

Methodology in the Age of Algorithms

Metodología en la era de los algoritmos

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Editorial

Despite the dynamic development of the so-called new media—or, as Paul Levinson would say: new new media—methodology is still essential. Today's communication is not as apparent as when the founders of media science created their communication models. The beginning of that process was the rise in popularity of the web 2.0 trend, which assumes, e.g., replacing passive consumption of media messages prepared by professional journalists with the recipients' active participation in creating content. The ubiquitous convergence also distances us from the obviousness of the so-called legacy media. Using traditional media research methods, can we analyse a newspaper that publishes its podcast series, posts live coverage of relevant and current events on social media, and has its own television studio? These questions are more important now that "new media" is no longer "new," and journalism, media, and social communication students were born when Wikipedia was already famous, Facebook operated and built its power, and YouTube was just preparing its launch.

The media do not stand still; they are one of the economy's most dynamically developing and innovative sectors. The most recent and best-known example of progress in communication is the rapid popularity of artificial intelligence (AI). The ChatGPT application was launched at the end of 2022; however, this was not the first time algorithms entered the media world. Already ten years earlier, journalists wrote "The robot will never steal My Pulitzer" (Hamburger, 2012); in 2013, the website of the Los Angeles Times newspaper published a text written by a bot called Quakebot about the earthquake in Los Angeles—three minutes after the event (Schwencke, 2014); in 2020, *The Guardian* published an article entitled "A robot wrote this entire article. Are you scared yet, human?", the text was published in the Opinions section, and the author was signed as GPT-3 (2020).

Algorithms can enrich the media research toolkit, and communication methodology follows the changes, primarily when big data is being studied. The methods used in data science, in fact, are consistent in many stages with the quantitative methodologies of media and communication research. Therefore, software solutions allow researchers to select a sample, analyse data sets, and find relationships between variables faster and more accurately.

In short, we can say that the algorithms used in essential work with big data can be divided into three groups. Classification algorithms allow experimenters to label multiple observations, such as true/false. Regression-based algorithms help predict an increase or decrease in value. Finally, thanks to the use of grouping algorithms, we can divide the analysed cases into groups and subgroups according to the criteria set by the researcher. Despite their mathematical origins, these methods occurred in communication and media studies.

One of the first applications of algorithms turned out to be fact-checking based on news classification. The first implementation of this concept in the mass media was Snopes.com, founded in the United States in 1994. Today, their subpages with information credibility assessments also run news agencies, e.g., Agence France Presse (factcheck.afp.com) and Associated Press (apnews.com/hub/ap-fact-check), and broadcasters, e.g., BBC (www.bbc.com/news/reality_check) or CNN (edition.cnn.com/specials/politics/fact-check-politics). Currently, mathematical models can be taught to recognise fake news. Sentiment analysis works on a similar principle (Patruni, Angadi, Gorripati, & Saraswathi, 2022), thanks to which, for example, it is possible to determine the tone—positive, negative, or neutral—of reviews or readers' opinions about publications in the media.

There are many benefits of using AI in communication and media research. First of all, thanks to algorithms, it is possible to analyse a large corpus containing vast amounts of data efficiently. Research material consisting of several million publications on Twitter, thousands of press articles or hundreds of books would be very difficult or even impossible to analyse using traditional methods. However, new problems arise when using new research methods, such as the use of slang that the algorithm may not recognise, the different emotional shades, words that are not in the official "literary" dictionary, irony, sarcasm, etc. Methods supported by AI are developing. It seems, however, that we are still at the beginning of the road, and the sciences of communication and media are adopting new techniques. The development of natural language processing (NLP) methods is promising. NLP allows for an even more accurate analysis of texts and finding further dependencies. We are seeing similar progress in image and video analysis, thanks to which it will be possible to use AI not only to study written text.

Not solely the media themselves change, but also their users evolve. The most contemporary communication channels—applications used by millions of people—are a valuable media environment and a great source of data, but also a challenge for researchers, for instance, due to the availability of data (Miltsov, 2022, p. 672), as well as ethical issues, such as the perception of the privacy of communication in social media (Deacon et al., 2021, p. 461). Communication tends towards personalisation, privatisation and individualisation. This trend is reflected in the popularity of messengers and applications, which were supposed to serve non-mass communication. Privacy issue brings us closer to the ethics of a media researcher, whose work often

involves examining the message itself and the participants in the communication process.

It is difficult to disagree with the statement "Today more than ever, it is necessary to care and nurture the methodologies that make communication research possible" (Jiménez-Gómez, 2022, p. 2). Some things remain unchanged. New communication elements require new ways and take over traditional media research methods (Plesner & Phillips, 2014, p. 6). The results of the study do not make sense without a properly designed and presented procedure. The description of the method ensures the reproducibility of the analysis, which guarantees the reliability of the entire scientific process. Thus, the methodology is —as before— the foundation of scientific investigation, on which subsequent stages of research are built.

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