

Algorithmic Bias and Its Effects on the News Market: A Qualitative Study of Jordanian Journalists' Experiences

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Abstract

Journalists' work on social media platforms is now subject to the command of algorithms. Algorithms work to change the way journalists share news with their readers on digital platforms. This study examines the effects of algorithmic bias on the news market and aims to identify the negative effects associated with algorithmic bias on social media platforms within the news market. The current study belongs to the qualitative approach, and a purposive sampling method was used to reach the informants in the study. In-depth interviews were conducted with 10 Jordanian journalists who work as specialists and are responsible for news content on their media institutions' social media platforms. The findings found there are three main negative impacts of algorithms on the news market that have been identified: unfair news distribution, amplification of harmful news, and influence on public opinion. The current study contributes to clarifying the negative concerns of algorithmic bias and its impact on journalistic work, which can help journalists and media institutions find suitable solutions to overcome these concerns. Additionally, the current study paves the way for future researchers to continue focusing their research on the effects of algorithmic bias on journalists' work and the news market.

Keywords: algorithms, social media platforms, journalists, bias, news

1. Introduction

In the current digital age, the rise of news biases, fake news, and filter bubble is a major concern for technology firms, news organizations, policymakers, and society. The extensive volume of news shared and consumed on social media every day has highlighted these challenges (Datta et al., 2021). Social media algorithms are sophisticated computer programs used on platforms like Facebook, Instagram, Twitter, and TikTok to curate content. They aim to improve user experience by prioritizing relevant and engaging content. These algorithms continuously develop and rely on factors like your past actions and the behavior of accounts you interact with (O'Brien, 2022). Social media algorithms significantly affect users by providing opportunities to reach wider audiences and establish their brand. However, they also present challenges by making it difficult for some users to gain visibility and compete with more prominent accounts (Poleac & Ghergut-Babii, 2024).

The use of AI algorithms by social media platforms such as Facebook and Twitter for curating news content has disrupted the traditional gatekeeping role of traditional news outlets (Calice et al., 2023). The delivery of news on social media platforms differs significantly from traditional news distribution due to the utilization of algorithms. These platforms employ algorithms to carry out tasks typically handled by news editors, such as determining the significance of news stories and their distribution. Despite this, they often fail to recognize their role in educating the public, unlike traditional news media (Presuel & Sierra, 2019). Algorithms allow online platforms to customize content for users, potentially excluding certain information or opinions that may not align with their interests, such as displeasing advertisers or lacking user engagement. These algorithms can also prioritize certain content by determining when it appears on a feed or in what sequence. This situation prompts inquiries into the effects of platform curation algorithms on user agencies and exposure to diverse viewpoints (Dwyer & Martin, 2017).

Although there is evidence that social media platforms take into account press freedom and journalistic ethics (Klonick 2017; Vese, 2022), there is evidence that these platforms have commercial objectives and try to reconcile between freedom of expression and commercial goals (Gosh & Scott 2018). Numerous factors contribute to bias in algorithms within the news market. Algorithms rely on data inputs (Adadi, 2021), which can introduce bias if the data itself is biased (Fazelpour & Danks, 2021). Moreover, the individual overseeing the training and implementation of the algorithm can influence its outcomes to prioritize certain content over others, aligning the algorithm with the designer's directives (Hooker, 2021). In the context of Jordan, Jordanian journalists have increasingly relied on artificial intelligence technologies, presenting numerous opportunities that can be utilized in journalistic practices (Al-Zoubi et al., 2025).

This research aims to identify the negative effects of algorithms on the news market by exploring the experiences of Jordanian journalists and analyzing their implications for journalistic practice and the distribution of news content. Based on this, the study relies on recent literature focusing on the relationship between algorithms and news content and their impact on fairness in content distribution, highlighting the distinctive features of the Jordanian context.

2. What Is A Filter Bubble?

In 2009, Eli Pariser introduced the term "filter bubble," describing it as a personalized information environment. Filter bubbles limit exposure to diverse viewpoints, showing individuals only content that aligns with their beliefs (Kitchens et al., 2021; Pariser, 2011). Filter bubbles are personalized algorithms that tailor content to a user's interests and interactions based on their past engagement (Dahlgren, 2021). The Daily Dish (2010) defined a filter bubble as a personalized information ecosystem created by algorithms based on your perceived identity. Filter bubbles, also known as algorithmic filtering, refer to the customization of content displayed on social media platforms (Franziska et al., 2019).

The filter bubble in social media limits the information a user sees based on their searches, likes, comments, and engagement. When users click on external links, the algorithm interprets this as a signal of interest (Pariser, 2011). According to Jeff Chester, the executive director of the Center for Digital Democracy, any computer use can track all technological activities, such as monitoring mouse movements on a page, items added to a shopping cart, and items not purchased (Plaisance, 2014). With the continued expansion of social media platforms relying on filter bubbles to reach the target audience, the debate over the impact of filter bubbles on the news market and the work of journalists is increasing. The next section presents the literature review.

3. Literature Review

AI advancements have significantly changed the media landscape by introducing personalized news feeds generated through algorithms that analyze digital footprint data (Vogel, 2020). These algorithms act as a filter between the content displayed on news feeds and the information selected by news organizations for reporting (Bozdog, 2013; Nechushtai & Lewis, 2019). There are numerous instances of algorithmic bias on digital platforms. For instance, Bakshy et al. (2015) found that user choices, such as click history and visit frequency, influenced the content users encountered on Facebook's News Feed more than the algorithmic ranking did in presenting ideologically diverse content. Additionally, a study in 2009 on Twitter revealed that over 85% of trending topics were news-related (Kwak et al., 2010).

Google has been the focus of several audit studies that have unearthed instances of bias. For instance, research by Baker and Potts (2013) found that Google's autocomplete function displayed gender and racial biases. Another study by Trielli and Diakopoulos (2019) noted that Google's search algorithms might prioritize news sources catering to left-leaning audiences due to factors like freshness, relevance, or the sheer volume of content available online.

Audits have also highlighted the significance of user-generated content from platforms like Stack Overflow, Reddit, and Wikipedia in aiding Google in meeting search queries effectively (Vincent et al., 2019). An examination involving over 50,000 online users in the U.S. revealed that Google could potentially expose individuals to content from their less favored political perspective (Flaxman, Goel, and Rao, 2016). Additionally, research by Kliman-Silver et al. (2015) indicated that search results may differ based on location, potentially leading to geolocal filter bubbles.

Furthermore, a study by Bandy and Diakopoulos (2020) compared human-curated and algorithmically curated news on Apple News, highlighting a contrast between the two methods. While algorithm-curated news tended to focus on "soft" news topics, human-curated news leaned towards "hard" news. The study did not detect a significant partisan bias in either curation approach (Bandy and Diakopoulos, 2020). While, a study conducted by Peterson-Salahuddin and Diakopoulos in 2020, involving 18 journalists, revealed that journalists view social media algorithms, particularly the restrictive one introduced by Zuckerberg in 2018, as filters that determine the visibility of content to audiences based on factors such as engagement, content appeal, publisher size, payment, and political ideology (Peterson-Salahuddin & Diakopoulos, 2020).

Research and examples show that algorithms significantly influence the news market. More studies are required to examine algorithmic bias on social media platforms. This study stands out to focus on journalists' perspectives on the harmful effects of algorithmic bias in the news market.

The Gatekeeping Theory is considered one of the important theories for the process of news production and selection in media and journalism studies, as it focuses on the fact that the news received by the audience must pass through a series of editorial decisions made by journalists, editors, and media institutions (Dimmick, 1974). based on professional standards and editorial, political, and economic considerations. According to this perspective, the journalist was traditionally seen as the main actor in the process of "guarding" the flow of news and information to the public. The digital transformation has forced a redefinition of the role played by the journalist as a gatekeeper, where the gatekeeping function is no longer exclusive to the human journalist, but algorithms have become a key party in the selection and distribution of news (Russell, 2019). This transformation has introduced what is known as the algorithmic gatekeeper, a new form of gatekeeping that relies on algorithmic systems based on analyzing user data, such as browsing history, types of interaction, and previous interests, instead of traditional editorial standards.

The algorithmic gatekeeper, which relies on artificial intelligence, differs from its human counterpart in several aspects, most notably the lack of transparency and the fact that its decisions are not subject to professional and ethical accountability (Busuioc, 2021). From this context, this study starts from a theoretical framework linking algorithmic bias with its negative reflections on the news market, focusing on the practices of Jordanian journalists as journalists who are directly affected by these algorithms and interact with them daily.

4. Methodology

The current study relied on the qualitative approach, which is used in social science research to gain a more comprehensive and interpretive understanding of the social world of participants (Mohajan, 2018). This approach was adopted due to its ability to provide an in-depth understanding of journalists' experiences and their professional contexts. It offers an opportunity to explore the meanings and interpretations that participants attribute to the phenomenon of algorithmic bias on social media platforms, and to understand how it affects their journalistic practices and professional behavior. Moreover, the nature of the topic, the negative impacts of algorithms on the news market—requires an interpretive approach based on describing the professional reality as seen by the journalists themselves, rather than a quantitative method such as statistical analysis of the phenomenon. Therefore, the qualitative approach is considered the most suitable for achieving the research objective, which is to identify and understand the dimensions of this impact within its Jordanian media and social context.

In-depth interviews were conducted with 10 journalists working in Jordanian government and private media institutions as directors, editors and news publishers on social media platforms. The purposive sample was used to reach the study sample. This type of sample is non-probabilistic, where researchers choose individuals who fit the research criteria and final objectives only, and the rest are excluded. The purposive sample is more effective when only a limited number of individuals possess the characteristic of interest to the researcher. The purposive sample helped researchers to reach journalists who understand the study's objectives and questions. The study informants were selected based on their continuous use of social media platforms in their news work, such as managing media platforms and publishing on them. The following table presents the data for the study informants.

Table (1). Informants' Details

Informant	Position	Media Organization
Informant 1	Content Publisher on Social Media Platforms	Al-Rai Newspaper
Informant 2	Head of Social Media Department	Jordan TV
Informant 3	Head of Social Media Department	Petra News Agency
Informant 4	Content Publisher on Social Media Platforms	Ammon News
Informant 5	Content Publisher on Social Media Platforms	Al-Anbat Newspaper
Informant 6	Director of News Website	Al-Ghad Newspaper
Informant 7	Content Publisher on Social Media Platforms	Roya TV
Informant 8	Responsible Publisher of Social Media Content	Hala News
Informant 9	Responsible for Content on Social Media Platforms	Khaberni News
Informant 10	Content Publisher on Social Media Platforms	Al-Dustour Newspaper

The interviews were conducted in mid-2025, with five conducted face-to-face and five via the Zoom platform. Each interview lasted between 40 to 60 minutes. The interviews were recorded after obtaining informants' consent and were carefully transcribed prior to analysis.

The data were analyzed using Thematic Analysis which involves six interconnected phases: (1) in-depth familiarization

with the data through repeated reading, (2) initial coding of recurring themes, (3) grouping codes into preliminary themes, (4) reviewing themes and comparing them with the original texts, (5) naming and defining the themes, and (6) preparing the final results. The analysis was conducted manually using coding tables in Excel to ensure organization and transparency (Fona, 2023).

The researchers adhered to ethical standards for scientific research by providing informants with a written consent form before the interviews, emphasizing confidentiality, the omission of names or media institutions in the final report, and that the data would be used solely for scientific research purposes.

5. Findings

At a time when content on social media platforms has become captive to algorithms, it cannot be argued that algorithms operate impartially, simply because they are designed, created, and trained by humans (Danks & London, 2017). Algorithmic biases are systematic and discriminatory patterns that affect the distribution of content on social media platforms. Algorithms follow what they learn from the designer, input, and programmer, and therefore many negative effects can impact the news market and make it negatively influenced (Bandy, 2021). Through interviews with Jordanian journalists, three main negative impacts of algorithms on the news market have been identified: unfair news distribution, amplification of harmful news, and influence on public opinion.

5.1 *The Unfair Distribution of News*

Algorithms play a major role in distributing news across social media platforms. Biased algorithms can lead to overrepresentation or underrepresentation of certain groups in the content seen by users. This can perpetuate existing inequalities and create a distorted view of reality (Meese & Hurcombe, 2021). Most informants in the study agreed that algorithms do not distribute news fairly, especially as these algorithms try to obscure some news while increasing access to others.

Most informants confirmed that news now depends on algorithms, with some unimportant news generating high engagement while valuable news struggles to reach users. The following data is from informants:

Algorithms prioritize user behavior and activity over the value of the news. They determine the importance of a post for the user, categorizing posts from important to most important (Informant 3, Head of Social Media Department, Petra News Agency)

Often, news that I expect to receive a lot of engagement from followers fails to do so. At the same time, I see an account with fewer followers sharing the same news in a "lower quality" way, but it receives a lot of interaction and shares from followers (Informant 5, Content Publisher on Social Media Platforms, Al-Anbat Newspaper).

Informants agreed that algorithms serve one group at the expense of another, attributing this to the different objectives of various algorithms. Some accounts benefit from increased reach while others fail. Some mentioned the role of "filter bubbles" in this process, where posts aligning with users' opinions and interests are highlighted, while others that do not serve that purpose are hidden. Informant 7 described this as not aligning with news policy, stating:

News is not marketing material; news is facts, and people should be able to know the facts from all perspectives. Talking about putting users in filter bubbles does not serve the user or the journalist. There should be solutions by social media platform management to differentiate between news pages and marketing pages (Informant 7, Content Publisher on Social Media Platforms, Roya TV).

The current results indicate that the mechanism of news distribution has become subject to the criteria of commercial algorithms more than journalistic principles, leading to disparities in news access among different institutions and content types. Participant testimonies also revealed that the nature of algorithmic operation reshapes the news selection process, glorifying controversial or entertainment news at the expense of analytical or general news. This finding highlights a pivotal shift in the role of the "gatekeeper" function from the human editor to the algorithmic system, which deepens the gap in news representation across social media platforms.

5.2 *Amplification of Harmful News*

Biased algorithms can amplify and promote harmful, inaccurate, or negative content. This can have serious consequences on individuals and communities, including online harassment, misinformation, and discrimination (Datta et al., 2021). Study informants agreed that algorithms play a crucial role in promoting and amplifying harmful news and negative content.

Informants acknowledge that algorithms are trained to follow commands, but at the same time, there is a need to train these algorithms to differentiate between positive and negative news. Informant 2 stated:

Negative news is news that carries a negative tone in its context or content and therefore can harm user behavior and society as a whole. In the Middle East, we live in continuous political crises, and we understand the danger of negative news sometimes on user behavior, so we try to adhere to neutrality and stay away from negative news, but algorithms amplify that (Informant 2, Head of Social Media Department, Jordan TV).

Algorithms find it difficult to distinguish between legitimate content and harmful content, as their duty is to only follow what they have been trained on (Martin, 2019). While some social media platforms adhere to ethical standards, for example, imposing penalties on those who post videos using tools or signals that incite violence and racism (Díaz, 2023). Study informants confirmed that there are many ways to deceive algorithms and avoid ethical accountability, leading to an increase in the spread of rumors and harmful news.

Informants agreed that there are many concerns when they see harmful or false news being spread by an account and receiving significant engagement, continuing to spread. This news is often untrue, and users share it, increasing its spread. Informant 1 illustrates the following example:

A false news story circulated about the government intending to grant employees in the public sector an additional 100 JD as extra pay during the month of Ramadan. This news garnered significant engagement and shares by most Jordanians, and despite official news platforms denying it, the rumors continued to spread more than the news debunking the rumor (Informant 1, Content Publisher on Social Media Platforms, Al-Rai Newspaper).

Informants agreed that algorithms support content that receives more interaction from users, regardless of whether the news is true or false, so these algorithms negatively affect the work of journalists and the news market.

The current finding shows that platform algorithms favor content that evokes emotional engagement at the expense of accuracy and professional neutrality, leading to widespread amplification of sensational or negative news. Informants' responses also reveal that this amplification does not necessarily occur intentionally but is a consequence of the algorithm's nature, which associates "news value" with the number of clicks and shares rather than the quality or credibility of the information. This shift undermines the professional standards of journalism and creates a feedback loop that makes misleading news more prominent, while balanced news declines on these platforms.

5.3 Influence on Public Opinion

Jordanian journalists strive to adhere to objectivity by presenting different perspectives in the news story in a neutral manner (Al-Zoubi et al., 2024). In the context of the current study, informants agreed that algorithms influence the news market by impacting public opinion through continuously broadcasting repetitive content, which in turn affects user behavior and preferences.

Influencing public opinion is a key task of journalism (Mertens et al., 2019; Robinson, 2008). Currently, algorithms have taken on a major role in influencing user preferences, undermining the role of journalism, that seeks to influence public opinion and shape trends (Stark et al., 2020). Informants also expressed concerns which these influences may be negative and inappropriate for users, such as broadcasting content contrary to ethics or traditions. Informant 6 illustrates this with the following example:

When we see that a person lives daily among dozens of social media platforms, they will certainly be influenced by that, becoming more susceptible to influencing their preferences or inclinations (Informant 6, Director of News website, Al-Ghad newspaper).

According to Informant 4

Through observation, we have noted many effects of algorithms on the attitudes of some people, such as their views on homosexuality or political support. Such influences lead algorithms to push more and more posts at the expense of the user, aiming to influence and bring about change, which does not align with the work of journalism that emphasizes the need to respect beliefs and orientations and highlight the truth to the reader (Informant 4, Content Publisher on Social Media Platforms, Ammon News).

All informants in the study agreed that algorithms should not be given the right to influence behavior by controlling the type of news flow, and that the responsibility of journalism varies depending on what algorithms do, as they may flow inappropriate news to the wrong person at the wrong time.

This result confirms that algorithmic content allocation has begun to form a new definition of the boundaries of journalistic influence in shaping public opinion. For example, at a time when traditional journalism guided public opinion through editorial framing and professional ethics, algorithms started to exert an influence that goes beyond direct human oversight. This shift has created an ethical dilemma, as algorithms may amplify controversial content,

contributing to the formation of users' perceptions and social attitudes unconsciously. In the Jordanian context, where the general culture is based on a system of values—social and national—this algorithmic influence may distort the journalistic message intended for the audience and even threaten social cohesion by introducing content and narratives that conflict with Jordanian customs and traditions. Consequently, the testimonies of journalists participating in the study highlight an increasing tension between technological judgments and editorial policy in the process of forming public opinion.

6. Discussions

Social media platforms rely heavily on content personalization, making access to news dependent on algorithms that filter information according to users' behaviors and preferences. This finding aligns with what Al-Zoubi et al (2025) indicated, that opportunities to be exposed to news are no longer equal due to algorithms controlling the type and direction of content toward specific audiences, leading to the exclusion of other media content that may be less compatible with users' behavior. Additionally, the current study's results support the findings of Kawakami et al. (2020), who discovered that Google's algorithmic recommendation systems showed a clear inequality in presenting news stories. This is similar to what Jordanian journalists expressed, noting that some news does not reach the public with the same level of dissemination as entertainment or sensational news. Furthermore, this finding underscores the need for ethical accountability in some artificial intelligence systems used in media publishing policies. Ananny and Crawford (2018) pointed out that the absence of accountability makes algorithms non-objective and unfair tools that may reproduce existing social biases found in the data. Saurwein and Spencer-Smith (2021) also found that algorithms make errors such as amplifying unwanted content, which corresponds with the observations of the informants in this study.

The current finding also showed that biased algorithms do not distribute news fairly; rather, they amplify negative content, which contributes to the spread of misinformation and unethical content. This finding aligns with the study by Shin et al. (2022), which noted that algorithms may amplify sensational and aggressive news at the expense of balanced news. Additionally, the study by Zhang (2024) indicated that some platforms impose penalties for publishing violent content, but this does not prevent the continued spread of rumors due to some users' ability to circumvent the algorithms. The analysis results with the journalists participating in the study pointed out that algorithms support engagement rather than credibility, which contributes to the spread of false news, such as the rumor of granting fictitious government rewards. These observations agree with Martin's (2019) explanation that algorithms lack the ability to distinguish between true and misleading content unless they are trained ethically and systematically. Therefore, the amplification of harmful news is not only a technical issue but represents a crisis that affects the very essence of journalistic work.

Jordanian journalists believe in the necessity of presenting news objectively by offering multiple perspectives and not limiting coverage to a single viewpoint. However, algorithms have come to play a significant role in this balance by reshaping public opinion through the continuous repetition of content that the algorithms aim to promote. This finding aligns with the conclusions of Calice et al. (2023) and Yuhanyin (2019), who noted that journalism has always played a fundamental role in guiding public opinion, but today algorithms surpass it in influencing user behavior and attitudes. The journalists in the study emphasized that this influence can be negative, as platforms sometimes disseminate content that conflicts with ethical and social values. Consequently, algorithms not only affect the distribution of news but also intervene in shaping knowledge and societal awareness, raising ethical questions about the capabilities of algorithms and their role in shaping public opinion and impacting communities, as well as ethical and social values in a society like Jordan, characterized by cultural diversity and social cohesion.

7. Conclusion

The study's results confirmed that algorithms are no longer merely technical tools for content personalization but have become influential instruments in the structure of media and the news market. They contribute to redefining the relationship between journalists and the audience. By analyzing the negative impacts highlighted in the study within the Jordanian context, this research calls for the development of legislative and professional frameworks that ensure accountability and transparency in algorithm design. It also emphasizes the importance of enhancing digital skills among journalists to understand the nature of algorithmic operations and mitigate their adverse effects. Furthermore, the study recommends that future researchers conduct studies combining quantitative and qualitative methodologies to measure the extent of audience awareness regarding the influence of algorithms on their news reception. Additionally, it suggests automated content analysis of algorithms to identify patterns of bias. Expanding the research scope to include other countries in the Middle East is also preferred to enable comparisons across different media environments.

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Authors contributions

All authors contributed to the study design, data collection, data analysis, and the writing and revision of the manuscript. All authors have read and approved the final version of the manuscript.

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