The Great Audience Experiment

A Research Synthesis and Agenda

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Introduction

This research article provides a historical perspective on the collection and use of audience data across American news organisations, highlighting the intersections of audience data and journalism practices. The author contends that a better understanding of the effects of the use of audience data has implications for both the business of news and the mission of journalism that are of critical importance as our news organisations strive to shape their future in a period of dramatic reconfiguration.

The Great Audience Experiment: A Research Synthesis and Agenda – by Alyssa Zeisler

Since the beginning of mass media journalism, news professionals have endeavoured to develop new tools, systems, and processes to better understand and reach audiences. In the past, audience engagement was generally seen as the responsibility of non-editorial departments such as marketing. Today building audience engagement is more likely to be driven by editorial teams and seen as increasingly central to the work of reporters and editors.

Audience data and analytics are often regarded as symptoms of commercialisation, associated with news distribution and consumer demands, and lauded as tools to reach new audiences and grow revenues. The use of audience data also contains opportunities and risks for journalism as an institution, a profession, and for audiences themselves.

With new technologies that allow unprecedented attention on the news audience, it is sometimes unclear who is leading who. Are practitioners using the right metrics to truly understand audience needs? Do current methodologies help or hinder meaningful journalism? When the business of journalism undergoes revolutionary changes – for example, in the shift from advertising to subscription monetisation — how does or should the mission of journalism respond?

Tensions between the mission of journalism and the business of journalism are longstanding. How do recent developments in data analytics challenge the understanding, and indeed the very definition of journalistic value? While the use of analytics has been intellectually interrogated since the early 20th century, we are still without a clear understanding of their impact. Much research is too narrowly focused, taking the perspective of the newsroom without understanding how the audience, business, and newsroom are intimately linked.

As the use of data becomes embedded in newsroom functions, the path forward for news institutions is ambiguous. What is clear however, is that the audience, the news business, and the newsroom are interconnected. Audience data and the way audience data is used has significant implications for business management, organisational structure, editorial strategy, ethics, institutional trust, and business sustainability.

Phases of change

There are few primary sources (i.e. recorded comments from journalists and editors) from the early to mid 20th century discussing how audience research methodologies were used and perceived from within newsrooms during this time. We must instead rely on ethnographic research from academics to ascertain how audience research was regarded, focusing on American print-originated institutions and their online counterparts – an important distinction given a different evolution that took place in broadcast media. With these stipulations in mind, audience research, broadly defined as both qualitative (i.e. customer research) and quantitative (i.e. data analytics) information about audiences, was pioneered in the 1930s. It quickly evolved and was integrated across many industries, paralleling the growth in consumerism after World War II (Kierlanczyk, 2019).

While research was used by management, advertising, and others within print media companies it was not until the mid-1990s that it was meaningfully integrated into newsroom practice. There are four distinct phases of this evolution, with different speeds of change:

1 The advent of audience research in the media business (1930-1950) where research methodologies are developed and used by the media business, but not by the newsroom.

2 Iterative development (1950 - 1990), where significant economic and technological changes forced adjustments to the media business, resulting in the rationalisation of data derived through polls, surveys and interviews as well as the development of new methodologies; resistance to using data by reporters and editors remained.

3 Newsroom integration (1991 - 2010) where audience research is incorporated into newsroom practice through the creation of new roles, tools and processes.

4 Embedded into newsroom practice (2010 - present), where analytics shape decision making and relevant roles are empowered within the newsroom hierarchy.

Phase 1: The Advent of Audience Research (1930-1950)

In 1928 George Gallup, a pioneer of survey sampling techniques, wrote his doctoral thesis on measuring reader interest in the news. It was a study originally commissioned and paid for by the publisher of *The Des Moines Register* and *Tribune* (Ohmer, 1991). Two years later, it was among the first quantitative audience analyses published in *Journalism Quarterly* (Chaffee, 2000). A study by Ralph Nafziger, which also looked at the reader's interest in newspapers, quickly became the second just a few months later, creating a clear starting point for the use of audience research in U.S. newsrooms.

Both Gallup and Nafziger addressed their report to senior management rather than the newsroom -- indicating a detachment between what was seen as advantageous to the business and to the editorial parts of the business. While the newsroom may have relied on an imagined audience – i.e. the assumptions journalists make about their audience – they did not rely on actual observations gained through research.

Phase 2: Iterative Development (1950-1990)

The American news industry was relatively financially stable through the first half of the 20th century, which in part enabled journalists to ignore, for the most part, audience data. However, significant changes took place after World War II, changing news consumption behaviours and the structure of the news industry. Factors such as (1) cost increases due to the lifting of wartime wage freezes (2) the movement towards employee unions (3) changes in inheritance tax rules, and (4) new technologies, enabled large chains to run their own syndicates and drove consolidation across the industry. There were 1,300 independent publishing families in 1953, but that had shrunk to 700 by 1980. (Neiva, 1996; and Guarneri, 2019). While the impact of these consolidations can be difficult to ascertain, there is evidence that the delocalisation of coverage is a typical outcome and that consumers may pay higher prices for the news without a corresponding increase in quality (Grotta, 1971). Simultaneously, newspapers declined as a primary news source in favour of television, which became the public's major source of news between 1950 and 1975.

By the middle of the 20th century the journalism industry was entering the early stages of audience rationalisation, which is the collection and use of audience information through the regular quantification of audience research (Napoli, 2008). Published studies began looking at the best way to not just collect but also convey audience data. For instance, the article *Vox Pop Can Pilot Your Paper* (Hughes, 1947), describes a plan for improving newspaper content through the use of frequent readership studies that allow companies to make comparisons over time.

However, reporters and editors continued to rely on their own judgement. Sociologist Herbert Gans' landmark study in 1979 showed that journalists had "little knowledge about the actual audience and rejected feedback from it" (Gans, 2004). Gans further explained: although reporters "had a vague image of the audience, they paid little attention to it; instead, they filmed and wrote for their superiors and themselves, assuming…that what interested them would interest the audience." Gans offered several explanations: that product decisions (i.e. the delivery of the news) take the audience into account so that reporters do not have to; that journalists have a disbelief in the sampling methodology; that journalists "are reluctant to accept any procedure which casts doubt on their news judgement"; and that because research is conducted by the business side (rather than by the newsroom) it cannot be trusted. Gans focused on broadcast media, which was already further along in the use of audience data (i.e. ratings) than print, and we can assume this thinking was even stronger in print-originated institutions.

Phase 3: Newsroom Integration (1990-2010)

New technologies often create conditions for change and with the internet came a "new series of professional challenges and economic opportunities" (Anderson, 2011a). Journalists were presented with new forms of audience feedback, like real-time data. The adoption of social media and advanced web analytics forced change to "not only how journalists do their work, but also the range of work they need to do" (Ferrer-Conill and Tandoc, 2018). The "sheer volume of audience data, generated by the ease and ubiquity of digital tracking technologies" created new journalistic practices and changed how news was produced and consumed (Lee and Tandoc, 2017).

Newsrooms, especially digital-first newsrooms, began to use social media for both newsgathering and distribution. In 2008, the Mumbai terror attack "was the first breaking news event where updates were posted in real time on *Facebook* and *Twitter*" (Wardle, 2016). At the same time, social media companies and other intermediaries like *Google* began to impact both the reach and revenues of these outlets as reader behaviour changed drastically.

Newsroom tooling and roles evolved to accommodate this change, which further impacted adoption of audience feedback. Newsworkers with the relevant tools were more likely to incorporate the audience into their decision-making (Belair-Gagnon et al, 2020). Specialised roles, like audience engagement and social media editors were created to interpret audience data and served to further legitimise the use of audience research in newsrooms (Ferrer-Conill and Tandoc, 2018).

Alongside these changes came shifts in the theoretical understanding of gatekeeping: the process that leads to what events are and are not covered by the mass media. For instance, "participative gatekeeping," which actively incorporates the audience in news decisions (Blanchett, 2021), and new terms (i.e. participatory, collaborative, and network journalism), were coined to describe how the integration of the audience is changing journalism (Kramp, 2018).

Phase 4: Acceleration in the newsroom (2010 - present)

The last ten years have continued to be difficult for media businesses, resulting in large part from the 2007-2008 financial crisis and continued platform disruption. Smartphones again changed consumption behaviours as has the launch and popularisation of additional social outlets like *Snapchat* and *TikTok*, while messaging platforms like *WhatsApp* and *WeChat* have also emerged. With declines in advertising but stability in circulation revenues, many organisations shifted revenue models towards subscriptions (Skok, 2017) creating a period of punctuated evolution.

Outlets with greater market orientations, defined by Beam (2003) as having a "focus on identifying and fulfilling customers' and potential customers' wants and needs" and by Ferruci (2018) as how closely a company hews "to traditional market philosophies" and views their audience as customers, make greater use of web metrics (Belair-Gagnon et al, 2020). Several studies have found similar results. Notably Vu (2013) found that editors who attach the "importance of high readership to economic benefits are more likely to have different news decisions based on web metrics," and Tandoc (2015) found that an editors' perception of market competition leads them to use analytics more often. Corporate hierarchy also seems to play a role, as "the more value that is attached to audience data from the top down the more the audience "participates" in decision-making on the newsroom floor" (Lewis et al, 2019).

At the same time, roles that integrate data into the newsroom have continued to evolve. While the early 2000s brought social media and audience roles to newsrooms, the last decade has brought strategy editors -- responsible for critical publications like the *New York Times' Innovation Report* (Benton, 2014) – and established product managers as a competency within news organisations. Product managers "bridge the divide of the varying operating logics and align priorities among editorial, business, and technology departments" (Kosterich, 2021). New organisations, like the News Product Alliance, which specifically focuses on aligning "editorial, audience, business and technology strategy", have recently launched to support product oriented newsworkers (News Product Alliance, 2021). Some institutions have pushed rationalisation of the audience further, using metrics as "strategic tools" (Anderson, 2011b) creating bespoke audience metrics to align with their business goals (Cherubini and Klein, 2016) and even using newsroom metrics in the coaching and evaluation of journalists (Ekström and Westlund, 2021). What is especially interesting is that while the advent of new technologies is linked to the use of audience data, much of the basic ideas on data collection remain the same (see appendix 1).

This is not to say that limits do not remain. According to Christin and Petre (2020) newsrooms have mediated commercialisation through different strategies. These include the "domestication" of metrics by making them from within the newsroom (i.e. data platforms built from within the newsroom, like the *Guardian's Ophan*) Also, a distinction can be made between "good" versus "bad" metrics (i.e. time engaged, which is more likely to reveal engagement with journalism versus pageviews, which may indicate initial interest only)..

The impact of audience information

There are three areas where the incorporation of audience data into the newsroom has an impact. Firstly, in the functioning of a newsroom, including the content produced, what roles are created and what roles newsroom staff perform. Secondly, how these changes influence the audience. And finally, how changes to both journalism and the audience influence the industry and even society at large. These are of course interconnected:
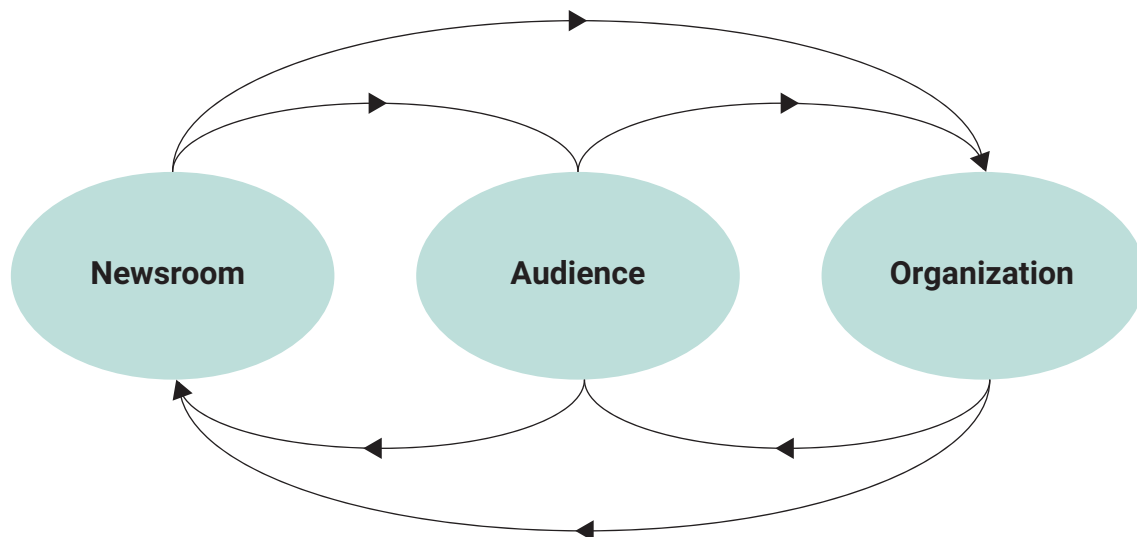
Impact on the newsroom:

Most research into this area has thus far focused on the impact on the newsroom. Not only have the types of roles in newsrooms changed, but Andersson and Wadbring (2015) also suggest that media workers are "modifying their professional identity by gradually incorporating market-oriented values in the journalistic self-image." While the impact of this on the type of person who becomes a journalist is not yet known, what is covered, who is used as sources, and more, is likely affected as a result. The cultural impact of data is varied: it could impact journalistic news practice as a form of management surveillance and/or serve to empower journalists (Petre, 2021).

The impact of using audience metrics on content has only recently been considered systematically (Fürst, 2021) with analysis focusing on what is covered and how it is presented. It is often focused on short-term impacts rather than looking over time. Interestingly, the findings thus far are not particularly supportive of the benefits of audience analytics, instead finding that the use of data encourages tabloidisation or "the proliferation of pre-packaged material" (Arenbeg and Lowrey, 2018) and new angles to old news. That being said, there is also evidence that the use of a market orientation could "stimulate investigative journalism" (Rolland, 2006) which is generally seen as higher quality and has been found to correlate with audience size in broadcast journalism (Abdenour, 2019). While there are many ways to define news quality (Beckett, 2018), most studies are biased towards a 'producer-orientation' (Swart et al, 2022) - evaluating news quality from the perspective of the newsroom and not the consumer.

Impact on the audience:

When considering the consumer's perspective on media, trust is one of the areas most quantified outside of readership numbers. Several surveys, such as the *Edelman Trust Barometer* and *Knight Foundation's American Views 2020: Trust, Media and Democracy* report, show trust in the media is, with certain exceptions, generally decreasing (Edelman, 2021; Knight Foundation 2020). According to the *2019 Reuters Institute Report*, sensational reporting and the tabloidisation of news is often interpreted as 'fake news' and erodes consumer trust. While individual orgs may have higher levels of trust with their own consumers, the trend of declining trust across the industry is particularly concerning given the importance of trust to a news organisation's economic survival (Fisher et al, 2021) and democracy at large.

Indeed, the unintended consequences of incorporating data into editorial decision-making may prove meaningful over time. For instance, "variances in news repertoires translate into small but significant differences in views on society" (Picone and Vandenplas, 2022). This brings up the larger question of the role of a free and independent press in relation to democracy at large (The Aspen Institute, 2019). News deserts – areas without news coverage – that may develop due to business decisions (i.e. it is not profitable to run a business or to cover a certain area) provide another example where making data-driven decisions in the newsroom may have potentially larger societal impacts.

Impact on the organisation:

The increasing use of data and commercialisation impacts the business structures of journalistic organisations. For instance, if editorial independence is crucial then particular business models may be better than others. For instance, Julia Cagé's 2016 book *Saving The Media* proposes a particular business model – a nonprofit media organisation, midway between a foundation and a joint stock company – that would lend itself to longevity and independence for media companies. The context of the organisation, who it endeavours to serve, its subject matter, etc, are additional variables.

An agenda for the future

It is abundantly clear that the impact of audience information on the production of news is only partially understood and that the impact of using audience research within news organisations requires further study.

The use of audience metrics is not inherently good or bad. Data can encourage tabloidisation, improve output to meet audience interests and needs, or lead to audience expansion. The specific metrics being used, as well as the ways in which this data is analysed, matters (Kormelink and Meijer, 2017). Studying retention data, for example, will have a different impact on the decisions around news production than studying traffic at large. Without data, newsroom practitioners miss certain signals from their intended audiences, for example, often ignoring audience news avoidance.

Often data is collected without purpose. Should the focus of data collection be 'eyeballs' on the page, investigative impact and long term influence, or reaching audiences? Often the business side is seen as in conflict with the journalism side, with audience data dismissed as a third interest. How does creating value for business align with creating value for audiences and with the traditional values taught in schools of journalism?

A better understanding of the effects of the use of audience data is critical as news organisations strive to shape their future. First and foremost, we must stop looking at the audience, newsroom and news business as separate entities.

This means creating a better definition of journalistic value that incorporates both the newsroom and audience perspective.

> Creating a holistic measure of news quality – including, possibly, items as varied as audience size and satisfaction to real world impact and editorial instinct – that considers both the producer and consumer perspective will help better elucidate the impact of data-driven decision making.

> This is especially important given the abundance of research that focuses on news organisations without consideration of users. While audience size is often used as a de facto success measure, it lacks the nuance to fully allow us to interrogate the impact of journalism at large.

Another area of research is to use that definition of news quality to bring additional nuance to (1) how the consumer affects news production and (2) how news production in turn influences consumer views on the media.

> What are the audience's views on metrics? Is the independence of editorial decision- making even understood by audiences at large? How else can or should the audience be centred in journalism research?

> Furthermore, while there is a logical link between the use of audience data and trust, there is little research on the specifics of this relationship which could be better understood by looking over time and by focusing on specific outlets.

Taking an ecosystem approach is another important area for research to fully understand what impacts how audience data may (or may not) be incorporated and at what speed.

> An obvious limitation of this analysis is US-centrism and the focus on 'newspapers' or historically text-driven organisations. This would be improved further by a global perspective as well as looking at other types of news-media, for instance radio and television, which for the most part incorporated audience data earlier in their evolution. Adding in additional variables, such as a consideration of different business structures, regions and more, would help to clarify the impact of audience analytics.

Finally, extrapolating beyond audience analytics to the commercialisation of the industry at large is crucial.

> Developing an assessment model that takes into account the newsroom (roles, tools, compensation, etc.), the audience (consumption behaviours, views, etc.) and the organisation (investment, structure, revenues) would improve our understanding of commercialisation and organisational change at large.

The use of audience data is just one example of change becoming embedded throughout a news organisation. The use of artificial intelligence, an umbrella term for many different types of machine learning, is another example. Content automation (powered by natural language generation) changes how much and what type of content can be produced. Algorithmic news decisions provide another example, as practitioners struggle to integrate artificial intelligence into workflows, and current gatekeeping models struggle to describe the use of algorithms. Like the early phases of audience research – phases 1 and 2, above – academics have touted the potential of machine learning to support journalism (Graefe, 2016). As in phase 3, newsroom roles are beginning to be developed (i.e. computational journalists and automation editors) and both in-house and third party companies and tools exist. In outlets where automation is embedded and being used at scale (phase 4), it is predominantly by entities where content volume is part of their value proposition like at *Associated Press* and *Bloomberg* – again reflecting the importance of business value as a lever for changing editorial practices.

Applying an assessment model to other technology changes such as artificial intelligence would enable us to test the model, and potentially anticipate future shifts.

The future of journalism remains uncertain, particularly with the acceleration of new technologies.   As the economy becomes more uncertain and data becomes more abundant it is likely that audience data – and indeed data of any kind – has already and will become even more integrated into all parts of a news organisation. With that in mind, there is no time like the present to interrogate the role of journalism in society, the role of the audience in journalism, and the tools we use to bridge the gap.

Author's note

This analysis was written in an independent capacity and does not represent the views of Dow Jones.

Most of my career has involved working with newsroom-based audience-oriented teams. When I came across Gallup's thesis I was surprised that the ideas and arguments I have been making were evident in what Gallup wrote almost 100 years earlier. It was not until I dug deeper into the history of news audience analytics that the persistence of a wider audience-news media ecosystem and nuances became apparent, linking (1) economic challenges and technology changes to the production and use of audience data; and (2) the implications of changing methodologies in audience data collection for newsrooms, audiences, and business structures.

It is my experience that we make better decisions when the business side and the journalism side of the news media work in tandem. Different responses to audience data illuminate the silos that operate within news media organisations. Clarifying these different perspectives and understandings are critical to better decision-making, to improving audience engagement, and to the future of the newsmedia industry as well as to mission-driven journalism.

Thank you to those who have read and provided feedback on this work.

Appendix 1

A comparison of the audience research methodologies discussed by Gallup's thesis shows a clear evolution in the technology and methods used in audience research between 1930 and present day. This table looks at two time periods (bringing together phase 1 and 2, and then phase 3 and 4) for ease of analysis.

	~1930	~2000+
Complaints	Omit a feature for a period of time and see how many people ask for the feature to be returned.	More broadly complaints and comments are often gathered by customer service teams and analysed for information. New technologies like natural language processing are making this process faster, though there is no evidence of consistent newsroom usage.
Responses	Responses (i.e. letters) to specific articles can indicate interest and readership.	Comment sections allow this to happen at scale, if used. Engagement and community teams have been created in newsrooms, often with the direct role of moderating comments sections. New technologies can improve moderation, though technological bias may exist when deciding what is or isn't allowed.
Circulation	Correlating circulation records with news events.	Advent of web metrics. Many companies now track specific readership of articles, in addition to aggregate metrics like page views and unique users. *Parse.ly* and *Chartbeat* -- two analytics platforms for websites -- were both founded in 2009 with wide adoption. Some media orgs have created their own in-house tools and metrics (for instance the *Financial Times' Lantern* and RFV score, or the *Guardian's Ophan*).

	~1930	~2000+
Interviews	Interviewing readers on their readership and preferences.	No evidence of significant change, though the internet has enabled larger scale. This technique is still frequently used by user experience (UX) and customer intelligence teams to give directional information, and is aided by new technology like eye tracking software. Editorial teams are increasingly using insight gained through these techniques (Marshall, 2016).
Questionnaires	Including physical questionnaires in the newspaper for readers to send back	Many companies (*Surveymonkey* and *Qualtrics*, for instance, founded 1999 and 2002 respectively) exist for distributing questionnaires, getting responses, and analysing results which allows newsrooms to conduct repeatable research at a larger scale online. This was predominantly used by the management and advertising units.

Like interviews, customer research has moved increasingly into the newsroom as new article formats, coverage approaches, and more are tested. |
| **Aided recall (listed as Iowa method by Gallup).** | An investigator goes through a newspaper with the reader, marking everything that the subject read and verifying it through the subject's recall or the article. | No evidence of significant change or usage. |

Abdenour, J., & Riffe, D. (2019). Digging for (ratings) gold: The connection between investigative journalism and audiences. Journalism Studies, 20(16), 2386–2403. **https://doi.org/10.1080/1461670x.2019.1598887**

Anderson, C. (2011a). Deliberative, Agonistic, and Algorithmic Audiences: Journalism's Vision of its Public in an Age of Audience Transparency. International Journal of Communication, 5, 529–547

Anderson, C. (2011b). Between creative and quantified audiences: Web metrics and changing patterns of newswork in local US newsrooms. Journalism 12(5) 550–566

Andersson, U., & Wadbring, I. (2015). Public interest or self-interest? How journalism attracts future journalists. Journal of Media Practice, 16(2), 126–138. **https://doi.org/10.1080/14682753.2015.1041805**

Arenberg, T., & Lowrey, W. (2018). The Impact of Web Metrics on Community News Decisions: A Resource Dependence Perspective. Journalism & Mass Communication Quarterly, 96(1), 131–149. **https://doi.org/10.1177/1077699018801318**

Beam, R. A. (2003). Content Differences between Daily Newspapers with Strong and Weak Market Orientations. Journalism & Mass Communication Quarterly, 80(2), 368–390. **https://doi.org/10.1177/107769900308000209**

Beckett, Charlie (2018, June). What is quality journalism? The most important question for news organisations today, but do we know what it means? Polis. **https://blogs.lse.ac.uk/polis/2018/06/05/what-is-quality-journalism-the-most-important-question-for-news-organisations-today-but-do-we-know-what-it-means/**

Belair-Gagnon, Valerie, Zamith, Rodrigo, & Holton, Avery E. (2020). Role Orientations and Audience Metrics in Newsrooms: An Examination of Journalistic Perceptions and their Drivers. Digital Journalism, 8(3), 347–366. **https://doi.org/10.1080/21670811.2019.1709521**

Benton, J. (2014, May). The leaked New York Times innovation report is one of the key documents of this media age. Nieman Lab. **https://www.niemanlab.org/2014/05/the-leaked-new-york-times-innovation-report-is-one-of-the-key-documents-of-this-media-age/**

Blanchett, N. (2021). Participative Gatekeeping: The Intersection of News, Audience Data, Newsworkers, and Economics. Digital Journalism, 1–19. **https://doi.org/10.1080/21670 811.2020.1869053**

Cagé, J., & Goldhammer, A. (2016). Saving the Media: Capitalism, Crowdfunding, and Democracy. Belknap Press: An Imprint of Harvard University Press.

Cherubini, Federica and Nielsen, Rasmus Kleis, Editorial Analytics: How News Media are Developing and Using Audience Data and Metrics (February 23, 2016).

Christin, A., & Petre, C. (2020). Making Peace with Metrics: Relational Work in Online News Production. Sociologica, 14(2), 133–156. **https://doi.org/10.6092/issn.1971-8853/11178**

Edelman. (2021). Edelman Trust Barometer 2021: Trust in the U.S. **https://www. edelman.com/sites/g/files/aatuss191/files/2021-01/2021%20Edelman%20Trust%20 Barometer_U.S.%20Country%20Report_Clean.pdf**

Ekström, M., Ramsälv, A., & Westlund, O. (2021). Data-driven news work culture: Reconciling tensions in epistemic values and practices of news journalism. Journalism. **https://doi.org/10.1177/14648849211052419**

Raul Ferrer-Conill & Edson C. Tandoc Jr. (2018) The Audience-Oriented. Editor, Digital Journalism, 6:4, 436-453, DOI: 10.1080/21670811.2018.1440972

Ferrucci, P. (2018). It is in the numbers: How market orientation impacts journalists' use of news metrics. Journalism, 21(2), 244–261. **https://doi. org/10.1177/1464884918807056**

Fisher, Caroline, Flew, Terry, Sora Park, Sora, Lee, Jee Young & Dulleck, Uwe (2021) Improving Trust in News: Audience Solutions, Journalism Practice, 15:10, 1497-1515, DOI: 10.1080/17512786.2020.1787859

Fürst, S. (2020). In the Service of Good Journalism and Audience Interests? How Audience Metrics Affect News Quality. Media and Communication, 8(3), 270–280. **https://doi.org/10.17645/mac.v8i3.3228**

Gans, H. J. (2004). Deciding what's news : a study of CBS evening news, NBC nightly news, Newsweek, and Time / Herbert J. Gans. Northwestern University Press.

Graefe, Andreas. (2016, January). Guide to Automated Journalism. Columbia Journalism Review.
https://www.cjr.org/tow_center_reports/guide_to_automated_journalism.php

Grotta, Gerald L. (1971). Consolidation of Newspapers: What Happens to the Consumer? Journalism & Mass Communication Quarterly, 48(2), 245–250. **https://doi. org/10.1177/107769907104800207**

Guarneri, Julia. (2019, October). What It Means to Be American. How Syndicated Columns, Comics and Stories Forever Changed the News Media. Smithsonian Magazine.

Hughes, Wesley. (1947). Vox Pop Can Pilot Your Paper. Journal of Marketing, 11(4), 371–376. **https://doi.org/10.2307/1246277**

Kierlanczyk, K. (2019, June 2). A Brief History of Market Research. Kelton Global. **https://www.keltonglobal.com/perspectives/a-brief-history-of-market-research/**

Knight Foundation. (2020). American Views 2020: Trust, Media and Democracy. **https://knightfoundation.org/reports/american-views-2020-trust-media-and-democracy/**

Kormelink, T. G., & Meijer, I. C. (2017). What clicks actually mean: Exploring digital news user practices. Journalism, 19(5), 668–683. **https://doi.org/10.1177/1464884916688290**

Kosterich, Allie (2021) Reengineering Journalism: Product Manager as News Industry Institutional Entrepreneur, Digital Journalism, DOI: 10.1080/21670811.2021.1903959

Kramp L., Loosen W. (2018) The Transformation of Journalism: From Changing Newsroom Cultures to a New Communicative Orientation?. In: Hepp A., Breiter A., Hasebrink U. (eds) Communicative Figurations. Transforming Communications – Studies in Cross-Media Research. Palgrave Macmillan, Cham. **https://doi.org/10.1007/978-3-319-65584-0_9**

Lee, Eun-Ju, & Tandoc, Edson C. (2017). When News Meets the Audience: How Audience Feedback Online Affects News Production and Consumption. Human Communication Research, 43(4), 436–449. **https://doi.org/10.1111/hcre.12123**

Lewis, Seth C. , Andrea L.Guzman, and Thomas R.Schmidt (2019.) "Automation, Journalism, and Human–Machine Communication: Rethinking Roles and Relationships of Humans and Machines in News." Digital Journalism 7 (4): 409–427.

Marshall, S. (2016). Focusing on the why of the click. Nieman Lab. **https://www.niemanlab.org/2016/12/focusing-on-the-why-of-the-click/**

Napoli, Philip M. (2008). The Rationalization of Audience Understanding. McGannon Center Working Paper Series. 25. h**ttps://fordham.bepress.com/mcgannon_working_papers/25**

Neiva, Elizabeth MacIver. (1996). Chain Building: The Consolidation of the American Newspaper Industry, 1953–1980. Business History Review, 70(1), 1–42. **https://doi.org/10.2307/3117218**

About Us. (2021). News Product Alliance. **https://newsproduct.org/about-us**

Ohmer, S. (1991). Measuring Desire: George Gallup and Audience Research in Hollywood. Journal of Film and Video, 43(1/2), 3-28. Retrieved April 10, 2021, from **http://www.jstor.org/stable/20687927**

Petre, C. (2021). All the News That's Fit to Click: How Metrics Are Transforming the Work of Journalists. Princeton University Press.

Picone, Ike & Vandenplas, Ruben (2022) Windows to the World: Imagining Flemish News Audiences and Their Views on Society through the Lens of News Repertoires, Digital Journalism, 10:1, 87-108, DOI: 10.1080/21670811.2021.1972323

Rolland, Asle (2006) COMMERCIAL NEWS CRITERIA AND INVESTIGATIVE JOURNALISM, Journalism Studies, 7:6, 940-963, DOI: 10.1080/14616700600980710

Reuters Institute for the Study of Journalism (2019. Digital News report. **https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2019-06/DNR_2019_FINAL_0.pdf**

Skok, D. (2017, April 27). The current move to subscription models is a revolutionary shift for journalism. Poynter. **https://www.poynter.org/business-work/2017/the-current-move-to-subscription-models-is-a-revolutionary-shift-for-journalism/**

Swart, Joëlle Kormelink, Tim Groot, Meijer rene Costera & Broersma, Marcel (2022) Advancing a Radical Audience Turn in Journalism. Fundamental Dilemmas for Journalism Studies, Digital Journalism, 10:1, 8-22, DOI: 10.1080/21670811.2021.2024764

Tandoc, Edson C. Jr. (2015) Why Web Analytics Click, Journalism Studies, 16:6, 782-799, DOI: 10.1080/1461670X.2014.946309

The Aspen Institute, February 2019. Knight Commission on Trust, Media and Democracy, Crisis in Democracy: Renewing Trust in America, Washington, D.C.:

Vu HT. The online audience as gatekeeper: The influence of reader metrics on news editorial selection. Journalism. 2014;15(8):1094-1110. doi:10.1177/1464884913504259

Wardle, C. (2017, January 25). *The Great Disrupter of the news industry*. HuffPost. Retrieved November 27, 2022, from **https://www.huffpost.com/entry/the-great-disrupter-of-th_b_9069496**

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