Global Media and Communication

Article

Disappointment or hype? Framing artificial intelligence in the US elite news media

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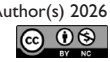

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Abstract

How do elite US news outlets frame AI within accounts of hype, disappointment and tempered expectation? This study finds that rather than fueling hype, coverage tends to adopt a cautious tone – emphasizing everyday uses and current impacts over speculative futures. A content analysis of three high-profile US dailies shows more positive tones when only developers or vendors discuss their own AI tools. The findings underscore journalists' important role in contextualizing and balancing biased narratives and will be a valuable contribution for academics, journalists and policymakers seeking to understand hype, disappointment and expectation dynamics in technology discourse and their broader social implications.

Keywords

artificial intelligence, disappointment, framing, hype, news media, sociology of expectations

Introduction

Artificial intelligence (AI) frequently attracts considerable public attention for its potentially ground-breaking transformative capacity in society. Different AI technologies have repeatedly made headlines, driven by their perceived potential to transform human-machine interactions and enhance productivity.

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Over the past decade, political decision makers and technology entrepreneurs contributed to narratives about AI's 'revolutionary' character, which is allegedly destined to upend the status quo in research, economics, defense, healthcare, education, culture and other societal domains (Bareis and Katzenbach, 2022). The framing of AI as a watershed moment of historic proportions is not limited to pure rhetoric, as the latter has become manifest in government policies associated with technology development, deployment and governance (Karatzogianni, 2021).

Over the decades, AI has gone through several 'summers' and 'winters' – that is, periods of heightened expectations about its potential and periods dominated by disappointment in persisting limitations (Floridi, 2021). In the second half of the 2010s, it was widely argued that AI had entered a phase of heightened attention and expectations: a hype period (Dyer-Witherford et al., 2019). In the early 2020s, but before ChatGPT made headlines in the fall of 2022, a few commentators entertained the notion that AI could be entering a 'winter phase' and that AI development had lost momentum (Floridi, 2021). However, claims that AI was in a 'summer period' persisted as a dominant theme even in 2021 and the first half of 2022 (Francesconi, 2022).

The concept of technological 'hype' is widely used within business discourse and academia to denote developments that are possibly highly consequential. Such tech trends are thematized and interpreted regarding their expected economic and social effects. Generally, academic and popular views consider hype as exaggerations or flawed predictions. On the other hand, perspectives grounded in the sociology of (technological) expectations view hype as a phenomenon that is performative in nature – that is, it 'does something' in the present and influences actions by affecting the future (immediate and long-term). One concrete example is investments in technology development based on the expected yields (Borup et al., 2006).

Hype is associated with ideas, opinions, buzzwords, promises, warnings and controversies, and depend on the attention they attract from experts and broader publics alike. Prevalent assumptions, sentiments and expectations feed back into opinion formation, attitudes and, eventually, concrete action. News media play an important role in the formation of such discourses as connecting nodes in contemporary media ecologies that shape the manifestation of digital public spheres (Vicsek et al., 2025). They are important monitors for registering tech hype but can also act as contributors to the same. Either way, they provide a public stage for hype to become noticeable and potentially impactful.

The present study critically analyzes how AI was covered in leading US news outlets in the year before the rise of the generative AI transformation (Feher, 2025). The theoretical framework draws from (news) framing theory and the sociology of expectations. Empirically, the focus is on the US, given its global influence on AI technology and the news media shaping worldwide discourse (Ding and Kong, 2024; Nguyen and Hekman, 2024). The primary method is a quantitative content analysis of news articles retrieved from *The New York Times*, *The Washington Post* and *The Wall Street Journal* ($N = 208$), supplemented by qualitative analysis. Our aim was to take a closer look at a single year to allow for an in-depth investigation of underlying patterns and relationships.

The goal was to uncover whether news reporting in the selected time frame was characterized by (positive) hype or disappointment. The guiding research questions were:

What characterizes the coverage in terms of cost and benefit framing? To what degree is the news reporting characterized by hype – taking into account the number of articles and 'hype language'? How are the past, present and future of AI represented in the articles? These research questions are interrelated, as costs and benefits are connected with the issue of hype. It was also important to take stock of who proposes different discourses on AI. Thus, an additional research question asked: What is the connection between news outlets, sources cited and the media content? We critically analyzed how the cost and benefit framing, the presentation of different types of costs and benefits, and the employment of hype or disappointment rhetoric were influenced by the news outlet and the sources cited.

This study contributes to the emerging field of AI discourse and narrative analysis by empirically examining specific AI framings in elite news media which have a global impact. While previous research has explored AI media coverage, it has not systematically analyzed it from the perspective of hype and disappointment, a gap this study addresses. Our contribution also lies in demonstrating how different social actors shape distinct framings of AI, reflecting their respective interests and institutional affiliations. As a novel analytical approach, we investigated whether articles cited actors directly invested in AI product development – whether business figures or university researchers – and demonstrated how the positioning of the actors significantly influenced the framing. Furthermore, the study offers a unique contribution by exploring the temporal dimension of AI coverage, specifically how media narratives construct relationships between the present and the future. By uncovering these framing patterns, the study advances our understanding of how media discourses mediate the social construction of AI, contributing to broader theorization of the role of expectations, technological meaning-making, and hype and disappointment in digital technology discourse.

Literature review

Technological expectations, hype and disappointment

The sociology of technological expectations emphasizes how projections and promises about emerging technologies play an important role in modern capitalism. Expectations play a performative role in shaping technological and societal developments by aligning diverse actors around shared visions, legitimizing investments and policy decisions, guiding action by structuring research agendas and market directions, and attracting investments by generating confidence in the projected future of an innovation (van Lente et al., 2013).

Entrepreneurs often seek to generate enthusiasm for their technologies by making ambitious claims about their future impact. Hype – characterized by grand promises of revolutionary change – has become a central feature of Western entrepreneurial culture in the late 20th century (Wadhwani and Lubinski, 2025). The concept has been studied across multiple disciplines, including entrepreneurial research, public relations, marketing, communication, and science and technology studies (among others, Bareis et al., 2023; Bourne, 2024; Kari et al., 2023; Konrad, 2006; van Lente et al., 2013; Vasterman,

2018; Wadhwani and Lubinski, 2025). It has been analyzed both as a promotional strategy and as a feature of media coverage (Bourne, 2024).

In the context of media representation, building on the sociology of (technological) expectations, we define hype as consisting of two criteria that both need to be present (Ruef and Markard, 2010). The first criterion involves 'hype language' (Kari et al., 2023): specific discursive practices, such as rhetoric emphasizing revolution, breakthroughs, disruptions and superlatives that heighten expectations – what we term 'hype rhetoric'. These expectations can be highly optimistic, even excessively enthusiastic, sometimes extending to extravagance and grandiosity (Roberson, 2020; van Lente et al., 2013). The second criterion is increased media attention and heightened public exposure (van Lente et al., 2013). Notably, within the sociology of expectations, the focus is on the relative increase in media attention rather than its absolute volume, meaning a topic can be classified as hype even if overall coverage remains low (e.g. 50 articles annually if prior coverage was significantly lower; Kari et al., 2023). By contrast, communication studies emphasize the broader influence of absolute media volume. Research on phenomena such as 'media storms' highlights how topics that constitute a substantial share of the news agenda over a given period can significantly shape public and political discourse (Boydstun et al., 2014). While this body of research does not necessarily focus on the concept of hype, it underscores the importance of sheer media volume in driving attention and influence. To integrate this consideration, we propose the term 'massive-scale hype' to describe cases where not only is hype rhetoric present and media coverage increasing, but the overall volume of coverage is also substantial. We argue that massive-scale hype is particularly consequential because it has the potential to shape public perceptions, policy agendas and investment decisions on a much broader scale than smaller-scale hype.

Some argue that hype emphasizes a technology's benefits while ignoring risks, whereas others suggest that 'big promises' often give way to 'big concerns' (Bowman et al., 2017: 4). These differing perspectives often arise from how hype is defined. While the sociology of expectations perspective – which we build on – typically highlights positive, enthusiastic projections as a key characteristic (Nerlich and Halliday, 2007), other approaches define hype more broadly, encompassing both utopian optimism and dystopian fears (Smith, 2020).

Research has shown that numerous projections about the anticipated significant development or impact of technologies, including AI, have proven to be inaccurate (Geels and Smit, 2017). During the phase of disappointment that can follow hype, technologies are perceived as failing to meet the expectations set by initial projections. This can result in the revision or downscaling of expectations, as well as a decline in investment and innovation activity in the field (Ruef and Markard, 2010). While the well-known Hype Cycle model, proposed by Gartner Consulting and widely covered in the media, suggests that hype is followed by a 'trough of disillusionment' before reaching a 'plateau of productivity', this model has been criticized as a folk theory that oversimplifies the dynamics of technological development (Borup et al., 2006; Rip, 2006; van Lente et al., 2013). Empirical research has shown that technological expectations do not always follow a linear trajectory; instead, they can fluctuate in more complex ways, involving multiple cycles of hype and disappointment, the simultaneous existence of

competing narratives, and the emergence of micro-hypes, or micro-disappointment periods (Alkemade and Suurs, 2012; Konrad, 2006). Moreover, hype rhetoric and change in media attention might not be in sync (Kari et al., 2023).

The role of news framing in tech discourses

News media continue to be key platforms for circulating projections to broad audiences despite transformations driven by digital technology and social media. While they have lost some of their monopoly on reaching mass audiences and face growing challenges in a more diverse and dynamic media ecology, they remain essential anchors of shared societal discourse at the regional, national and transnational levels.

Key actors in technology debates frequently find space in news reporting that is increasingly sensitive to the multifaceted impacts of data-driven and automated technologies (Nguyen and Hekman, 2024). Broadly speaking, the latter include tech entrepreneurs, innovators, regulators and consumers. In addition, tech journalists share assessments and predictions in the form of commentaries and opinion pieces, for example. At the very least, news media shape the perception of emerging technologies through agenda-setting and news framing – that is, what aspects of a new development are selected for news reporting and how these are presented through the choice of words, including cited sources and images (Baran and Davis, 2009). The absolute volume of media coverage, as seen in phenomena such as media storms, can further amplify public attention and influence public and business policy debates, underscoring not only how technologies are framed but also the scale at which they are discussed (Boydstun et al., 2014).

From a normative perspective, elite news media plays a crucial role in shaping understanding and decisions by providing informed analysis, fostering critical discourse, and ensuring accessibility to reliable information. Journalists employ various framing devices that shape how audiences perceive news issues (de Vreese and Lecheler, 2019; Entman, 1993), influencing their views and understanding, particularly in the context of emerging technologies and their impact (Cobb, 2005). However, media audiences rarely, if ever, simply accept and adopt news frames in a linear way (Gamson, 1992; Schuck and de Vreese, 2006). There are limitations to news framing effects, and their exact manifestations depend on context and individual factors, such as education, experience with a topic, personal values, media literacy and world-views. Concerning policymakers, influence flows in two directions. On the one hand, news reporting, especially in elite newspapers, can factor into the reasoning of decision-makers (Fawzi, 2018). On the other, news media depend on leads and additional information from public and private organizations, which can, under certain conditions, shape news agendas and news framing via public relations (Lewis et al., 2008).

Through agenda-setting and framing, news reporting facilitates the emergence, distribution and shaping of prevalent tech narratives that convey projections. News media play a role in the initiation, ‘maintenance’ and shifts between periods of hype and disappointment associated with technology. In the present study, media frames are considered as the contextualization of information about specific events, developments and issues that rely on journalistic selections in the process of creating news content accessible to

media audiences (de Vreese, 2005; Tuchman, 1978). News frames invariably summarize and simplify complex issues through the choice of topical foci, sources, words and visuals. Our analysis focuses on 'valence news frames' that emphasize positive or negative assessments of current issues and developments (Schuck and de Vreese, 2006). Since projections about tech hype and disappointment often center on future benefits and/or risks and are disseminated in news content, the valence news framing approach is a well-founded choice for guiding the empirical investigation.

News coverage of AI

While news media are arguably an important factor in constructing and disseminating projections about the future of AI, the number of studies that have focused on analysis of media coverage of AI (and not just a subfield of AI) is relatively modest, although it has increased recently (e.g. Brause et al., 2023; Brennen et al., 2018, 2022; Chuan et al., 2019; Ding and Kong, 2024; Ittefaq et al., 2025; Karanouh, 2023; Köstler and Ossewaarde, 2022; Nguyen and Hekman, 2022, 2024; Ouchchy et al., 2020; Roe and Perkins, 2023; Ryazanov et al., 2024; Sun et al., 2020; Wang et al., 2025; Yi et al., 2024; Zhai et al., 2020).

Media coverage of AI in English-language outlets post-2010 initially saw a gradual rise, followed by a more rapid surge. However, coverage declined in the early 2020s (Nguyen and Hekman, 2024), only to skyrocket after the launch of ChatGPT in late 2022 (Ittefaq et al., 2025). Research indicates that AI-related discourses in the Anglophone media landscape have been heavily influenced by business stakeholders, a trend criticized for downplaying the technology's risks (Brennen et al., 2018). Since 2010, AI narratives have become increasingly politicized, accompanied by a shift toward more critical perspectives. Nevertheless, before the release of ChatGPT, English-language media largely framed AI in terms of its anticipated benefits rather than its risks (Nguyen and Hekman, 2024). Following ChatGPT's launch, the sheer volume of coverage has led most analyses to focus on headlines or partial article content. Some studies suggest that concerns and risks have received greater emphasis than before (Roe and Perkins, 2023; Ryazanov et al., 2024), while a preprint argues that positive coverage remains dominant (Karanouh, 2023).

Data and methods

For the analysis of the volume of articles, we collected all articles in which artificial intelligence was named one of the main subjects of the article within the ProQuest (US Newsstream) database for the online versions of the three studied news outlets: *The New York Times* (*NYT*), *The Washington Post* (*WP*) and *The Wall Street Journal* (*WSJ*) from 2010 to 2024.

For the in-depth analysis of the content in the period between 1 July 2021 and 30 June 2022 – the time period of primary focus – besides the above criteria, we also had the requirement that AI had to be a central topic. Articles were deemed as having AI as a central topic by coders if they discussed in the title or the first paragraph content related to artificial intelligence. After the selection, 208 news articles remained: 60 from *NYT*, 48 from *WP* and 100 from *WSJ*.

The three news brands were selected for their prominent standing and associated influence in US public discourse, their broad reach and focus on AI developments in their technology reporting, and their international reputation. *NYT* and *WP* are mainstream news outlets that cover a broad range of topics for diverse national and international audiences. Both are considered Left-leaning liberal mainstream outlets within the context of US politics. *WSJ* is business- and finance-oriented and more Right-leaning than the other two (AllSides, 2021).

Although we were primarily interested in expectations, we chose to include in our research material articles that focused on the past and present as well. This contrasts with earlier work (e.g. Brennen et al., 2022) that only looked at texts about the future to explore expectations. We found it important to take the past and present into account, since previous and current portrayals of AI influence future expectations. For example, if an article covers immense difficulties with current uses of AI but does not address how this might be resolved in the future, then it may be difficult for the reader to imagine how the technology will progress.

A quantitative content analysis was conducted with 40 variables. Articles were coded for valence framing (Schuck and de Vreese, 2006), that is, whether they referred to benefits (e.g. positive aspects, results, opportunities) or costs (e.g. difficulties, risks, challenges, problems, negative aspects). Whether benefits and costs were presented as possibilities or certainties was irrelevant to the coding process unless an article claimed that a particular outcome was unlikely. The coding sheet was used to record different types of benefits and costs associated with AI. Furthermore, articles were coded regarding whether they used hype or disappointment rhetoric. In the present study, hype is considered to encompass extremely positive to grandiose expectations from AI (e.g. associated with superlatives); disappointment rhetoric describes how AI falls short of earlier expectations. Other variables concerned the actors cited in the articles. To keep track of different temporalities, articles were coded for their focus on either past, present or future and whether statements about the future made comparisons to the present. The coding scheme and the database can be found on Figshare at https://figshare.com/s/4f493722f2bf1307c2b0.

Three graduate students coded the articles. The coders took part in training about the method, about the coding scheme, and practised coding together with one of the authors with a range of examples. Afterward, inter-coder reliability was assessed on a subset of the study corpus with Krippendorff's alpha (Hayes and Krippendorff, 2007), with KALPHA scores indicating high reliability, generally exceeding 0.80. The quantitative analysis was supplemented with a qualitative analysis of articles coded for hype or disappointment rhetoric.

Results

The quantity of articles

As Figure 1 illustrates, AI coverage in the analyzed major US news outlets remained minimal between 2010 and 2015, followed by a steady increase beginning around 2016 and peaking in 2019. After 2019, coverage declined while exhibiting some fluctuations.

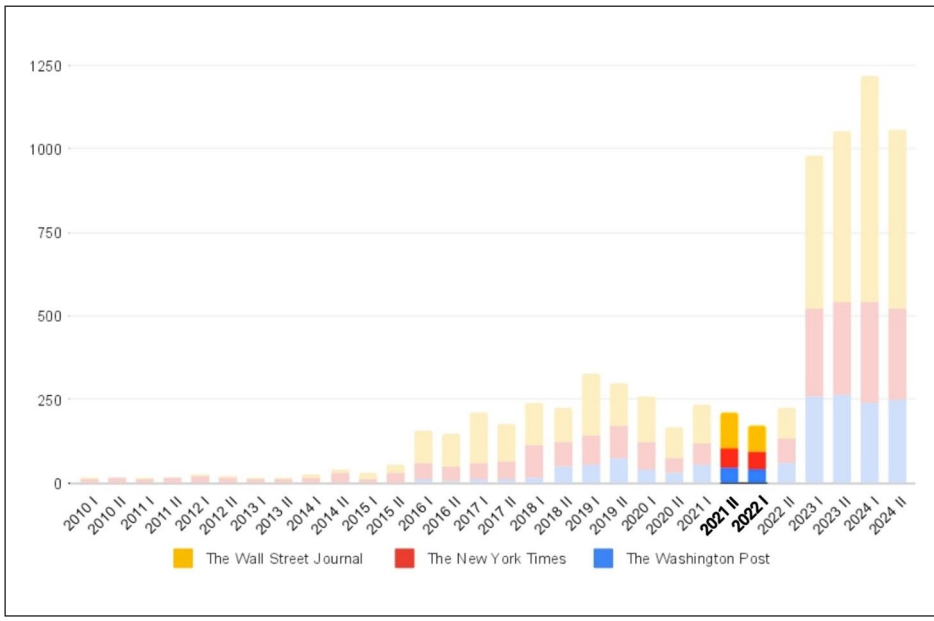

Figure 1. Number of articles with main subject category of artificial intelligence in the Proquest US Newsstream database, with the focal period highlighted.

Our primary analysis period, spanning from the summer of 2021 to the summer of 2022, falls within this phase of reduced media attention. Following this downturn, coverage rebounded, culminating in a sharp surge in 2023 after the launch of ChatGPT and media attention to generative AI.

Applying the second criterion of hype used in our study – namely, that increased media attention is required (van Lente et al., 2013) – the classification of the mid-2021 to mid-2022 period remains somewhat ambiguous and depends on the time frame used for comparison. On the one hand, the decline in AI-related publications during this period, relative to 2019 and the years immediately before and after, suggests that AI did not meet the threshold for a hype phase at the time. On the other hand, when compared to the first half of the 2010s, the volume of coverage in the analysis year was still substantially higher. This raises the possibility that the observed decline represents a temporary dip within a broader hype cycle. Rather than following the trajectory assumed by the above-mentioned Gartner Hype Cycle model, which features a singular dramatic peak, the media trajectory of AI suggests a more complex picture. Furthermore, an analysis of absolute publication volume indicates that the number of AI-related articles in our analysis year does not meet the criterion for massive-scale hype, which requires coverage to constitute a substantial proportion of overall media reporting, whereas this may have been the case for coverage following ChatGPT's release. In contrast, the number of articles in the years preceding ChatGPT remained relatively low.

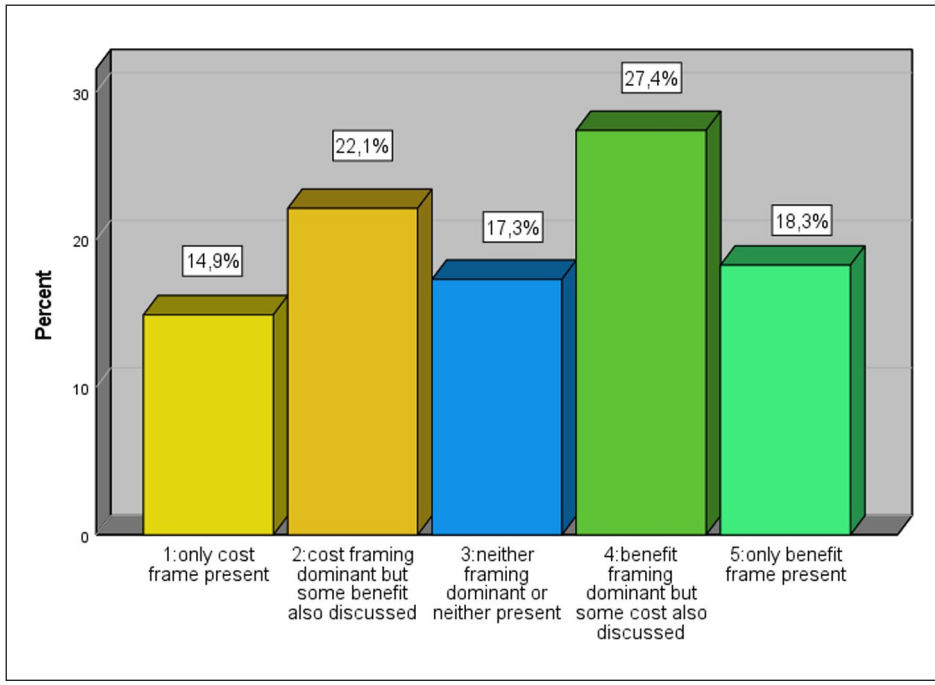

Figure 2. Cost and benefit framing of articles in connection with AI (*N* = 208).

Benefit and cost framing

We now turn to a deeper analysis of the discourse in the examined year, beginning with benefit and cost framing. News coverage of AI in the analyzed articles was characterized somewhat more by benefit framing than cost framing: articles where benefits were more pronounced account for 46 per cent of the cases, compared to 37 per cent for cost. Breaking this down in more detail revealed that 15 per cent of the articles contained just a cost frame without any mention of benefits, and 22 per cent predominantly employed cost framing with some benefits mentioned. Conversely, 27 per cent of the articles had a dominant benefit framing with some cost(s) also discussed, and 18 per cent applied a benefit frame only (Figure 2).

However, Table 1 shows that the news outlet is an essential factor in determining how AI is framed and what sources are cited in the articles. The *WSJ* seems to employ the most positive framing of AI, publishing more than two times as many positive articles as negative ones. It also published considerably more articles about AI than the other two news brands. In direct comparison, both the *NYT* and *WP* are noticeably less positive. More articles published by the *NYT* and *WP* contain dominant cost framing rather than benefit framing. The *WP* emerged as the most critical news source in the analysis.

Articles that cited actors from business and industry tended to be more positive. In articles that contained input from other experts – such as researchers and engineers not

Table 1. Cost and benefit framing of AI, news portals and cited sources.

		Dominantly cost framing	Neither framing dominant or neither present	Dominantly benefit framing	Total
News outlet	*The Washington Post*	50.0%	20.8%	29.2%	100.0% (*N* = 48)
	The New York Times	43.3%	18.3%	38.3%	100.0% (*N* = 60)
	The Wall Street Journal	27.0%	15.0%	58.0%	100.0% (*N* = 100)
Cited sources present in article	Currently associated with company or business	30.3%	18.7%	51.0%	100.0% (*N* = 155)
	Expert, programmer, researcher (not associated with company)	34.3%	22.4%	43.3%	100.0% (*N* = 134)
	Former employee of company	56.3%	12.5%	31.3%	100.0% (*N* = 32)
	Government, politician	62.9%	22.9%	14.3%	100.0% (*N* = 35)
	Activist	87.5%	0.0%	12.5%	100.0% (*N* = 8)
How are the cited sources related to the discussed AI product/solution?	Only those cited who are invested in the discussed AI product	21.2%	7.7%	71.2%	100.0% (*N* = 52)
	Other sources cited in addition to invested parties	32.2%	21.7%	46.1%	100.0 % (*N* = 115)
	Only 'other' cited sources or no cited source	70.7%	17.1%	12.2%	100.0% (*N* = 41)
Total		37.0%	17.3%	45.7%	100.0% (*N* = 208)

associated with a company – positive framing also dominates, but they have a slightly more critical tone. One reason articles that include researchers and engineers/programmers appear mostly positive is that they often describe services and products that they themselves are developing. The cited experts and practitioners, even if not working for commercial enterprises, are still heavily invested – not least emotionally – if they pursue their research at, for example, universities. It therefore matters what part of the implementation of AI an actor is involved with, that is, fundamental research and development, design, or sales of AI products; it is also important to consider if an actor is hoping to attract funding.

These positionalities influence the framing of benefits and costs, especially if actors have the stage to themselves. Around 71 per cent of articles that exclusively cite actors who are invested parties have a predominantly positive framing. This stands in stark contrast to the 12 per cent of articles that did not include any cited sources that were somehow invested in AI solutions. However, 21 per cent of the articles in which the only cited source was an invested actor still had a primarily cost-centered framing. A close reading of these articles showed that the respective journalists voiced their own negative opinions. This journalistic practice differed according to the news outlet and was most characteristic of the *NYT* and least for the *WSJ*. For the *NYT*, 38 per cent of articles that only cited invested parties emphasized cost framing, but only 7 per cent of *WSJ* articles did so.

Contrasting with news content that tends to emphasize benefits are articles that cite former tech employees, politicians or activists. These are noticeably more critical. Examples are articles that refer to Timnit Gebru, a former co-lead of the ethical AI team at Google who was fired over disputes about the use of the technology at the company. Articles citing activists were by far the most critical. However, activists are generally a very small group of sources in AI news (they only occurred in eight articles within the sample).

Types of costs and benefits

The most commonly mentioned negative aspect of AI concerns its perceived limitations (Figure 3). Over half of the articles included statements on the constraints and limitations of AI's technical capabilities. Some of these contained a temporal comparison and pointed out how AI was delivering less than expected earlier. Other articles focused on how AI cannot solve technical problems in the present – for example, 'today's A.I. systems can be clunky and erratic at times' (Roose, 2021).

Around a quarter of the articles mentioned power, regulation and oversight concerns. Challenges related to bias, marginalization and inequality were also brought up in one-fourth of the articles. One-fifth addressed surveillance, privacy and ethical concerns. A considerably smaller number of articles discussed AI as a factor in crime, security issues, 'fake news' and deepfakes (around 10%). Figure 3 illustrates only the types of costs that occurred in at least 5 per cent of the analyzed articles. A surprising observation is that fear of massive job losses due to AI was mentioned in merely five out of 208 articles, despite being a prominent negative projection in the AI discourse of the 2010s. Another argument associated with great expectations about fundamental transformations

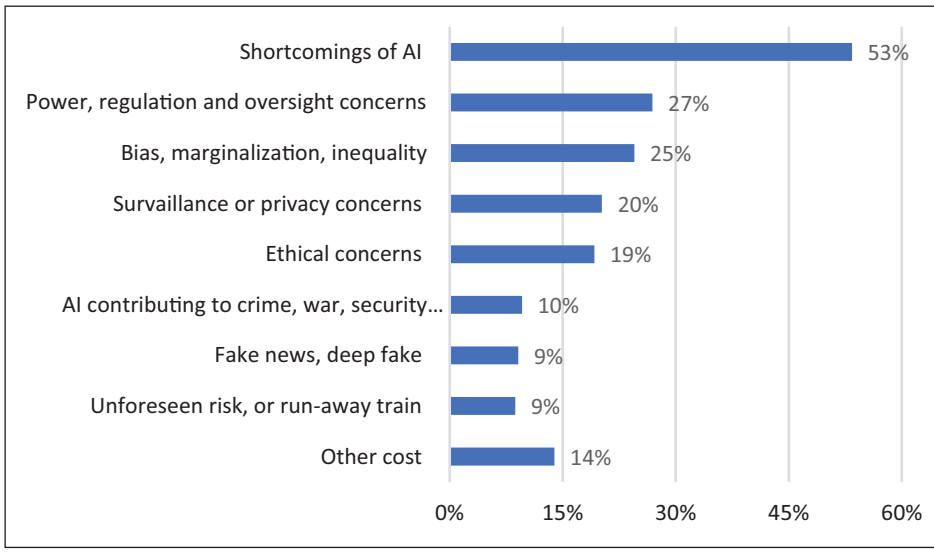

Figure 3. Types of costs mentioned in the articles ($N = 208$).

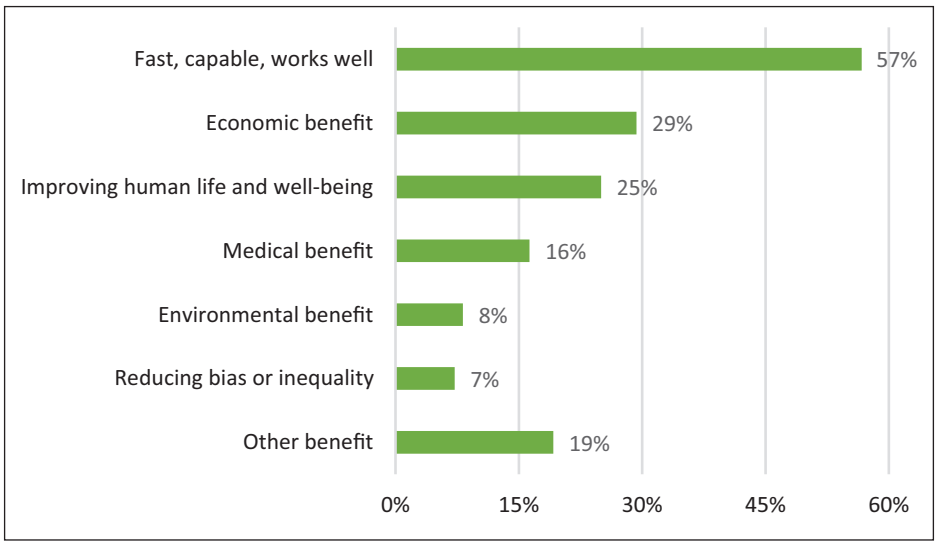

Figure 4. Types of benefits mentioned in the articles ($N = 208$).

triggered by AI pertains to its presumed threat to the existence of humanity. However, this drastic dystopian projection was only mentioned in a few articles.

Over half of the articles include positive statements about the technical capabilities of AI, that is, they discuss applications that are working well (Figure 4). A few articles

simultaneously address the shortcomings of AI as a cost and the benefit that it is working well. The latter concerns news texts in which specific AI solutions are presented as not working very well, but others as successes. Moreover, sometimes one AI solution is assessed as performing well on some tasks but not capable of handling others. A significant focus is economic benefits, which are present in almost 30 per cent of the articles, followed by improvements to human life and well-being in 25 per cent. Other categories of positive effects include medical benefits, environmental benefits, and AI being capable of reducing biases (e.g. in human decision-making) and tackling inequality.

There are differences in how the news outlets framed certain types of costs and benefits in their reporting. In accordance with its generally more positive portrayal of AI, *WSJ* mentions most types of costs only in a small proportion of its articles but refers to different types of benefits much more frequently. The business-oriented *WSJ* places noticeably more emphasis on economic benefits than the other two outlets. The same applies to some extent to portraying AI solutions as working well. One difference that emerged between *NYT* and *WP* concerns the types of costs that each tends to focus on: *WP* discusses issues of power, regulation, oversight and ethics more frequently than *NYT*. However, *NYT* discusses the limitations and technical shortcomings of AI more often than the other two news outlets.

Hype and disappointment rhetoric

Most articles did not deploy hype or disappointment rhetoric (Figure 5). Only a small number portrayed positive grandiose expectations connected to hype rhetoric, and some of these articles also included statements using disappointment rhetoric. Articles employing hype rhetoric refer to AI as game-changing, having enormous potential, and having supernatural, revolutionary effects. Comparison with previous transformative innovations like mastering electricity or even fire illustrates this type of hyping.

Statements deploying hype rhetoric often describe the spectacular change that is already happening in the present or offer confident prognoses about how transformations will take place in the future: ‘We are unquestionably living in the golden era of AI where our dreams and science fiction are becoming a reality’ (De Avila, 2022), or ‘[it] will change the world’ and ‘transform all realms of human experience’ (Roose, 2021). The *WP* sample contained more articles with sentences that evoke hype and spectacular positive expectations than other news outlets. However, its articles also contained more statements about potentially extreme adverse effects: ‘we might be decentered from our position as masters of the universe – [. . .] we might finally have spawned something we cannot govern’ (Emba, 2022). Still, this kind of catastrophizing perspective of doom and gloom as a result of AI was a very minor part of the coverage, even within *WP*.

A close reading of articles containing hype rhetoric in the news outlets reveals that the respective statements appear concentrated within the texts, often only in one or two sentences connected to industry actors who are invested in the development of the AI solution in focus.

In comparison, disappointment rhetoric has a considerably stronger presence in all articles. Not only does this occur more frequently, but some articles also place stronger emphasis on disappointment throughout the text. In several cases, the articles’ headlines

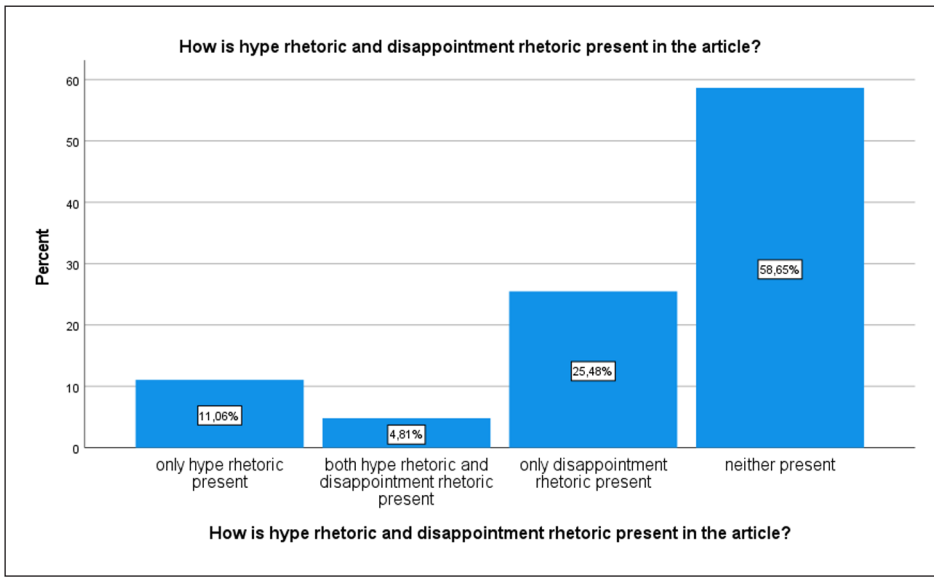

Figure 5. Presence of hype and disappointment rhetoric in the articles ($N = 208$).

focus directly on disappointment in AI, while others argue how expectations must be lowered. They thereby indicate that AI's present capabilities fall short of past projections and promises. One example is an *NYT* article about IBM Watson: 'But the grand visions of the past are gone. Today, instead of being a shorthand for technological prowess, Watson stands out as a sobering example of the pitfalls of technological hype and hubris around A.I.' (Lohr, 2021). The other two news outlets have also published articles in which disappointment in expectations is strongly emphasized:

> We need to act now to prevent this distraction and cool the fever-pitch hype. Scientists and engineers should focus on building models that meet people's needs for different tasks, and that can be evaluated on that basis, rather than claiming they're creating über-intelligence. Similarly, we urge the media to focus on holding power to account, rather than falling for the bedazzlement of seemingly magical AI systems, hyped by corporations that benefit from misleading the public as to what these products actually are. (Gebru and Mitchell, 2022)

> After years of companies emphasizing the potential of artificial intelligence, researchers say it is now time to reset expectations. . .. Yet AI ethicists and researchers warn that some businesses are exaggerating the capabilities – hype that they say is brewing widespread misunderstanding and distorting policy makers' views of the power and fallibility of such technology. (Hao and Kruppa, 2022)

All three news outlets mentioned the term 'hype' to refer to inflated expectations about AI. The use of the terms in this respect can be regarded as a form of anti-hype rhetoric. A few articles even point out how hype takes on a performative role in attracting

capital. It is important to note that while *WSJ* has the most positive framing of AI, it does not propagate hype any more strongly than the other two outlets. On the contrary, the main topic of some *WSJ* articles is a critique of AI hype. Examples include articles with the titles 'Why artificial intelligence isn't intelligent; some experts in AI think its name fuels confusion and hype of the sort that led to past "AI winters" of disappointment' (Mims, 2021) and 'Tech giants pour billions into AI, but hype doesn't always match reality' (Hao and Kruppa, 2022).

After discussing the disappointment factor, articles often discuss certain things that AI can successfully do in the present and emphasize that expectations for AI should be more modest. Furthermore, development in the current phase is sometimes described in terms of evolution to denote that changes will be small step-by-step, subtle, and not fast and transformational. This contrasts with the term 'revolution' used in hype-centric discourse on technologies.

It is noteworthy that some articles portray AI that is not meeting previous expectations as a positive development at the level of society. The respective arguments point out how technology's slower-than-expected progress preserves jobs while facilitating and/or enhancing current professional practices in different domains. Examples include how AI solutions can support the work of programmers or educators without replacing human labor.

In summary, disappointment rhetoric was more pronounced than hype rhetoric in the analyzed articles, while most articles did not employ either.

Present and future

Ninety percent of the articles have a temporal focus on the present, with current AI products and solutions being the main topic. The rest of the articles do not seem to focus on one dominant period but discuss the present and future with equal emphasis. Additionally, a few articles exclusively center on the future (five articles) or the past (four articles).

Despite the present being the primary focus, 41 per cent of all articles included statements that compared current situations to the future (Figure 6). Of these, the vast majority are optimistic in their outlook and outline how AI will further develop for the better – at least in some respects – compared to the present. A considerably smaller number of articles contain claims that the future will be worse or include arguments that paint an ambiguous picture, with some aspects likely to be better and others worse. Four of the five articles that primarily discuss the future emphasize benefits rather than costs.

Taking a comparative view of the different news outlets and cited sources reveals some noticeable differences in the portrayal of temporal dimensions in the AI discourse. For example, the *WP* was the least optimistic about the future compared to the present; only one-fifth of its articles contain statements about how the future might/will be better than the present. This compares to 28 per cent for *NYT* and 31 per cent for *WSJ*. However, *WSJ* tends to portray AI in the present as positive.

Concerning cited sources, it stands out that if an article only cites actors who are invested in AI solutions and products, then it is almost four times as likely to include statements indicating a brighter view of the future than an article that only cites non-invested actors.

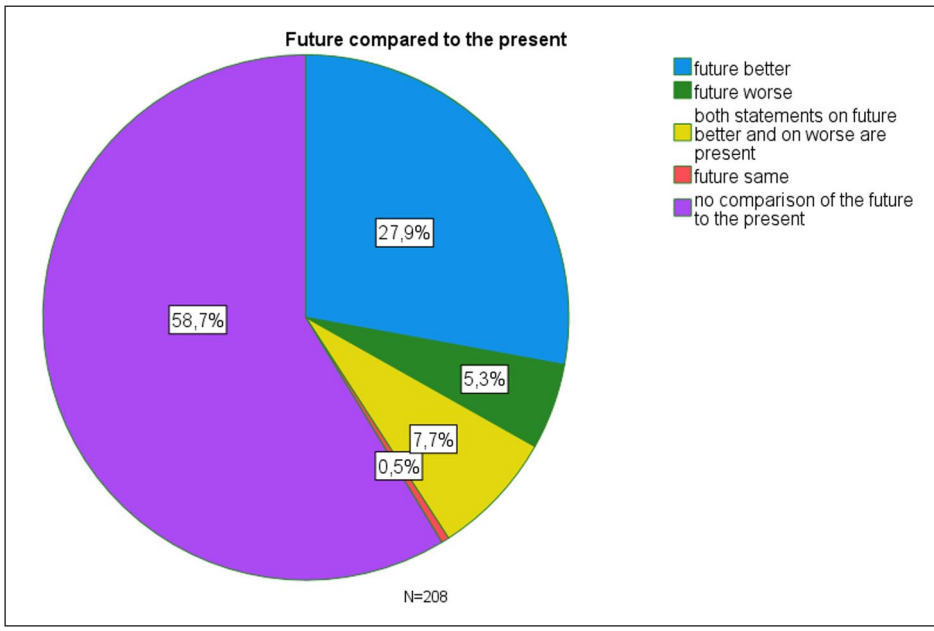

Figure 6. Statements in the articles about future compared to the present in connection with AI.

Furthermore, articles that focus solely on the present tend to predominantly deploy cost frames (48%) rather than benefit frames (39%). Overall, articles that address the future – either passingly or as the primary focus – are more likely to be favorable than those that focus on the present.

Discussion and conclusion

The analysis of AI coverage in three elite US news outlets for the year before the generative shift reveals that the discourse was not dominated by hype language. Grandiose expectations were marginal, while disappointment rhetoric – highlighting how AI falls short of earlier promises – was more prominent. News reporting primarily framed AI as an everyday technology with tangible costs and benefits in the present. A recurring concern was AI's technical limitations, which were frequently emphasized, signaling lowered expectations.

Interpreting the quantity of AI coverage presents a more complex picture, as it depends on the chosen time frame for comparison. While coverage was higher in the analyzed period than in the 2010s, the number of articles published during this time was lower than in both the preceding few years and the period that followed, indicating a dip in coverage. Additionally, the volume of articles in this period did not reach the threshold required for what we have termed 'massive-scale hype', as the overall number of publications remained relatively low.

Since our definition of a hype phase requires both an increase in coverage volume and a prominent presence of hype rhetoric, we conclude that AI was not in a hype phase during the analyzed period in these outlets. Instead, media representation reflected a moderate form of disappointment, which can be described as 'disillusionment' in line with Ruef and Markard (2010). According to them, disillusionment periods are characterized by technological expectations that remain more positive than negative but fall short of hyperbolic optimism. In the cases of *WP* and *NYT*, instances of even stronger disappointment were observed. Examining phases of disappointment is important for understanding their contrast with hype phases, where excessive optimism fosters risky expectations (Vicsek et al., 2025).

The findings of this study contrast with repeated claims since the late 2010s that AI discourse is predominantly hype-centric (Dyer-Witherford et al., 2019; Francesconi, 2022). While a few scholars have suggested that AI might have entered a phase of disappointment in the early 2020s (Floridi, 2021), no empirical study has systematically tested whether media coverage reflected hype, disappointment or another pattern at that time. This question has not been empirically examined for other periods either. By assessing the presence or absence of hype and disappointment in AI media coverage, our study addresses this critical gap and introduces a novel perspective to the field.

A key insight is that AI news reporting in the examined outlets focused on practical, incremental improvements rather than speculative, transformative breakthroughs in this time period. Chubb et al. (2022) found that AI experts were of the view that 'stories about "narrow AI", as opposed to fantasies of superintelligence' were needed to 'ground people in present realities and issues' as the latter felt these kinds of narratives were missing from the public discourse. It seems that these three major US news outlets did indeed focus on such small AI stories rather than grand AI narratives of either a utopian or dystopian nature in the investigated period. In fact, terms such as 'superintelligence' or 'artificial general intelligence' were almost absent from the analyzed articles. If they occurred, they tended to be criticized for unrealistic visions and their contribution to overhyping AI.

Our findings underline that a news outlet's background, editorial policies and journalistic practices strongly influence how AI is portrayed in its news content. Elite news media varied in their framing of AI, with *WP* and *NYT* emphasizing costs over benefits, while *WSJ* focused more on AI's advantages. This aligns with Yi et al. (2024), who found Left-leaning outlets to be more critical of AI. However, *WSJ* avoided hype rhetoric about AI's future, grounding its positive portrayals in the present while also critiquing AI hype promoted by certain actors. Differences emerged in cost-benefit emphasis: *WP* highlighted ethical and regulatory concerns, *NYT* focused on technological limitations, and *WSJ* prioritized economic benefits. Therefore, elite news media determine AI perceptions differently, reflecting ideological priorities and influencing the public discourse on AI's risks versus benefits.

The results of the content analysis support earlier findings about the relationship between cited sources and AI news reporting (Brennen et al., 2018), where business actors are among the most cited sources, and articles including them tend to be more positive about tech trends. However, what contrasts with previous studies is how

governmental actors frame AI in these outlets: they point to the costs, problems and risks more frequently than business actors or researchers/tech experts.

As a new approach, we also investigated whether articles cited actors who were invested in AI development – even as researchers in the university sphere – and what effect this had on the reporting. Our findings show that the positioning of actors in relation to AI solutions discussed in articles matters greatly regarding how they frame the technology along the benefit-cost spectrum. Whether entrepreneurs or researchers at universities, actors who actively work on AI solutions and development tend to be noticeably more positive about their own products. Again, differences between news outlets and their reporting styles emerged in this respect. The *NYT* was more likely to counterbalance positive statements by invested parties with references to costs than the other outlets, in line with its reputation as a critical newspaper that aspires to provide balanced reporting. The *WSJ* was least likely to raise concerns about costs in similar situations, which may be explained by its focus on investments and economic benefits.

Most articles primarily focused on the present without explicitly stating future expectations. In terms of temporality, the present state of AI received greater emphasis than its potential future developments. However, we argue that this focus on the 'now' can still shape expectations about the future. When news articles highlight AI's current impact – particularly its limitations, challenges and unresolved problems – they may implicitly suggest that the future will not differ significantly from the present. This framing can lead readers to perceive that AI's benefit-cost ratio will remain largely unchanged or evolve only incrementally in the foreseeable future. By omitting explicit projections, such coverage reinforces the implicit assumption that AI's trajectory is stable rather than transformative.

At the same time, our findings indicate that when future expectations were addressed in the articles, they tended to present an optimistic outlook. Among the articles that compared AI's present state to its future, the majority projected improvements – at least in some respects. The present was thus considered more soberly, with limits, while the future was seen to hold more hope in these cases. While this perspective was not the dominant one, it still appeared in a significant number of articles, highlighting a tendency to envision AI's future as more beneficial than its present state.

The question is: Why is it relevant to research expectations about AI? The main argument is that collective expectations can have a wide range of effects on the present and future by influencing innovation activity, investment and regulations. It matters greatly for activities in all these dimensions whether tech innovation is in hype or disappointment is widespread. What arguments, motifs and framings characterize each period is important for understanding how they may affect expectations. We argue that newspaper coverage matters. Prestigious newspapers, such as the ones studied in this article, are especially relevant, as they can contribute to shaping the judgment and choices of decision-makers (Fawzi, 2018).

The limitations of this study must be acknowledged, most notably its focus on a single year and a limited sample of media outlets, both of which constrain the generalizability of the findings. Given our aim to conduct a more in-depth analysis of media discourse, we had to restrict the volume of text included in the study corpus. Further research is needed to assess whether the non-hype-centric nature of the coverage observed in our

sample was representative of other media outlets in the US at the time or whether it reflected the particular characteristics of the selected outlets. While the newspapers analyzed – particularly *NYT* and *WP* – may be more critical than other media sources, some evidence suggests that the decline in media attention and enthusiasm observed between summer 2021 and summer 2022 may reflect a broader trend. Other studies have identified a decrease in engagement during this period, accompanied by a shift toward a more critical stance before our study's time frame (Feher, 2025; Nguyen and Hekman, 2024).

While our primary focus was on a 1-year period, we also examined longitudinal data on the volume of AI-related media coverage. The results indicate a more nuanced and complex trajectory than the classical Gartner Hype Cycle, which has been widely criticized for oversimplifying the dynamics of technological expectations. Rather than exhibiting a singular dramatic peak followed by a decline, the quantity of AI media coverage followed a more complex and fluctuating pattern. To better understand how expectations unfold over time, further research should extend beyond the single-year period analyzed in this study. Longitudinal analyses would be essential for capturing the temporal evolution of media narratives surrounding AI.

Investigating how the surge in AI coverage following ChatGPT's launch in the second half of 2022 has reshaped media narratives would be highly valuable. Beyond examining positive hype, it is also important to consider what has been termed 'doomsday hype' (Bourne, 2024). Doomsday hype is characterized by exceptionally high expectations regarding the growth of AI capabilities, coupled with an emphasis on catastrophic consequences. While this study found limited references to AI-driven existential risks – making the omission of doomsday hype in the conceptualization of hype less critical – later media coverage following ChatGPT's release appears to have amplified such narratives. By incorporating doomsday hype, future theory-building and research can provide deeper insights into the media's role in shaping AI expectations and influencing technological trajectories.

We argue, within the theorization of hype, for the importance of considering absolute media volume alongside the qualitative characteristics of AI discourse and the trends in content volume, whether increasing or decreasing. While research in the sociology of expectations typically highlights the significance of relative increases in media attention (van Lente et al., 2013), some media studies perspectives emphasize the impact of high-volume coverage (Boydstun et al., 2014). Future research would benefit from integrating these approaches to develop a more comprehensive framework for understanding AI hype – one that differentiates between small-scale and massive-scale hype.

Future research should investigate whether and how tempered optimism can contribute to the emergence and structuring of future AI hype cycles, particularly given the resurgence of enthusiasm following the generative AI leap (Feher, 2025). While most articles in the analyzed period focused on the present, those that engaged with future expectations predominantly projected improvements, suggesting an implicit optimism about AI's trajectory. This raises the question of how such measured positivity can serve as a foundation for subsequent waves of heightened expectations. Additionally, further studies should assess how different actors – such as journalists, policymakers and AI developers – mediate the transition from tempered optimism to renewed hype, influencing investment patterns, regulatory discourse and public perceptions of AI's trajectory.

Our findings highlight the importance of adopting careful editorial approaches to ensure balanced AI coverage in journalism and media reporting. Diversified sourcing is essential for incorporating perspectives beyond business and research actors, including voices from civil society, policymakers and critical AI scholars. Journalists play a crucial role not only as gatekeepers but also as meaning makers and commentators who can counterbalance and contextualize inherently biased perspectives. Awareness of the phenomenon of technological overpromising is particularly vital, as projections about AI's future are often shaped by the positioning and vested interests of the actors making them. A critical and reflexive approach to reporting can help mitigate the influence of exaggerated promises and provide a more balanced perspective on AI's trajectory.

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Data availability statement

The anonymized dataset can be found at https://figshare.com/s/9ae3b69551cb23917448.

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