



Clickbait: Research, challenges and opportunities – A systematic literature review

Daniel Jacobo-Morales ^{1*}

 0000-0003-1393-1042

Mauro Marino-Jiménez ¹

 0000-0003-2541-0447

¹ Facultad de Comunicación, Universidad San Ignacio de Loyola, Lima, PERU

* Corresponding author: djacob@usil.edu.pe

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ABSTRACT

Clickbait is a concept whose research has been increasing since 2018. Four main approaches are distinguished: (1) the development of algorithms and programs to detect it, (2) the semantic techniques used in headlines and texts, (3) the awakening of curiosity in the audience, and (4) the credibility of the headlines. Therefore, the research is proposed as a systematic literature review with the objective of analyzing the trends in studies on clickbait in the Scopus and Web of Science databases from January 1, 2015, to December 31, 2023. For this, it uses the PRISMA declaration as a reference. That is, a simple random sampling technique and bibliographic analysis, according to the RSL guidelines. After applying the inclusion criteria, it obtained a final sample of 165 studies. Among the main results, it stands out that Europe (n = 77) has the largest number of works. Something similar happens with the English language. With 90%, is the one with the greatest dissemination. Finally, it established the significant themes, the most widespread theories, 11 properties that deepen the four initial approaches, and explain the use of the term. That helps to delimit a path for future research.

Keywords: clickbait, fake news, digital journalism, infodemic

INTRODUCTION

Journalism has changed with the development of the Internet and digital applications. At the time, some researchers coined the concept of *cyberjournalism*, which explained journalistic work in this new context (Masip et al., 2010; Mitchelstein & Boczkowski, 2009). The work of Salaverría (2019), in the commemoration of the 25 years of the birth of the concept of digital journalism, confirms the future perspectives for it. First, the use of multimediality, hypertextuality and interactivity. Second, a proliferation of main theories associated with network society, liquid modernity, convergence, and transmedia culture. Third, the outstanding challenges for digital natives participation, innovation, use of advanced research technologies, etc.

As in any profession that adapts to technological advancement, digital journalism has challenges that involve the ethical behavior of the media, journalists, and audiences (Steensen & Ahva, 2015). This happens especially in relation to misinformation, the spread of fake news (Salaverría, 2019), and theories related to post-truth (Saquete et al., 2019). Due to the abundance of information in a network society (Castells, 1996), whose contents are liquid (Bauman, 2013), convergent and transmedial (Jenkins, 2006), it is difficult to distinguish truthful news from misinformation. This situation of uncertainty has been called infodemic (Aleixandre-Benavent et al., 2020).

The proposal by Rastogi and Bansal (2023) stands out to differentiate the concepts of misinformation (involuntary errors), disinformation (deliberately manipulated content) and malinformation (publication of private information with changes in the context). The researchers explain that within the classification of

misinformation are fake news, propaganda, conspiracy theories, hoaxes, biases, rumors, clickbait, and satire. This diversity of vices in the information process has a high sociocultural and political impact. In addition to the bad decisions due to these practices, freedom of information and freedom of expression are violated. Therefore, 88% of people in the world ask for mechanisms to regulate this kind of content on social networks (UNESCO, 2023).

To clearly understand each of these phenomena, it is pertinent to develop studies on each of these categories. Precisely, the interest of this research is to analyze the existing knowledge about the concept of clickbait. This is not the first proposal that attempts to explore trends in studies on this topic. For example, the work of Zuhroh and Rakhmawati (2019) established an ordering of the data available up to the date of its publication. It also developed a method to detect clickbait. However, due to the increase in studies on this topic in the last five years (2018-2023), it is advisable to establish a new review that addresses the nature of the research indexed in Scopus and Web of Science (WoS). They are considered the databases with the highest level of confidence worldwide (Universidad de Valladolid, 2022). Therefore, the results of the review will have high relevance for the scientific, professional and institutional study of this phenomenon. The analysis aims to establish the countries of origin and trends in the last years. In addition, it will be necessary to determine the main topics in approaching the concept, theories used, and characteristics that can be used for future research.

Although research on this topic has been increasing since 2018, it is necessary to point out that the word *clickbait* appeared in the late 90s of the 20th century (Prokofeva & Akulovich, 2021). Since then, the concept has had a predominant negative use. For Sladkevich (2019), using this kind of content leads to a decrease in the loyalty of regular audiences. According to the researcher, clickbait is a powerful tool to capture and prolong attention in the short term. However, it is counterproductive after disappointment.

There are four approaches about clickbait in the previous studies. First, the development of algorithms and programs to detect clickbait, in search of results that help reduce its proliferation. All of these are linked to user actions, establishment of neural networks, website security, and content similarity. Second, the semantic techniques used in headlines and texts are used to determine kinds of content. In these studies, the researchers use the support of lexicography, syntax, and the detection of certain kinds of words (pronouns, adverbs, articles, etc.) according to intention. Third, psychological awakening of audience curiosity helps to determine clickbait strategies. These allow the establishment of a classification, which facilitates detection and prevention. Finally, there is a relation between the lower credibility of the clickbait headlines after disappointing experiences. That is, knowledge is established through interaction with certain media that use clickbait often (**Table 1**). All of them confirm the way in which its use is confirmed and analyzed to attract the audience. But they also carry out prevention strategies.

It should be noted that the clickbait concept already has a corpus of significant findings. For example, Chakraborty et al. (2017) concludes that there is a predilection toward including images, hashtags, and user mentions in clickbait tweets. Likewise, it points out the greater propensity to consume in certain age groups: more in women than in men, and more in young people than in older adults.

Studies such as that of Kùçükvardar (2023) propose a classification for clickbaits, establishing eight types. First, exaggeration. This occurs when headlines exaggerate the content, to the point of stimulating audience interest. Second, teasing. In this case, details from the title are omitted, and sarcastic expressions are used to create tension. Third, inflammatory content. This modality uses vulgar words. Fourth, format. Words are used in capital letters or with exclamation points to stand out. Fifth, graphics. This occurs when content and/or graphics are treated as shocking or disturbing. Sixth, bait and switch. In this case, what was promised or implied in the title is not included on the contents page. Seventh, ambiguous. This is represented when the title is vague or confusing to arouse curiosity. Eighth, incorrect content. In this case, the titles have no relation to reality.

This classification complements what is established by Untari et al. (2023). This is referred to as the definition of a transcreation strategy for online news headlines based on clickbait. They establish three strategies:

- (1) bombing (sophisticated expressions are used to attract the attention of potential clickers),

Table 1. Summary of approaches from previous clickbait studies

Research focus	Main features	Authors
Development of algorithms and programs for the detection of clickbait	Online Video Clickbait Protector (OVCP) is proposed for detecting videos based on comments posted by users.	Shang et al. (2019)
	Using recurrent neural network (RNN) learning methods to detect clickbait.	Liu (2022)
	Using convolutional neural network (CNN) learning methods to detect clickbait.	Agrawal (2016)
	<i>ClickBaitSecurity</i> extension was made to evaluate the security of a link.	Razaque et al. (2022)
	Adaptive clickbait was made by lure and similarity criteria (LSAC).	Zheng et al. (2021)
	A browser plugin called <i>Stop Clickbait</i> was developed based on a machine learning classifier.	Zhou et al. (2022), Chakraborty et al. (2017), and Ghanem (2020)
	There is a proposal of an n-gram matching approach based on lemmatization (a data retrieval technique in information systems).	Bourgonje et al. (2017)
Semantic techniques in headlines and clickbait texts	A bidirectional long-term memory architecture is proposed for automated clickbait detection in headlines.	Dimpas and Sabellano (2017)
	Lexical/semantic cues (unresolved pronouns, affective language and action words, suspenseful language, excessive use of numbers) and syntactic/pragmatic cues (direct reference and reverse narrative) are identified.	Chen et al. (2015)
Awakening curiosity in the audience	Eight manifestations were identified for the detection of clickbait: (1) demonstrative pronouns, (2) personal pronouns, (3) adverbs, 4) definite articles, (5) ellipses, (6) imperatives, (7) interrogatives and (8) general nouns with implicit discursive deictic reference.	Blom and Hansen (2015)
	It is proposed that curiosity is a condition that allows the understanding of how clickbait works.	Loewenstein (1994)
Credibility of clickbait headlines	It is noted that being exposed to clickbait headlines can lead to disappointment and dissatisfaction, with serious consequences for the credibility of the media.	Kanižaj et al. (2022)

Note: There is an important trend towards the development of techniques and technologies to detect clickbait.

Source: The authors' own elaboration

- (2) referencing (for reference, names, terms, slang and events related to popular or viral neologisms that are added to the headlines), and
- (3) Bamboozling (creates ambiguity through biased and hyperbolic expressions).

Despite academic efforts to delve deeper into the typology, there is still a theoretical and methodological corpus to explore. One example of that is in the use of artificial intelligence. Sandrini and Somogyi (2023) explored the effects of advances in generative artificial intelligence on news media, modelling a representative consumer who distributes their time between reading news, and misleading articles such as clickbait.

Based on the above, this study attempts to answer the question: What are the trends in studies on clickbait between 2015 and 2023? And it has the following objective: Analyze the trends in studies on clickbait between 2015 and 2023. For this purpose, there will be a revision of all articles published in Scopus and WoS around that term, taking into account the implications on the scientific, predominant language, and theoretical bases.

METHODOLOGY

The research was carried out through a systematic review of scientific literature (RSL), which allows information on a certain topic to be addressed, collected, and systematized by summarizing the results (Sarkis-Onofre et al., 2021). In addition, the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA) statement was used as a reference as a support method for applying the RSL (PRISMA, 2024). This alternative is effectively used in various studies linked to bibliographic research, in which concepts treated with different approaches predominate, to systematize their similarities and differences, and set trends (Duarte & Baptista, 2024; Maphosa et al., 2022; Tian et al., 2023).

Table 2. Summary of articles included in the RSL

Database	Number of published articles	Percentage (%)
WoS	69	42
Scopus	29	18
Both	67	40
Total	165	100

Note: Although there is a clear predominance of WoS, there is also a high coincidence between both databases.
Source: The authors' own elaboration

The steps were followed in an attempt to answer the research question: What are the trends in clickbait studies between 2015 and 2023? The inclusion criteria were articles in different languages published in journals indexed in the Scopus and WoS databases, and between the years 2015 (January 1, 2015) and 2023 (December 31, 2023).

The study proposed a protocol for the search and review. For Scopus, the following formula was used: (clickbait) OR (click-bait) OR (click) AND (bait) OR (clickbait) AND (news) (TITLE-ABS-KEY) (clickbait) OR TITLE-ABS-KEY (click-bait) OR TITLE-ABS-KEY (click) AND TITLE-ABS-KEY (bait) OR TITLE-ABS-KEY (clickbait) AND TITLE-ABS-KEY (news). While for WoS the following was used: clickbait (All Fields) or click-bait (All Fields) or click (All Fields) and bait (All Fields) or clickbait (All Fields) and news (All Fields).

The initial inquiry found 479 articles in Scopus (n = 232) and in WoS (n = 247). After applying the inclusion criteria (articles from January 1, 2015, to December 31, 2023) and exclusion (no systematic reviews, no conference papers, and discarding repeated ones), a final sample of 165 studies was obtained: Scopus (n = 29), WoS (n = 69) and contents in both (n = 67) (Table 2).

Subsequently, the selection of the studies was carried out under three phases recommended in the PRISMA flow chart: identification (duplicates and studies distant from the inclusion criteria were excluded), screening (the titles and abstract were evaluated to ensure if the research was directly related to the inclusion criteria and objectives of the RSL), and inclusion (articles that passed the previous steps were taken).

Finally, the number of selected articles were compiled in a database (<https://bit.ly/clickbaitreview>) using Microsoft Excel and a standardized protocol in order to extract the following information: author, title, year, abstract, language, country, name of the journal, methodology and access.

RESULTS

The research results were established in two approaches. The quantitative approach reports the quantities detected in the search, and the qualitative approach outlines the concepts based on coded categories.

Regarding language, studies on clickbait have been disseminated mostly in English (90%). This is explained by the universalization of this language within the scientific environment (Hamel, 2013). This is followed by Spanish (6%), Russian (2%), Portuguese (1%), and Swedish (1%). Regarding access to information, it is observed that 74% of papers are open access (n = 122), while 26% are paid options (n = 43). Regarding the nationality of the articles, among the main results 19% are from the United States (n = 32), 13% from Spain (n = 22), 14% from China and India (n = 11 each), 8% from the United Kingdom and Russia (n = 7 each), 8% from Australia (n = 6) and Indonesia (n = 7), 3% from Canada (n = 5), 15% from Germany, Saudi Arabia, Countries Netherlands, Pakistan and Portugal (n = 3 each). Finally, other countries occupy 12% (n = 20).

Thus, it is established that in Europe (n = 77) the largest number of works that refer to the concept of clickbait has been found, followed by Asia (n = 42) and America (n = 39). The phenomenon on the American continent is curious because the majority of works in that territory are found in North America (n = 37) (Table 3).

Regarding the projection of published studies, a clear trend of progressive growth is observed in the last five years (2018-2023) (Table 4). Figure 1 shows timeline in the evolution of published studies on clickbait.

In addition, the research of Blom and Hansen (2015), Zannettou et al. (2019), Zhou et al. (2020), Ghanem et al. (2020), and Mourão and Robertson (2019) as the most cited studies on the topic. Most of these focus on the detection and analysis of clickbait in different types of media (Table 5).

Table 3. Summary of articles included by continent in the RSL

Continent	Number of published articles	Percentage (%)
Europe	77	47
Asia	42	25
America	39	24
Oceania	6	4
Africa	1	1
Total	165	100

Note: There is a clear predominance in the number of articles published in Europe.

Source: The authors' own elaboration

Table 4. Evolution of published studies on clickbait by years included in the RSL

Year	Number of published articles	Percentage (%)
2015	1	1
2016	3	2
2017	5	3
2018	10	7
2019	18	12
2020	26	17
2021	32	21
2022	37	22
2023	33	20
Total	165	100

Note: The topic has gained great relevance in recent years. This is associated with the impact of the problem around clickbait.

Source: The authors' own elaboration

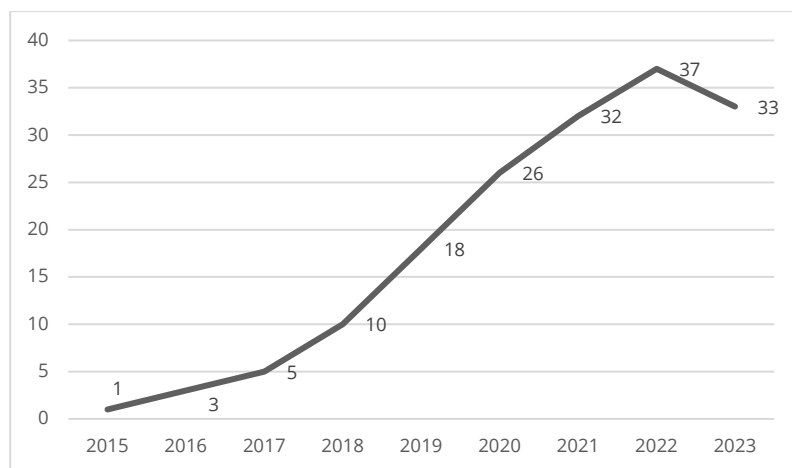


Figure 1. Timeline in the evolution of published studies on clickbait (Source: The authors' own elaboration based on the results in Scopus and WoS)

Table 5. Most cited articles and authors on clickbait

Article title	Author(s)	Journal	Year	Citation
Click bait: Forward-reference as lure in online news headlines	Blom and Hansen (2015)	Journal of Pragmatics	2015	202
The web of false information: Rumors, fake news, hoaxes, clickbait, and various other shenanigans	Zannettou et al. (2019)	Journal of Data and Information Quality	2019	171
Fake news early detection: A theory-driven model	Zhou et al. (2020)	Digital Threats: Research and Practice	2020	127
An emotional analysis of false information in social media and news articles	Ghanem et al. (2020)	ACM Transactions on Internet Technology	2020	125
Fake news as discursive integration: An analysis of sites that publish false, misleading, hyperpartisan and sensational information	Mourão and Robertson (2019)	Journalism Studies	2019	119

Source: The authors' own elaboration based on the results in Scopus and WoS

Table 6. Review of the main theories that fundamental the clickbait phenomenon

Theory	Characteristic	Author
Relevance theory	Explains the natural human tendency to seek information that is relevant to each person. It analyses the attraction that a person feels towards stimuli that offer cognitive rewards.	Developed by Wilson and Sperber (2004), and cited in Scott (2021)
Game theory	It provides a suitable framework to describe the clickbait news offering, recognizing interests and actions of publishers, competitors, users and platforms.	Hausken (2020)
Theory of curiosity about information gap	Explains the procedure to attract the user to view content that does not faithfully represent the claim it presents, and eventually degrades the user experience. It is the most widespread theory for understanding the clickbait phenomenon.	Loewenstein (1994)
Cognition theory	Prior knowledge plays an important role in human cognition. It is necessary to adopt prior knowledge in detecting clickbait.	Developed by Cartwright (2001), and cited by Zhou et al. (2022)
<i>Nudge</i> theory	It proposes a choice that alters people’s behavior in a predictable way, without prohibiting any option or changing it significantly.	Jung et al. (2022)
Uses and gratification theory	It proposes that both the media and the audience implement media channels with the intention of obtaining benefits. In this way, journalists will continue to use clickbait for their own gratification.	Jamiu et al. (2022)

Source: The authors’ own elaboration based on previous studies on clickbait

Regarding the qualitative results, significant topics were established, such as those referring to clickbait references and *mental diagnoses*. Thorne’s (2022) research indicated that people with hysteria have a greater propensity to follow trends expressed by social networks such as hashtags or to use clickbait. Likewise, Berryman and Kavka (2018) studied that vlogs that develop themes of anxiety tend to use clickbait titles and present more extreme displays of emotion.

Likewise, theories have been found that establish a corpus that goes beyond the widely disseminated theory of curiosity about information gap (Loewenstein, 1994) for the development of further studies on clickbait. They include game theory, relevance theory, cognition theory, among others. This also requires attention to different questions: why use clickbait? Why are people so interested in these types of publications? What benefits are achieved from the use of clickbait?, etc. (Table 6).

Besides, it was established that clickbait is used as a digital marketing strategy. Scott’s (2021) research recognized that online marketers developed new techniques (including clickbait) to direct users to pages that offer online advertising. The more people view a web page, the more valuable the advertising space becomes. This establishes a relationship between digital marketing strategies and journalistic practice.

Regarding the *quality of content that uses clickbait*, Potthast et al. (2018) report that clickbait links take readers to destination sites that present advertisements along with generally low-quality content. Therefore, Scott (2021) states that the only purpose of clickbait links is to induce a click. The content on destination sites tends to be low in quality. That is, the quality of the content rarely fulfils the promise of the headline. As a result, clickbait headlines are often characterized as misleading or disappointing.

Finally, 11 properties were established to explain the use of the term clickbait (Table 7). Among them, the fact that it attracts the reader to click, that it is presented (as a title or text) to arouse curiosity in the audience, that it is of low quality, that it has a misleading, exaggerated or malicious nature encouraging increasing advertising revenue, using sensational headlines and informal language, and resorting to keywords and/or algorithms.

Likewise, specific contributions from researchers are highlighted. Such is the case of Flórez-Vivar and Zaharía (2022), in which *four parameters are established for the analysis of clickbait resources*. The first is related to complete information (use of lists, questions without answers, and deictic expressions of time and space), appellative expressions (personal deictic formulas, imperatives, and parentheses), morphosyntax (colons and substantification), and exaggeration (neological acceptance, prefixed adverbial connotation, intensifying adjectives, exclamatory symbols, ellipsis, and use of popular expressions).

Table 7. Review of the main properties that explain the use of the clickbait phenomenon

Property	Authors who explain the property	Ideas that arise from property
Clickbait content is created to entice the reader to click.	Kuiken et al. (2017), Brogly and Rubin (2018), Bazaco et al. (2019), Shang et al. (2019), Molyneux and Coddington (2020), Naeem et al. (2020), Zheng et al. (2021), Scott (2021), Apresjan and Orlov (2022), Diez-Gracia and Sánchez-García (2022), Wei and Nguyen (2022), Flórez-Vivar and Zaharíá (2022), Jung et al. (2022), Kanižaj et al. (2022), Prokofeva and Akulovich (2022), Putri and Pratomo (2022), Liu (2022), Zhou et al. (2022), Dolgova and Orekhova (2022), and Maleki et al. (2023).	Knowledge gaps are used, diverting the content of the title (Shang et al., 2019). They try to maximize the number of visits (Liu, 2022). It is a viral strategy (Florez-Vivar & Zaharíá, 2022). They use creative headlines (Prokofeva & Akulovich, 2022), sensitive or exaggerated words (Zheng et al. 2021), or hyperbolic phrases (Naeem et al., 2020 & Putri & Pratomo, 2022).
Clickbait arouses curiosity in the audience (readers).	Alves et al. (2016), Palau-Sampaio (2016), Chakraborty et al. (2017), Kuiken et al. (2017), Liu et al. (2021), Scott (2021), Apresjan and Orlov (2022), Chaparro-Dominguez et al. (2022), Flórez-Vivar and Zaharíá (2022), Kanižaj et al. (2022), Jung et al. (2022), and Mukherjee et al. (2022)	Use the knowledge gap (Scott, 2021). Hides true information about the content (Florez-Vivar & Zaharíá, 2022 & Kanižaj et al., 2022). Open the curiosity gap (Liu, 2022). Use of keywords (Muslikhin & Mulyana, 2021).
The content of the click leads to is of low quality.	Kazimianec (2020), Zhou et al. (2020), Kanižaj et al. (2022), Flórez-Vivar and Zaharíá (2022), Zhou et al. (2022), Apresjan and Orlov (2022), and Bronakowski et al. (2023).	Use of weak fonts (Florez-Vivar & Zaharíá, 2022). Abandon the principles of journalism (Zhou et al., 2020).
Clickbait is deceptive in nature.	Rochlin (2017), Daoud and Abou El-Seoud (2019), Pengnate (2019), Ahmad et al. (2020), Ghanem et al. (2020), Kaur et al. (2020), Lim (2020), Lazar and Pop (2021), Apresjan and Orlov (2022), Flórez-Vivar and Zaharíá (2022), and Carcioppolo et al. (2023).	Use of falsehood and bias (Lim, 2020). Unverified information (Kaur et al., 2020).
Exaggerated headline or text	Shang et al. (2019), García Orosa et al. (2017), and Skärlund (2022).	
Malicious content	Lazar and Pop (2021), Wei and Nguyen (2022), Razaque et al. (2022), and Liu (2022).	Harms the digital ecosystem (Liu, 2022). It is spam-like content (Lazar & Pop 2021).
Increase the income generated to digital portals.	Daoud and Abou El-Seoud (2019), Lim (2020), Flórez-Vivar and Zaharíá (2022), Kanižaj et al. (2022), and Maleki et al. (2023).	
Use of sensational headlines	Alves et al. (2016), Kwak et al. (2018), Pengnate (2019), Bazaco et al. (2019), Ahmad et al. (2020), Lim (2020), Naeem et al. (2020), Apresjan and Orlov (2022), Chaparro-Dominguez et al. (2022), Diez-Gracia and Sánchez-García (2022), Flórez-Vivar and Zaharíá (2022), Carcioppolo et al. (2023), and Lischka and Garz (2023).	
Clickbait uses informal language (less formal than standard).	Daoud and Abou El-Seoud (2019), Zhou et al. (2020), and Bronakowski et al. (2023)	Use of bad words (Zhou et al., 2020). Netspeak (Zhou et al., 2020). Nods (Zhou et al., 2020). Lack of fluidity (Zhou et al., 2020). Fillers (Zhou et al., 2020).
Clickbait uses keywords	Kuiken et al. (2017), Potthast et al. (2018), Chua et al. (2021), and Mukherjee et al. (2022)	Hyperbolic words (Chua et al., 2021). Signal words (Kuiken et al., 2017). Use of questions (Kuiken et al., 2017).
Clickbait uses algorithms	Zheng et al. (2018) and Pujahari and Sisodia (2021)	Lexical similarity algorithms (Zheng et al., 2018). Algorithms based on machine learning (Zheng et al., 2018).

Source: The authors' own elaboration

Lu and Shen (2023) identified five persuasive strategies for reviewing clickbait videos. These are:

- (1) humor,
- (2) logic,
- (3) storytelling,
- (4) authority, and
- (5) clickbait sources and thumbnails.

On the other side, Zheng et al. (2018) found four types of features when structuring a clickbait headline:

- (1) sentence structure features,
- (2) n-grams,
- (3) special words, and
- (4) accuracy, precision, and recall features.

On the other side, Kazimianec (2020) (citing Grice, 1985) pointed out interesting points to recognize clickbaits by measuring the

- (1) quality of the content (the truth),
- (2) the quantities (write as much as necessary in a certain communication step),
- (3) relevance (speaking directly to the point), and
- (4) and forms of expression (speak clearly, avoid ambiguities).

Likewise, Kaur et al. (2020) established that clickbaits are mainly composed of adverbs, articles, demonstrative and personal pronouns. Biyani et al. (2016) presented eight types of clickbait: exaggeration, jokes, inflammatory, format, graphic, bait and switch, ambiguity, and misleading.

This conglomerate of options and alternatives significantly expands the concept of clickbait, turning it into a term that can be analyzed from different angles: objectionable or harmful content, advertising strategy, rhetorical construct, among others. For this reason, it is necessary to establish a reflection on the results obtained, with a view to extending the present analysis, and to propose future research based on what was obtained.

DISCUSSION

Research on clickbait proposes challenges for years to come. This is a topic that addresses the ethical behavior of journalism in the digital ecosystem, which is among the most crowded with information for the present and future. One of the main challenges has to do with the number of publications on the matter, because it is still a topic that is not so addressed at a scientific level. Academic development establishes guidelines in Europe, Asia and America, with a pending challenge being to know the reality in Africa and Oceania, as well as the particularity in the different world realities (countries, regions, communities, ethnic groups, etc.). This is evidenced by a wide inequality in the treatment of information, and its relationship of greater or lesser transparency with the ways of doing politics (Palau-Sampio & Carratalá, 2022).

90% of the research is in English, which is not a new fact. Likewise, the country with the highest number of investigations is the United States, followed by Spain. Therefore, it remains a challenge to know the reality of clickbait in other contexts such as South America or Africa. Knowing the amount of open access (71%) and paid research (29%) is also a challenge in order to propose future studies that specifically address these circumstances. The participation of other languages, the information about more realities, and the presence of a greater percentage of open access could generate a broader panorama of the realities, and conditions on which this phenomenon is generated.

Regarding the theoretical bases, the review establishes a set of eight theories that become foundations for subsequent research on clickbait. Such is the case of relevance theory, routine activity theory, game theory, theory of curiosity about information gap, theory of cognition, Nudge theory, uses and gratification theory, and theory of the choice of media. It stands out that one of the most popular communication theories, such as uses and gratifications, also adapts to the reality of clickbait.

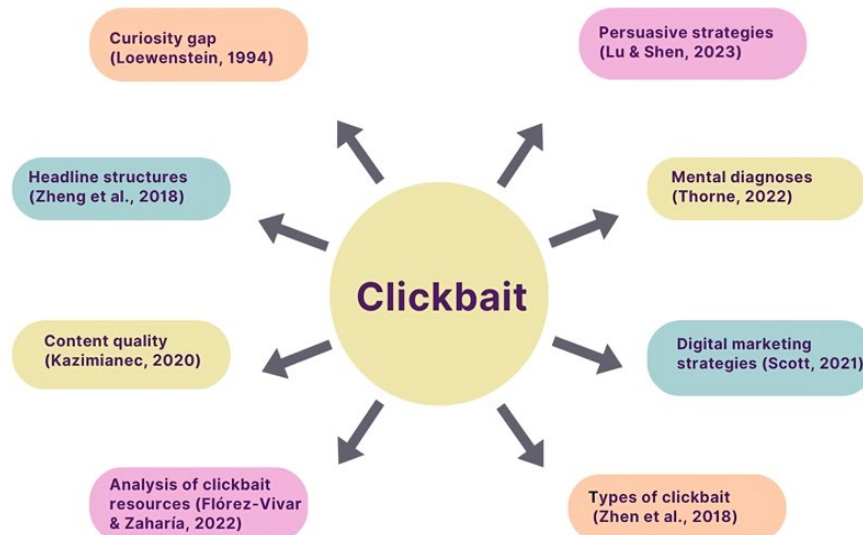


Figure 2. Topics studied on clickbait included in the RSL (Source: The authors' own elaboration, based on the literature review)

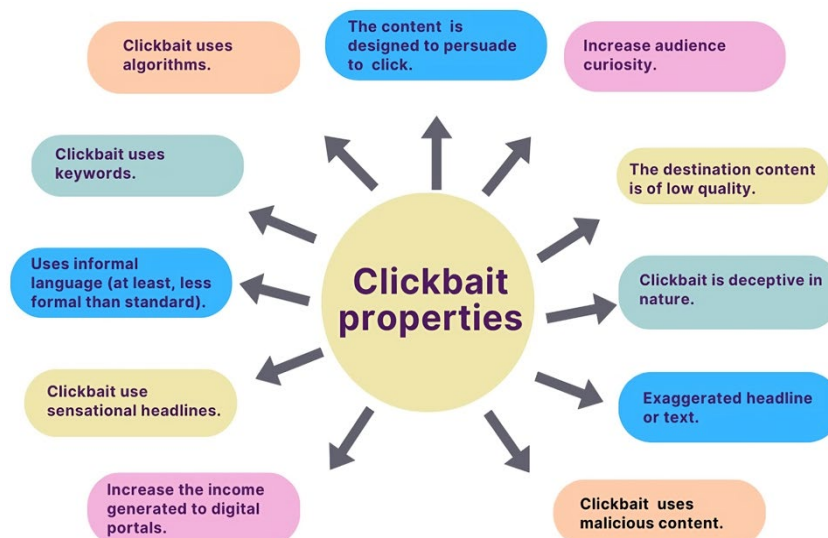


Figure 3. Properties established from the literature on clickbait included in the RSL (Source: The authors' own elaboration, based on the literature review)

The research concludes with the eight main topics about clickbait: persuasive strategies (Lu & Shen, 2023), mental diagnoses (Thorne, 2022), digital marketing strategies (Scott, 2021), kinds of clickbait (Zheng et al., 2018), analysis of clickbait resources (Flórez-Vivar & Zaharía, 2022), content quality (Kazimianec, 2022), headline structures (Zheng et al., 2018), and curiosity gap (Loewenstein, 1994) (Figure 2). This implies a wide range of interests, that includes the pernicious meaning that has been given to the original concept of clickbait but goes beyond it. The emphasis on the four initial approaches (development of algorithms, semantic detection techniques, the awakening of curiosity in the audience, and the credibility of the headlines) is expanded to the study of psychology, digital marketing, the development of a classification, among other features (Figure 3). That is to say, besides the initial pernicious sense, there is an objective interest in its strategic dimension that must be analyzed. The fact that this phenomenon is widespread in both official and informal media represents an important challenge for journalism, the importance of developing it fully, and the professional rigor associated with this (García-Serrano et al., 2019; Romero-Rodríguez & Rivera-Rogel, 2019; Romero-Rodríguez et al., 2021). This is significant for the sustainability of the media, its reputation, and the commitment of these proposals with the rights to inform and be informed (Marino-Jiménez et al., 2023).

Likewise, it concludes with 11 properties established as trends of the study of clickbait, hoping to contribute a way to approach it in future research that will deepen the four initial approaches, and explain the use of the term.

CONCLUSION

Although this is not the first research that brings together the existing knowledge about the concept and trends in studies on clickbait, its results establish the main countries of origin and the trends in the last years. Additionally, the main topics developed, the theories reviewed, as well as 11 properties that can establish a path for the approach and future research are added. In consequence, this work constitutes a current and comprehensive formulation for determining trends, characteristics and needs for more information on clickbait.

The use of the PRISMA method promotes the establishment of statements regarding the management of topics of great interest and controversy. Therefore, the coincidences established in the trends on the value, use, and strategies against clickbait are of value for different readers in education, research, and media management. Therefore, the usefulness of this article is transferable to several productive and knowledge areas.

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REFERENCES

- Agrawal, A. (2016). Clickbait detection using deep learning. *In Proceedings of the 2nd International Conference on Next Generation Computing Technologies*. <https://doi.org/10.1109/NGCT.2016.7877426>
- Ahmad, I., Alqarni, M. A., Ali Almazroi, A., & Tariq, A. (2020). Experimental evaluation of clickbait detection using machine learning models. *Intelligent Automation & Soft Computing*, 26(6), 1335–1344. <https://doi.org/10.32604/iasc.2020.013861>
- Aleixandre-Benavent, R., Castelló-Cogollos, L., & Valderrama-Zurián, J. (2020). Información y comunicación durante los primeros meses de COVID-19. Infodemia, desinformación y papel de los profesionales de la información [Information and communication during the first months of COVID-19. Infodemic, disinformation and the role of information professionals]. *Profesional de la Información*, 29(4). <https://doi.org/10.3145/epi.2020.jul.08>
- Alves, L., Antunes, N., Agrici, O., Sousa, C., & Ramos, C. (2016). Click bait: You won't believe what happens next! *Fronteras: Journal of Social, Technological and Environmental Science*, 5(2), 196–213. <https://doi.org/10.21664/2238-8869.2016v5i2.p196-213>
- Apresjan, V., & Orlov, A. (2022). Pragmatic mechanisms of manipulation in Russian online media: How clickbait works (or does not). *Journal of Pragmatics*, 195, 91–108. <https://doi.org/10.1016/j.pragma.2022.02.003>
- Bauman, Z. (2013). *Liquid modernity*. John Wiley & Sons.
- Bazaco, A., Redondo, M., & Sánchez-García, P. (2019). El clickbait, como estrategia del periodismo viral: Concepto y metodología [Clickbait, as a strategy of viral journalism: Concept and methodology]. *Revista Latina de Comunicación Social*, 74, 94–115. <https://doi.org/10.4185/RLCS-2019-1323>
- Berryman, R., & Kavka, M. (2018). Crying on YouTube: Vlogs, self-exposure and the productivity of negative affect. *Convergence*, 24(1), 85–98. <https://doi.org/10.1177/1354856517736981>
- Biyani, P., Tsioutsouliklis, K., & Blackmer, J. (2016). *8 amazing secrets for getting more clicks: Detecting clickbaits in news streams using article informality* [Paper presentation]. The 30th AAAI Conference on Artificial Intelligence. <https://doi.org/10.1609/aaai.v30i1.9966>

- Blom, J. N., & Hansen, K. (2015). Click bait: Forward-reference as lure in online news headlines. *Journal of Pragmatics*, 76(76), 87–100. <https://doi.org/10.1016/j.pragma.2014.11.010>
- Bourgonje, P., Moreno Schneider, J., & Rehm, G. (2017). From clickbait to fake news detection: An approach based on detecting the stance of headlines to articles. In *Proceedings of the 2017 EMNLP Workshop: Natural Language Processing Meets Journalism* (pp. 84–89). Association for Computational Linguistics. <https://doi.org/10.18653/v1/W17-4215>
- Brogly, C., & Rubin, V. L. (2018). Detecting clickbait: Here's how to do it. *Canadian Journal of Information and Library Science*, 42(3), 154–175. <https://muse.jhu.edu/article/743050>
- Bronakowski, M., Al-khassaweneh, M., & Al Bataineh, A. (2023). Automatic detection of clickbait headlines using semantic analysis and machine learning techniques. *Applied Sciences*, 13(4), Article 2456. <https://doi.org/10.3390/app13042456>
- Carcioppolo, N., Lun, D., & McFarlane, S. J. (2022). Exaggerated and questioning clickbait headlines and their influence on media learning. *Journal of Media Psychology: Theories, Methods, and Applications*, 34(1), 30–41. <https://doi.org/10.1027/1864-1105/a000298>
- Castells, M. (1996). *The information age: Economy, society and culture. Vol. I, The rise of the network society*. Blackwell.
- Chakraborty, A., Sarkar, R., Mrigen, A., & Ganguly, N. (2017). Tabloids in the era of social media? Understanding the production and consumption of clickbaits in Twitter. *Proceeding of the ACM Human-Computer Interaction*, 1(CSCW), Article 30. <https://doi.org/10.1145/3134665>
- Chaparro-Domínguez, M.-Á., Segado-Boj, F., & González-Aguilar, J.-M. (2022). Análisis de las estrategias promocionales en Facebook de los diarios tradicionales y nativos digitales [Analysis of promotional strategies on Facebook of traditional and digital native newspapers]. *Comunicação Mídia E Consumo*, 19(56), 476–498. <https://doi.org/10.18568/cmcc.v19i56.2610>
- Chen, Y., Conroy, N., & Rubin, V. (2015). Misleading online content: Recognizing clickbait as “false news”. In *Proceedings of the 2015 ACM on Workshop on Multimodal Deception Detection* (pp. 15–19). Association for Computing Machinery. <https://doi.org/10.1145/2823465.2823467>
- Chua, A. Y. K., Pal, A., & Banerjee, S. (2021). “This will blow your mind”: Examining the urge to click clickbaits. *Aslib Journal of Information Management*, 73(2), 288–303. <https://doi.org/10.1108/AJIM-07-2020-0214>
- Daoud, D. M., & Abou El-Seoud, S. (2019). An effective approach for clickbait detection based on supervised machine learning technique. *International Journal of Online and Biomedical Engineering*, 15(3), 21–32. <https://doi.org/10.3991/ijoe.v15i03.9843>
- Diez-Gracia, A., & Sánchez-García, P. (2022). The news gap in the “triple digital agenda”: The different interests of media, audience and networks. *Communication & Society*, 35(1), 63–80. <https://doi.org/10.15581/003.35.1.63-80>
- Dimpas, P., & Sabellano, M. (2017). Filipino and English clickbait detection using a long short term memory recurrent neural network. In *Proceedings of the International Conference on Asian Language Processing*. <https://doi.org/10.1109/IALP.2017.8300597>
- Dolgova, N., & Orekhova, Y. (2022). Specifics of appealing headlines in Russian mass media materials dedicated to science. *Jurnal Komunikasi: Malaysian Journal of Communication Jilid*, 38(4), 79–96. <https://doi.org/10.17576/JKMJC-2022-3804-05>
- Duarte, J., & Baptista, J. S. (2024). Digital twin applications in the extractive industry—A short review. In J. Kacprzyk (Ed.), *Studies in systems, decision and control* (pp. 771–781). Springer. https://doi.org/10.1007/978-3-031-38277-2_61
- Flórez-Vivar, J. M., & Zaharía, A. M. (2022). La praxis del “clickbait” y de the trust project: Riesgos y retos en los diarios digitales Españoles [The practice of clickbait and the trust project: Risks and challenges in Spanish digital newspapers]. *Anàlisi: Quaderns de Comunicació i Cultura*, (Extra 0), 5–23. <https://doi.org/10.5565/rev/analisi.3463>
- García Orosa, B., Gallur Santorun, S., & López García, X. (2017). El uso del clickbait en cibermedios de los 28 países de la Unión Europea [The use of clickbait in the digital media of the 28 countries of the European Union]. *Revista Latina de Comunicación Social*, 72(72), 1261–1277. <https://doi.org/10.4185/RLCS-2017-1218>

- García-Serrano, J. G., Romero-Rodríguez, L. M., & Gómez, Á. H. (2019). Análisis del “clickbaiting” en los titulares de la prensa Española contemporánea/Estudio de caso: Diario “El País” en Facebook [Analysis of “clickbaiting” in the headlines of contemporary Spanish press/Case study: “El País” newspaper on Facebook]. *Estudios sobre el Mensaje Periodístico*, 25(1), 197–212. <https://doi.org/10.5209/esmp.63724>
- Ghanem, B., Rosso, P., & Rangel, F. (2020). An emotional analysis of false information in social media and news articles. *ACM Transactions on Internet Technology*, 20(2), Article 19. <https://doi.org/10.1145/3381750>
- Hamel, R. (2013). The role of plurilingual models in research, scientific communication and higher education. *Synergies Europe*, 8(8), 53–66.
- Hausken, K. (2020). Game theoretic analysis of ideologically biased clickbait or fake news and real news. *Operations Research and Decisions, Wroclaw University of Science and Technology, Faculty of Management*, 30(2), 39–57. <https://doi.org/10.37190/ord200203>
- Jamiu, M., Iyanda, L., Mustapha, L., & Trofimova, G. (2022). Headlines and misinformation in the Nigerian newspapers: Evidence of from herder-farmer crisis and ENDSARS protests. *World of Media. Journal of Russian Media and Journalism Studies*, 3(3), 46–68. <https://doi.org/10.30547/worldofmedia.3.2022.2>
- Jenkins, H. (2006). *Convergence culture: Where old and new media collide*. New Your University Press.
- Jung, A., Stieglitz S., Kissmer, T., Mirbabaie, M., & Kroll, T. (2022) Click me...! The influence of clickbait on user engagement in social media and the role of digital nudging. *PLoS ONE*, 17(6), Article e0266743. <https://doi.org/10.1371/journal.pone.0266743>
- Kanižaj, I., Beck, B., Lechpammer, S., & Weidlich, I. (2022). Disappointed and dissatisfied the impact of clickbait headlines on public perceptions of credibility of media in Croatia. *Media Literacy and Academic Research*, 5(2), 82–94. https://www.mlar.sk/wp-content/uploads/2022/12/5_lgor-Kaniz%E2%95%A0iaj-Boris-Beck_Stela-Lechpammer_lgor-Weidlich-.pdf
- Kaur, S., Kumar, P., & Kumaraguru, P. (2020). Detecting clickbaits using two-phase hybrid CNN-LSTM biterm model. *Expert Systems with Applications*, 151, Article 113350. <https://doi.org/10.1016/j.eswa.2020.113350>
- Kazimianec, J. (2020). Once again on the question of the headlines of the ‘new media’ as an object of pragmatics and media ecology. *Slavistica Vilnensis*, 65(1), 117–130. [https://doi.org/10.15388/SlavViln.2020.65\(1\).40](https://doi.org/10.15388/SlavViln.2020.65(1).40)
- Küçükvardar, M. (2023). Tık odaklı habercilik çerçevesinde ekonomi haberlerinin incelenmesi [Analyzing economic news within the framework of click-oriented journalism]. *Türkiye İletişim Araştırmaları Dergisi*, (42), 145–168. <https://doi.org/10.17829/turcom.1194831>
- Kuiken, J., Schuth, A., Spitters, M., & Marx, M. (2017). Effective headlines of newspaper articles in a digital environment. *Digital Journalism*, 5(10), 1300–1314. <https://doi.org/10.1080/21670811.2017.1279978>
- Kwak, K. T., Hong, S. C., & Lee, S. W. (2018). An analysis of a repetitive news display phenomenon in the digital news ecosystem. *Sustainability*, 10(12), Article 4736. <https://doi.org/10.3390/su10124736>
- Lazar, L., & Pop, M. I. (2021). Impact of celebrity endorsement and breaking news effect on the attention of consumers. *Studia Universitatis “Vasile Goldis” Arad–Economics Series*, 31(3), 60–74. <https://doi.org/10.2478/sues-2021-0014>
- Lim, S. (2020). Academic library guides for tackling fake news: A content analysis. *The Journal of Academic Librarianship*, 46(5), Article 102195. <https://doi.org/10.1016/j.acalib.2020.102195>
- Lischka, J. A., & Garz, M. (2023). Clickbait news and algorithmic curation: A game theory framework of the relation between journalism, users, and platforms. *New Media & Society*, 25(8), 2073–2094. <https://doi.org/10.1177/14614448211027174>
- Liu, M. T., Xue, J., & Liu, Y. (2021). The mechanism leads to successful clickbait promotion in WeChat social media platforms. *Asia Pacific Journal of Marketing and Logistics*, 33(9), 1952–1973. <https://doi.org/10.1108/APJML-08-2020-0562>
- Liu, T. (2022). Clickbait detection on WeChat: A deep model integrating semantic and syntactic information. *Knowledge-Based Systems*, 245, Article 108605. <https://doi.org/10.1016/j.knosys.2022.108605>
- Loewenstein, G. (1994). The psychology of curiosity: A review and reinterpretation. *Psychological Bulletin*, 116(1), 75–98. <https://doi.org/10.1037/0033-2909.116.1.75>
- Lu, Y., & Shen, C. (2023). Unpacking multimodal fact-checking: Features and engagement of fact-checking videos on Chinese TikTok (Douyin). *Social Media + Society*, 9(1). <https://doi.org/10.1177/20563051221150406>

- Maleki, N., Padmanabhan, B., & Dutta, K. (2023). The effect of monetary incentives on health care social media content: Study based on topic modeling and sentiment analysis. *Journal of Medical Internet Research*, 25, Article e44307. <https://doi.org/10.2196/44307>
- Maphosa, M., Doorsamy, W., & Paul, B. S. (2022). Factors influencing students' choice of and success in STEM: A bibliometric analysis and topic modeling approach. *IEEE Transactions on Education*, 65(4), 657–669. <https://doi.org/10.1109/te.2022.3160935>
- Marino-Jiménez, M., Flores-Núñez, A., Rojas-Noa, F., & Vásquez-Espinoza, P. (2023). Independent journalism for hybrid democracies: A systemic vision in three Latin American countries. *Journalism Practice*. <https://doi.org/10.1080/17512786.2023.2279341>
- Masip, P., Díaz-Noci, J., Domingo, D., Micó-Sanz, J., & Salaverría, R. (2010). Investigación internacional sobre ciberperiodismo: Hipertexto, interactividad, multimedia y convergencia [International research on cyberjournalism: Hypertext, interactivity, multimedia and convergence]. *El Profesional de la Información*, 19(6), 568–576. <https://doi.org/10.3145/epi.2010.nov.02>
- Mitchelstein, E., & Boczkowski, P. (2009). Between tradition and change: A review of recent research on online news production. *Journalism*, 10(5), 562–586. <https://doi.org/10.1177/1464884909106533>
- Molyneux, L., & Coddington, M. (2020). Aggregation, clickbait and their effect on perceptions of journalistic credibility and quality. *Journalism Practice*, 14(4), 429–446. <https://doi.org/10.1080/17512786.2019.1628658>
- Mourão, R., & Robertson, C. (2019). Fake news as discursive integration: An analysis of sites that publish false, misleading, hyperpartisan and sensational information. *Journalism Studies*, 20(14), 2077–2095. <https://doi.org/10.1080/1461670X.2019.1566871>
- Mukherjee, P., Dutta, S., & De Bruyn, A. (2022). Did clickbait crack the code on virality? *Journal of the Academy of Marketing Science*, 50, 482–502. <https://doi.org/10.1007/s11747-021-00830-x>
- Muslikhin, M., & Mulyana, D. (2021). The practice of McJournalism in Indonesia's cyber media. *Jurnal Komunikasi: Malaysian Journal of Communication*, 37(2), 1–18. <https://doi.org/10.17576/JKMJC-2021-3702-01>
- Naeem, B., Khan, A., Beg, M. O., & Mujtaba, H. (2020). A deep learning framework for clickbait detection on social area network using natural language cues. *Journal of Computational Social Sciences*, 3(3), 231–243. <https://doi.org/10.1007/s42001-020-00063-y>
- Palau-Sampio, D. (2016). Reference press metamorphosis in the digital context: Clickbait and tabloid strategies in Elpais.com. *Communication & Society*, 29(2), 63–79. <https://doi.org/10.15581/003.29.35924>
- Palau-Sampio, D., & Carratalá, A. (2022). Injecting disinformation into public space: Pseudo-media and reality-altering narratives. *Profesional de la Información*, 31(3). <https://doi.org/10.3145/epi.2022.may.12>
- Pengnate, S. (2019). Shocking secret you won't believe! Emotional arousal in clickbait headlines: An eye-tracking análisis. *Online Information Review*, 43(7), 1136–1150. <https://doi.org/10.1108/OIR-05-2018-0172>
- Potthast, M., Gollub, T., Komlossy, K., Schuster, S., Wiegmann, M., Garces, E., Hagen, M., & Benno, S. (2018). Crowdsourcing a large corpus of clickbait on twitter. In *Proceedings of the 27th International Conference on Computational Linguistics*. Association for Computational Linguistics. <https://aclanthology.org/C18-1127.pdf>
- PRISMA. (2024). *Welcome to the preferred reporting items for systematic reviews and meta-analyses (PRISMA) website!* <http://www.prisma-statement.org/?AspxAutoDetectCookieSupport=1>
- Prokofeva, N., & Akulovich, I. (2021). The language means of comicality in clickbait headings. *Vestnik Volgogradskogo Gosudarstvennogo Universiteta*, 20(3), 151–165. <https://doi.org/10.15688/jvolsu2.2021.3.13>
- Pujahari, A., & Sisodia, D. S. (2021). Clickbait detection using multiple categorisation techniques. *Journal of Information Science*, 47(1), 118–128. <https://doi.org/10.1177/0165551519871822>
- Putri, D., & Pratomo, D. (2022). Clickbait detection of Indonesian news headlines using fine-tune bidirectional encoder representations from transformers (BERT). *Inform: Jurnal Ilmiah Bidang Teknologi Informasi dan Komunikasi*, 7(2), 162–168. <https://doi.org/10.25139/inform.v7i2.4686>
- Rastogi, S., & Bansal, D. (2023). A review on fake news detection 3T's: Typology, time of detection, taxonomies. *International Journal of Information Security*, 22, 177–212. <https://doi.org/10.1007/s10207-022-00625-3>

- Razaque, A., Alotaibi, B., Alotaibi, M., Amsaad, F., Manasov, A., Hariri, S., Yergaliyeva, B., & Alotaibi, A. (2022). Blockchain-enabled deep recurrent neural network model for clickbait detection. *IEEE Access*, *10*, 3144–3163. <https://doi.org/10.1109/ACCESS.2021.3137078>
- Rochlin, N. (2017). Fake news: Belief in post-truth. *Library Hi Tech*, *35*(3), 386–392. <https://doi.org/10.1108/LHT-03-2017-0062>
- Romero-Rodríguez, L. M., & Rivera-Rogel, D. (2019). Desinformación y posverdad en los medios digitales: Del astroturfing al click-baiting [Disinformation and post-truth in digital media: From astroturfing to click-baiting]. In L. M. Romero-Rodríguez, & D. Rivera-Rogel (Eds.), *La comunicación en el ecosistema digital. Actualidad, retos y perspectivas* (pp. 383–407). Pearson. <https://www.romero-rodriguez.com/download/2208/>
- Romero-Rodríguez, L. M., Tejedor, S., & Castillo-Abdul, B. (2021). From the immediacy of the cybermedia to the need for slow journalism: Experiences from Ibero-America. *Journalism Practice*, *16*(8), 1578–1596. <https://doi.org/10.1080/17512786.2020.1870530>
- Salaverría, R. (2019). Digital journalism: 25 years of research. Review article. *El Profesional de la Información*, *28*(1). <https://doi.org/10.3145/epi.2019.ene.01>
- Sandrini, L., & Somogyi, R. (2023). Generative AI and deceptive news consumption. *Economics Letters*, *232*, Article 111317. <https://doi.org/10.1016/j.econlet.2023.111317>
- Saquete, E., Tomás, D., Moreda, P., Martínez-Barco, P., & Palomar, M. (2019). Fighting post-truth using natural language processing: A review and open challenges. *Expert Systems with Applications*, *141*, Article 112943. <https://doi.org/10.1016/j.eswa.2019.112943>
- Sarkis-Onofre, R., Catalá-López, F., Aromataris, E., & Lockwood, C. (2021). How to properly use the PRISMA statement. *Systematic Reviews*, *10*, Article 117. <https://doi.org/10.1186/s13643-021-01671-z>
- Scott, K. (2021). You won't believe what's in this paper! Clickbait, relevance and the curiosity gap. *Journal of Pragmatics*, *175*, 53–66. <https://doi.org/10.1016/j.pragma.2020.12.023>
- Shang, L., Zhang, D., Wang, M., Lai, S., & Wang, D. (2019). Towards reliable online clickbait video detection: A content-agnostic approach. *Knowledge-Based Systems*, *182*, Article 104851. <https://doi.org/10.1016/j.knosys.2019.07.022>
- Skärlund, S. (2022). Ordagrann återgivning eller klickbete? Om citatteckenanvändning i tidningsrubriker [Verbatim rendering or clickbait? On the use of quotation marks in newspaper headlines]. *Språk och Stil*, *32*(32), 137–170. <https://doi.org/10.33063/diva-492999>
- Sladkevich, Z. (2019). Headlines in internet media services: Between informing and clickbaiting. *Medialingüística*, *6*(3), 353–368. <https://doi.org/10.21638/spbu22.2019.306>
- Steensen, S., & Ahva, L. (2017). Theories of journalism in a digital age. *Journalism Practice*, *9*(1), 1–18. <https://doi.org/10.1080/17512786.2014.928454>
- Thorne, S. (2022). #Emotional: Exploitation & burnout in creator culture. *CLCWeb: Comparative Literature and Culture*, *24*(4). <https://doi.org/10.7771/1481-4374.4088>
- Tian, J., Li, T., Zhao, J., Li, D., Sun, J., Li, Z., & Shi, R. (2023). Efficacy of different courses of acupuncture for diarrhea irritable bowel syndrome: A protocol for systematic review and meta-analysis. *PLoS ONE*, *18*(12), Article e0295077. <https://doi.org/10.1371/journal.pone.0295077>
- UNESCO. (2023). *Desinformación en línea: La UNESCO presenta su plan de acción para regular las redes sociales* [Online disinformation: UNESCO presents its action plan to regulate social media]. <https://es.statista.com/grafico/31618/encuestados-que-encuentran-todos-casi-todos-los-dias-informacion-noticias-falsas-o-que-tergiversan-la-realidad/>
- Universidad de Valladolid. (2022). *Web of Science y Scopus, las fuentes de los rankings universitarios* [Web of Science and Scopus, the sources of university rankings]. <https://rank.uva.es/2022/06/13/web-of-science-y-scopus-las-fuentes-de-los-rankings-universitarios/>
- Untari, L., Purnomo, L. A., Purnama, L. S., & Giyoto, G. (2023). Clickbait and translation: Proposing a typology of online news headline transcreation strategies. *Studies in English Language and Education*, *10*(3), 1452–1466. <https://doi.org/10.24815/siele.v10i3.29141>
- Wei, F., & Nguyen, U. T. (2022). An attention-based neural network using human semantic knowledge and its application to clickbait detection. *IEEE Open Journal of the Computer Society*, *3*, 217–232. <https://doi.org/10.1109/OJCS.2022.3213791>

- Wilson, D., & Sperber, D. (2004). La teoría de la relevancia [The theory of relevance]. *Revista de Investigación Lingüística*, 7, 233–283. <https://revistas.um.es/ril/article/view/6691/6491>
- Zannettou, S., Sirivianos, M., Blackburn, J., & Kourtellis, N. (2019). The web of false information: Rumors, fake news, hoaxes, clickbait, and various other shenanigans. *Journal of Data and Information Quality*, 11(3), 1–37. <https://doi.org/10.1145/3309699>
- Zheng, H. T., Chen, J. Y., Yao, X., Sangaiah, A. K., Jiang, Y., & Zhao, C. Z. (2018). Clickbait convolutional neural network. *Symmetry*, 10(5), Article 138. <https://doi.org/10.3390/sym10050138>
- Zheng, J., Xu, K., & Wu, X. (2021). A deep model based on lure and similarity for adaptive clickbait detection. *Knowledge-Based Systems*, 214, Article 106714. <https://doi.org/10.1016/j.knosys.2020.106714>
- Zhou, M., Xu, W., Zhang, W., & Jiang, Q. (2022). Leverage knowledge graph and GCN for fine-grained-level clickbait detection. *World Wide Web*, 25, 1243–1258. <https://doi.org/10.1007/s11280-022-01032-3>
- Zhou, X., Jain, A., Phoha, V., & Zafarani, R. (2020). Fake news early detection: A theory-driven model. *Digital Threats*, 1(2), Article 12. <https://doi.org/10.1145/3377478>
- Zuhroh, N., & Rakhmawati, N. (2019). Clickbait detection: A literature review of the methods used. *Register Jurnal Ilmiah Teknologi Sistem Informasi*, 6(1), 1–10. <https://doi.org/10.26594/register.v6i1.1561>

