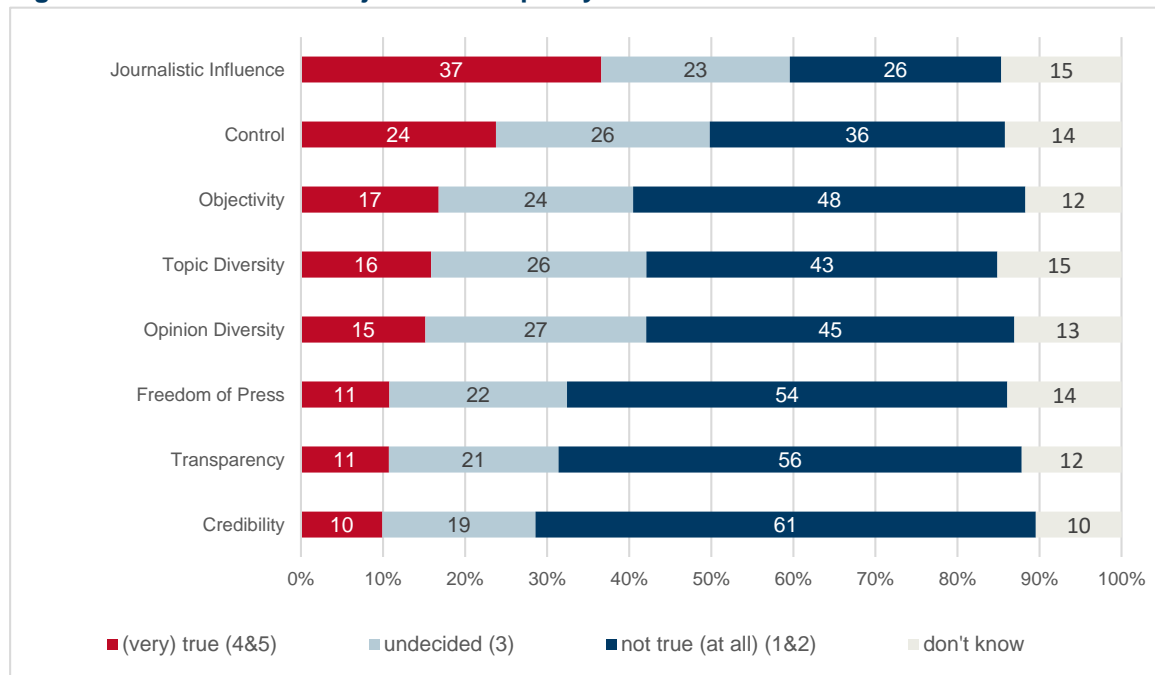
AI will hardly improve journalistic quality according to the German population

Journalism is assigned a pivotal task in modern democracies, in that it informs about current issues and discusses them critically. Journalists are required to fulfill various quality criteria, such as reflecting the diversity of topics and opinions. Journalism should also be independent, report objectively and credibly, and always work transparently. We therefore asked how the German population assesses the influence of AI on journalistic quality characteristics.

Our results show that the German population anticipates hardly any improvement in journalistic quality from the use of AI. Only 10 percent of respondents expect an increase in credibility through the use of AI in news production. Our opinion monitor also reveals rather skeptical voices from the population with regard to the assessment of whether transparency (11%) in the work process will be increased and press freedom (11%) will be improved by the use of AI systems. Only a few respondents expect an increase in the diversity of opinions (15%) and topics (16%). Furthermore, only a similarly

small proportion of those surveyed believe that the machines will be more objective (17%). Around a quarter of respondents (24%) still expect that the media they consume will be able to exercise their control function better through the use of AI. A significant proportion of the population also believes that the media as a whole will become more influential through the use of AI (37%).

In summary, the population expects AI to make the media more influential, but not necessarily better: Media companies should certainly view this as a cautionary tale. At this point in time, the majority of the media audience is quite skeptical when it comes to a positive effect of AI on journalistic quality. If there is a factual improvement in the various qualities through AI, this does not seem to be self-explanatory and has not yet been perceived by the (potential) audience in any current form.

Figure 1: Influence of AI on journalistic quality characteristics

Annotation: N=1.035, All values in percent.

Question: Artificial intelligence (AI) is also increasingly being used in the production of news. There may be different views on this among the population. If you think about your typical media usage: To what extent do you think the following statements are true or not true in regards to your media usage. (1=not true at all; 5=very true)

Apparent potential for the use of AI in editorial offices

In the next section, we will explore the strengths and weaknesses that are attributed to machines in comparison to humans in the journalistic production process. The focus here is on concrete applications that are already being used in some editorial departments and/or are being discussed in a scientific context.

The German population expects AI to accomplish complex technical tasks better than human journalists. The respondents expect AI to perform better than a human editor in the detection of manipulated images and videos (66% vs. 10%), the identification of emerging issues (46% vs. 17%), as well as fact-checking (44% vs. 25%). In the opinion of the German population, an AI carries out individualized news recommendations (37% vs. 24%) better than a human. However, respondents are rather undecided when it comes to evaluating automated image selection for news articles (33% vs. 27%)

and general background research (28% vs. 32%). Human expertise, on the other hand, is seen much more strongly in the creative process of text creation (12% vs. 55%) as well as in social interaction with the audience, for example in the form of moderating user comments (11% vs. 51%).

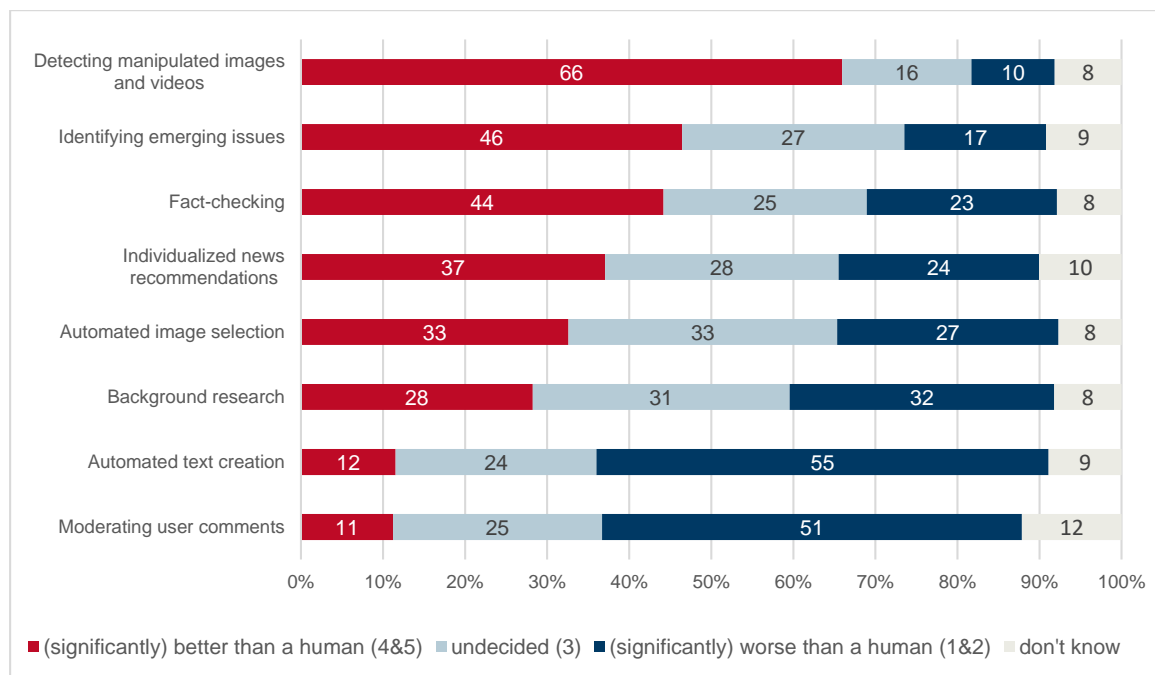
Thus, although AI does not contribute to an improvement of the classic journalistic quality in the eyes of the audience, the respondents still assumed that there is significant potential for the use of AI in the newsroom - at least as far as the performance expectation of an AI system compared to that of a human is concerned. An AI is considered to perform better in background work and information verification. However, the most outwardly impactful function of journalism - writing news articles - remains the undisputed competence of human journalists in

the eyes of media users. Here only a few respondents believe that an AI can perform better than human editors.

These findings could be interpreted as an indication of how journalistic work may change in the coming years, at least from the audience's point of view. The public has high expectations regarding the improved performance of AI in solving highly standardized tasks. It remains

questionable whether this will be an incentive for editorial offices to continue to improve their editorial work in terms of the used technologies. After all, such innovations could lead to a shift in the distribution of work and thus possibly to a reduction of the workload for journalists; on the other hand, there is a risk that jobs will be eliminated whenever they are automated. Due to the economic pressure on journalism, the latter scenario is quite conceivable.

Figure 2: Expectation of AI in various tasks



Annotation: N=1035, All values in percent.

Question: Artificial intelligence (AI) can by now take on very different tasks when it comes to creating messages. Do you believe that an AI performs these tasks qualitatively better or worse than a human?

(1=significantly worse than a human; 5= significantly better than a human)

Regulation of AI in journalism demanded

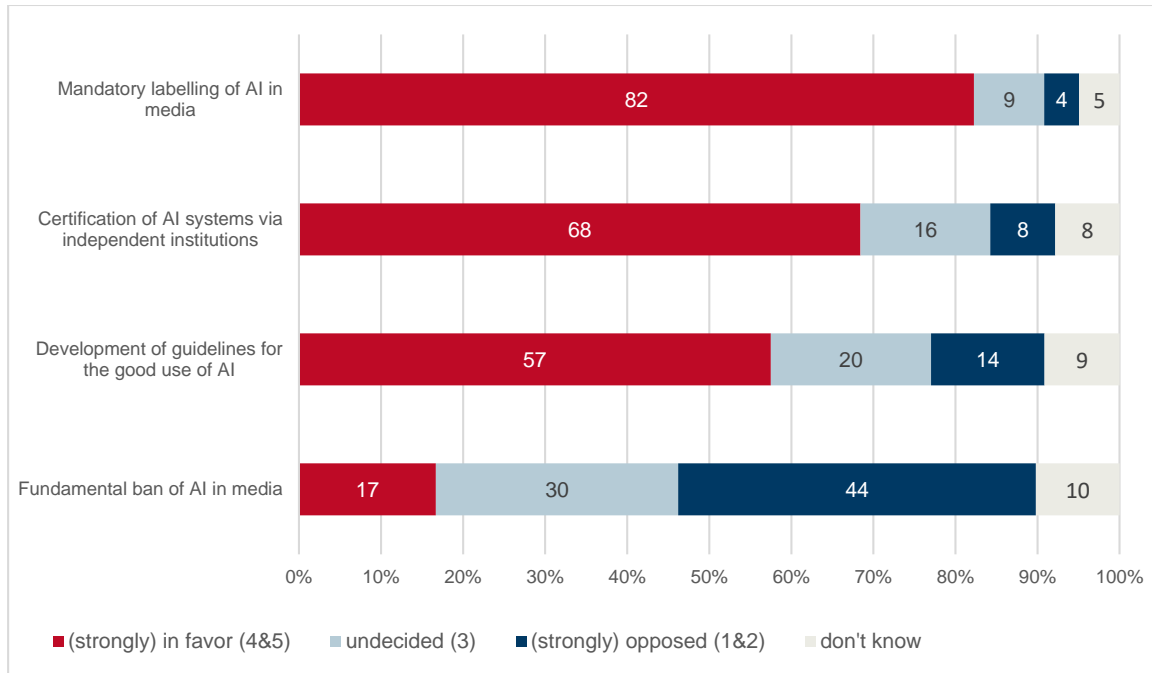
Lastly, we asked to what extent the German population is in favor of regulating AI in the journalistic field. Potential regulatory measures were derived from the German government's AI strategy (Die Bundesregierung, 2018). Another source of relevant questions is our own dedicated survey on the subject area of „AI & Discrimination“ (Kieslich et al., 2020).

The survey shows that there is widespread support among the German population for regulating AI in journalism. A full 82 percent call for mandatory labeling of AI in news production. Furthermore, 68 percent are in favor of independent institutions certifying AI systems used in journalism, similar in style to the TÜV (German Technical Inspection and Observation Association). A further, 58 percent of respondents

call for the development of guidelines for the good use of AI. A fundamental ban on AI in journalism is called for by only a minority. 17 percent of those surveyed consider this to be a sensible measure, while 44 percent are clearly against a ban on AI applications in journalism.

The survey results regarding regulatory issues indicate that the German population holds a rather critical view on the use of AI in journalism. A non-regulated use of AI is widely rejected. Demands for labeling and certification garner widespread support.

Figure 3: Approval of regulatory measures



Annotation: N=1.035; All values in percent.

Question: There may be a number of ways to regulate the use of artificial intelligence (AI) in journalism. How strongly are you in favor of or opposed to the following measures being taken to regulate the use of AI in the media? (1=strongly opposed to; 5=strongly in favor of)

Conclusion

AI systems promise to alleviate journalists' workload by enabling various activities to be carried out automatically or supported by machines. From the audience's perspective, however, their use is viewed rather skeptically. Although the German population we surveyed considers AI systems to be more competent than humans in various routine activities, the influence of AI on journalism is viewed rather negatively. Based on the assessment of journalistic quality characteristics, little improvement is expected from AI systems on the contrary, the data suggest that the population could demand

a critical reflection of its use. This is evident from the widespread approval of regulatory measures.

Thus, our results reveal an interesting contradiction. Although the respondents largely see little to no increase in journalistic quality through the use of AI, they nevertheless rate the performance of AI better than that of human journalists in several areas. This leads to the follow-up question of what actually constitutes journalistic quality: pure performance, as our results would suggest, seems to contribute only partially to it. In conjunction with the basic acceptance of the

use of AI in journalism (Table 1), it could be interpreted that journalism per se is idealized as a human domain and technical influence, even if it leads to an increase in performance, is seen as critical for the time being.

AI must therefore not be implemented in journalistic newsrooms without critical examination or even carelessly, just because it is technically possible. Even if the use of AI can facilitate journalistic activities and appears to be financially

attractive, journalism faces the danger of ignoring the expectations and wishes of the audience.

Editorial departments should therefore critically question the extent to which these systems affect journalistic production and clearly identify corresponding changes before implementing AI systems within their operations. Especially in times such as these, when trust in journalism is often questioned, the preservation of journalistic quality should be prioritized.

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