

Typical Usability Problems in Romanian Online Newspapers

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The fast changes in media technology fostered a shift from print to online newspapers, challenging digital journalism to address new issues such as usability and user experience. Because of the rapid expansion of online news websites, usability has not been a concern. Few studies exist that address the usability of online newspaper websites. The objective of this work is to analyze the usability of Romanian online newspapers. The task-based evaluation approach focused on typical tasks, aiming to identify typical usability problems. The evaluation results showed a messy organization of the webpage, disorganized placement of advertising, poor user guidance, prevalence of pages requiring intense scrolling, and increased cognitive load for the user. Online newspapers are designed with commercial interests in mind, and the use of advertising often neglects even the focus on delivering good quality news, not to mention a good reader experience. Usability is not a priority in Romanian online newspapers.

Keywords: Online newspapers, Usability, Task-based evaluation, Usability heuristics, Typical Usability problems

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1 Introduction

The rapid changes in media technology fostered the shift from print to online newspapers. Publishing online versions of traditional newspapers is not as straightforward as it may look. Digital journalism is a new profession that requires, apart from specific journalism expertise, a reorientation in how it connects with its readers [1], [2], [3], [4] and, last but not least, the addressing of new issues such as usability and user experience.

The expansion of online newspapers has been driven by the desire to increase the benefits brought by advertising. The screen space of online newspapers is a critical resource for both publishers and advertisers, especially on the front page. Several authors have shown that this pursuit of commercial gain poses a potential threat to usability [5], [6], [7].

Several advertising techniques are used today in news websites, among which many authors distinguish between display ads and native ads. While display ads are placed in a clearly separated area, such as a banner or side column, native ads are interwoven with the editorial content.

Advertisers prefer native ads, leading to a convergence between editorial and commercial content, thus getting higher-rate clicks. On the

other hand, native ads are more deceptive to readers, which may undermine website trustworthiness [8].

Existing literature shows that relatively few papers analyze the usability of online newspapers, and only one analyzes the usability of Romanian online news websites [9]. This research aims to fill this gap by examining the usability of Romanian online newspapers' websites using a sample of 12 central online newspapers.

The main objective of this work is to identify typical usability problems that are frequently encountered. The following section presents related work regarding the usability of online newspapers. Next, the methodology is outlined, followed by the evaluation results and discussion.

2 Related work

While the literature on the usability of online newspapers is scarce, several studies on native advertising exist that discuss the way native advertising is perceived by the readers. However, this is rarely a research focus.

Airbarg and Schwartz [8] analyzed the relationship between clicks, brand recognition, and website trustworthiness in the context of

native advertising. They noticed that advertisers look for more clicks for brand recognition, while publishers look for controlling clicks to maintain website trustworthiness. Their results show that native ads disclosure may lead to better brand recognition without a significant loss in click-through rates. They conclude that respecting the requirements of the Federal Trade Commission (FTC) in the U.S. to clearly disclose native ads to avoid confusing consumers may be the best trade-off.

The study of Howe and Teufel [10] investigated the relationship between advertising format and credibility judgments on news websites. Contrary to the findings of other studies, their results show that there was no significant influence of advertising format on website credibility perception. Another finding was the difference in perception of credibility between older and younger participants. Older participants' judgment of the website was not influenced by the advertising format. Another study, carried out by Windels and Porter [11], investigated the speed and effectiveness of recognizing native ads and banner ads on a news website. They highlighted the ongoing tensions between news and advertising that put journalists under commercial pressure. The results of the study show that banner ads gained more visual attention and were more frequently recognized, although native ads were more quickly noticed by readers. They also found that native ads are deceiving readers.

Recently, the study of Ferrer-Conill et al. [12] investigated the visual boundaries in journalism in the context of native advertising that merges editorial and commercial content. They found that this content convergence led to a negotiation in which, as the authors said, "native ads use coinciding objects to camouflage ads as much as possible and disclose objects only to a minimal extent" (pp.82). They mentioned as coinciding objects, the lead paragraph, font size and colour, background colour, images, and pull quotes, and as disclosure objects, the advertiser name, logo, banners, labels, and borders.

Early approaches to usability evaluation of online newspapers focused on interactivity aspects, finding information on the website, page length, and navigation.

The study of Diericks and Linden [1] analyzed the fact-checking technologies and activities from a user needs perspective. The results highlighted several limitations of the tools and the need for a manual overview.

Keney et al. [13] employed communication models to explain how online newspapers are different from print newspapers, highlighting the fact that the receiver is an active participant who seeks and selects information rather than receiving it. They also noted that users have a complexity of choices, including the choice of language and the choice of finding information (links, search engines).

The study of De Waal et al. [14] highlighted several differences between print and online newspapers, finding that while the former provide a display function, targeting people with an interest in a given topic, the latter serve more as a research function.

An early study on finding information in an online newspaper compared scrolling with hyperlinks and found that scrolling on deeper hyperlink levels takes more time and should be avoided [15].

Another early usability study [16] employed heuristic evaluation by replacing heuristics with 18 guidelines grouped into three categories: graphics, general layout, and navigation. The method has been used to comparatively analyze five electronic newspapers in order to detect potential usability problems.

Although advertising brings money to the website, it is not beloved by users. Rohrer & Boyd [6] and Nielsen [17] analyzed online advertising techniques and noticed that few developers pay attention to how users perceive the advertising. Although advertising is a "design constraint", both studies mentioned as bad advertising techniques the lack of a close button, blinking, and pop-ups, as well as ads that occupy large areas on the screen, or float across the screen, covering what the user wants to see. In a similar vein, Lu et al. [5] recommended avoiding horizontal scrolling, giving less space for ads, and placing the search button prominently.

Several studies reported on the usability evaluation of online newspapers by using various methods and criteria.

Chung [2] employed factor analysis to identify interactive features on online newspapers using a sample of 452 observations. She identified four interactive features: medium (more control and choice options), medium-human (customize news on their linking), human-medium (personal opinions), and human (interpersonal communication). She found that only the first two features are most used, so providers may not implement all four interactive features. De Mayer and Holton [3] analyzed the relationship between links and the metajournalistic discourse by highlighting the good and the bad of hypertext links and discussing the tensions between guidance and autonomy and between concision and depth. One bad thing they mentioned was the potential to distract users by seeing the link itself, which is a cognitive load, apart from losing concentration by leaving the webpage.

The study of Zwinger et al. [18] examined the use of infographics in online newspapers and found that readers perceive them as creative, provided that they are not complicated or confusing.

Based on eye-tracking analysis, the usability studies of Nebeling et al. [19] and Jeong & Jung Han [20] examined screen area usage in online newspapers, identifying several bad practices of wasting space on the front page.

Gibbs and Bernas [21] show that on a new page, attention focuses on the upper part of the page, which gives navigation cues and helps orientation. Also, since text link groupings direct the visual attention, they should be placed consistently across the website.

The study of Katsanos et al. [22] investigated website navigability by focusing on the link scent. They analyzed the influence of the information scent quality on the distribution of attention, confidence in their choice, effectiveness, and efficiency. Their results show that webpages with high-scent links lead to a better success rate on the first click, faster selection, and less distraction.

Zhou et al. [23] analyzed the affordances and sense-making for print newspaper readers. They identified several shortcomings of online media compared to print newspapers, such as difficulty perceiving an article as a

whole (where information begins and ends), retrievability, and issues of truthworthiness.

In a study analyzing the usability of Malaysian online newspapers, Abdullah and Wei [24] used four usability criteria: user interface design, content & organization, navigation, and performance & effectiveness. A user-based approach was used with a sample of 80 participants who rated each journal. Then the answers were mapped onto a five-point scale (bad, poor, moderate, good, and excellent). Overall, the study reported good usability.

Based on a factor analysis, Jiang et al. [25] found three key factors influencing the user experience: usability, visual presentation, navigation, and readability.

The adoption model proposed by Arany & Schaik for news websites [26] includes three components of user experience: pragmatic, emotional, and hedonic. They found that both pragmatic and hedonic qualities predict user experience outcomes such as satisfaction and intention to use.

3 Method

3.1 Usability evaluation

As a software product attribute, usability has been defined as the capability to be understood, learned, used, and liked by users when used under specified conditions [27].

From the perspective of quality in use, it has been defined as the degree to which specified users accomplish their goals with effectiveness, efficacy, and satisfaction in a specified context of use [28].

Usability evaluation methods aim to find and explain the difficulties a user has (or might have) in performing a task with a computer system. Several methods for usability evaluation exist, which are grouped into two broad categories: empirical methods and inspection methods, or, more simply, methods with or without users [29].

Inspection methods use design knowledge, such as ergonomic criteria, usability heuristics, and usability guidelines. Usability heuristics are widely recognized principles for evaluating usability [30], [31].

The severity of usability problems depends on the impact, persistence, and frequency [30].

Several severity scales exist, ranging from cosmetic usability problems to catastrophic [32]. In this study, severity is assessed on a three-point scale (major, moderate, and minor).

Usability heuristics incorporate valuable design knowledge that is useful to both designers and evaluators. No matter the method used (e.g., user testing or inspection), the heuristics are a useful aid for explaining and documenting usability problems.

3.2 Evaluation approach

In this study, an inspection method was used that tests the user interface in a task-based approach, then analyzes and explains typical usability problems using a small set of usability heuristics, which are grouped according to four general ergonomic criteria [33]:

- User guidance refers to prompting, feedback, clear information architecture, and grouping/distinction.
- User effort refers to consistency, workload (information density, legibility, and less demands on the working memory), and minimal actions.
- User control and freedom refer to flexibility, explicit user actions, and control.
- User support refers to compatibility with the user, task guidance, error management, and help.

Typical tasks for online news websites include browsing the journal, searching for information, reading an article, submitting personal opinions and comments, and contacting a newspaper editor.

Typical usability problems in online newspapers are sets of problems, usually violating more than one usability heuristic, that occur when performing these typical tasks.

3.3 Procedure

The online news websites were evaluated in a task-based approach. For each website, three tasks have been tested:

- Browsing the website.
- Searching for a name (public person, sportsman, journalist, etc.).
- Reading an article.

The first step was to collect typical usability

problems for each task and website. Then, the resulting lists for each website were merged, retaining only unique typical problems, their severity, and the number of occurrences. The last step involved examining all lists to retain unique typical usability problems, which were explained using the aforementioned usability heuristics.

3.4 Sample

The sample includes 12 online newspapers in Bucharest. The newspapers were included based on the SCIMedia rankings website at <https://www.scimagomedia.com/rankings.php/> and on some national rankings.

Table 1. Online newspaper websites

1	Adevarul	https://adevarul.ro/
2	HotNews	https://hotnews.ro/
3	Gazeta Sporturilor	https://www.gsp.ro/
4	Jurnalul National	https://jurnalul.ro/
5	Gandul	https://www.gandul.ro/
6	Libertatea	https://www.libertatea.ro/
7	Romania Libera	https://romanalibera.ro/
8	Click	https://click.ro/
9	Evenimentul Zilei	https://evz.ro/
10	Ziarul Financiar	https://zf.ro/
11	Cotidianul	https://www.cotidianul.ro/
12	Curierul National	https://curierulnational.ro/

Most of them provide general news (Adevarul, Jurnalul National, Romania Libera, Gandul, Libertatea, Evenimentul Zilei, Curierul National, Ziare.com, Cotidianul). The other three newspapers are oriented to sports (Gazeta Sporturilor), social life (Click), and business & finance (Ziarul financiar). The evaluation was conducted in November-December 2025.

4 Evaluation results

The evaluation started with the front page, by examining the menus, navigation, page

length, contact info, advertising techniques, and space usage. Then the search facility was tested. Three articles were read: the first one from the front page, the second from a section, and the third from the search results page.

4.1 Summary

Usability problems were classified as major (not possible to accomplish the task goal or a lot of time wasted), moderate (difficult to accomplish the task goal or time wasted), and minor.

A summary is presented in Table 2, which shows the number of typical usability problems for each website. The websites are ranked by the number of major, moderate, and minor typical usability problems.

Table 2. Summary by occurrence of typical usability problems

	Newspaper	major	moderate	minor
1	Cotidianul	0	2	0
2	Curierul Na-tional	0	2	1
3	HotNews	0	3	2
4	Click	0	3	3
5	Jurnalul Na-tional	1	4	1
6	Gazeta Spor-turilor	0	4	5
7	Gandul	0	5	2
8	Libertatea	0	5	3
9	Romania Libera	1	5	3
10	Evenimentul Zilei	0	6	1
11	Ziarul Finan-ciar	0	7	2
12	Adevarul	1	7	2
	Total	3	53	25

Note that websites in Table 1 are ranked by reputation following the SCIMedia rankings in winter 2025. The Spearman correlation coefficient ($r_s = -0.26573, p$ (2-tailed) = 0.40383) shows no significant correlation between usability and reputation. This suggests that websites with a good reputation and a large audience are less interested in website usability.

Overall, from the total of 81 usability problems encountered in all websites, one major, 16 moderate, and 7 minor typical usability problems have been identified. Next, the typical usability problems are explained, organized by severity and frequency. In parentheses is the number of websites having that problem.

The occurrence of usability problems counts the number of newspaper websites where they have been found, not the number of occurrences on a given website, which is much higher. In this respect, typical usability problems are typical since they occur frequently on multiple pages of a newspaper website, as well as on the web pages of other newspapers. A summary of occurrences of typical usability problems (number of websites with each usability problem) by ergonomic criteria is presented in Table 3.

Table 3. Summary by ergonomic criteria

Principle	major	moderate	minor
Guidance	0	8	1
Effort	0	40	22
Control & freedom	0	4	0
Support	3	1	2
Total	3	53	25

Most of the moderate and minor typical usability problems (62) violate the principle of user effort, especially the cognitive load and minimal actions heuristics.

4.2 Major and moderate typical usability problems

No e-mail address as contact info (3)

This is a major usability problem for an online newspaper, violating the principle of user support. Users are expecting at least an email address to contact the journal. Ideally, each editor should provide one. From the point of view of interactivity, it shows a persistence of the transmission model of print newspapers.

Text broken by many ads (9)

This usability problem makes it difficult for the user to concentrate on reading an article, thus increasing cognitive workload. The user wants to see the text at a glance and smoothly

pass from one idea to another. Apart from distracting the user, it also wastes time with extra clicks, thus violating the principle of minimal actions.

One-page add after a link (8)

Another frequent usability problem is the display of a one-page ad after a link. This is disturbing, irritating, and wastes time. The user has to close the ad to reach the link target, which violates the principle of minimal actions.

Heading disappears on scroll (6)

When the heading is no longer visible, the selectable options are not shown to the user, which violates the user guidance principle. Also, the user needs to scroll to see the menu below the heading, which is against the principle of minimal actions.

Big banner below heading (4)

Displaying a big ad banner (1/3 of the screen) below the heading is irritating, wastes space, and leaves less room for the news. It makes reading slower and requires a scroll to see more news or article titles, which is against the principle of minimal actions.

Search button without text box (4)

On several websites, the search text box is displayed after pressing the button, requiring an extra click, against the principle of minimal actions. In some cases, this is done on another web page, wasting both space and time.

Animated ad (4)

The advertising itself is not beloved by users who want to see news and read articles. A bad advertising technique frequently encountered in online newspapers is the animated ad, which is even more distracting, making the reading slower.

Big heading (3)

Some newspapers feature big headings (1/3 screen), making the text more difficult to read and reducing information density. This violates both the principle of cognitive workload and the principle of minimal actions by reducing the available space for news.

Big banner on top (2)

Displaying large ad banners (1/3 of the screen) above the heading takes some extra time, is irritating, and wastes space, leaving less room for the news. In turn, this requires a

scroll to see more news or article titles, which is against the principle of minimal actions. It is also against user guidance, the top left area being the first place where attention is focused.

Pop-up ad at bottom (2)

Some newspapers display a pop-up ad at the bottom of the page. This is irritating and wastes time, since it requires an extra click to close it, against the principle of minimal actions. It is also boring, since it is usually the same ad displayed again.

Big ad below the header on the search results page (2)

Some newspapers display a pop-up ad at the bottom of the page. This is irritating and wastes time, since it requires more scrolling to see the results, against the principle of minimal actions.

Search results displayed inefficiently (2)

Some newspapers waste a lot of space on search results by displaying either a big image or useless information. This is irritating and wastes time, requiring more scrolling to see the results, against the principle of minimal actions.

Big font size, difficult to read (2)

Font size is a text attribute influencing legibility and reading speed. Using a big font size reduces the readability, which is against the user effort principle, and is also a waste of space.

Difficult to find search button (2)

The search button is an important feature on all websites that should be prominent and placed in a familiar place, usually the top right area. Hiding the search button in a menu or placing it at the bottom of the home page is against user guidance principles.

Display mode changed after link (2)

Some newspapers feature two display modes: day and night, which can be changed with a button. However, the display mode is changed after a link, which violates the principle of explicit user actions.

Link directs to other journal (2)

It is a common practice to include links to news or articles from other newspapers, but this should be clearly marked. Otherwise, the user will feel lost and not understand why this

happened. This violates the principle of explicit user actions.

Difficult to find contact info (1)

Minimal contact information that any newspaper should provide includes postal address, name of the chief editor, and at least an email address. It is usually placed either at the bottom of the front page, but it should also be reachable via search or a drop-down menu. Otherwise, it requires extra navigation, testing all possible links, which increases user effort.

4.3 Minor typical usability problems

Next, the minor typical usability problems are explained.

Too big photos (8)

Using too big photos is a bad practice on many websites. The difficulties this practice creates are related to reducing the user's concentration when reading an article, and overall making reading more time-consuming, against the cognitive load principle.

Inconsistent text format (6)

In some cases, the text format changes in an article by frequently using bold and italic typefaces with little or no justification. This makes reading slower and more difficult, against the principle of cognitive load.

Long web page (5)

Several newspapers feature a very long page, which requires extensive scrolling, thus violating the principle of minimal actions. In this sample, the front page lengths vary between 8 and 40 screen areas, with an average of 24.8 (SD=13.4). On five websites, the page length is over 30.

No info about the editorial team (2)

The lack of editorial team info makes it more difficult to contact the newspaper. User support should be more helpful by providing at least the names of associate editors, if not an email address.

Wasted space (2)

This refers to the inefficient use of space. Although all newspapers are wasting space in various ways, in some cases, there are large areas that are not used. This requires extra scrolling for the used space; therefore, more user effort is required.

Unfamiliar placement of the search button (1)

In one case, the search button is placed on the top left area, which is unfamiliar to users who are not frequent readers.

Background ads (1)

Not only do some ads occupy a large area of the screen, but in some cases, these become the display background. This is increasing the cognitive load and may slow down reading.

4.3 Discussion

The main contribution of this work is the identification of a set of typical usability problems that frequently occur on Romanian online newspaper websites.

A task-based evaluation focused on typical usability problems is a powerful evaluation method since it shows when (user task), where (user interface element), and why (difficulty experienced by users).

Evaluation revealed numerous usability problems related to poor user guidance, including a messy webpage organization, lengthy pages, inconsistent column layout and section placement, menus that disappear upon scrolling, and disorganized advertising placement. Most violated usability principles are related to the user effort, respectively, to cognitive load and minimal actions.

A typical usability problem is poor article readability featuring much advertising, breaking text continuity, and spreading of content, which leads to distracting the user, overloading working memory, and requiring extra user actions. The results are in line with previous research, which showed that aggressive advertising techniques harm the reading experience [3], [18], [34]

There are several usability problems related to unnecessary clicks, poor space usage (columns leaving unused space, too big photos). Poor front page organization, inefficient use of space, and the prevalence of web pages requiring intense scrolling lead to poor user guidance and increased cognitive load, a shortcoming that has also been mentioned by many authors [21], [23].

News websites are designed with commercial interests in mind, ignoring what the user wants to do, and the advertising often neglects the

fact that the main goal of newspapers is to deliver news, not to mention a good reader experience. Most of the intrusive advertising techniques mentioned in [7], [17], [19] are intensively used in Romanian newspapers.

The findings of the study have implications for both developers and evaluators. Developers should take these typical usability problems as synthetic design knowledge that points to bad design practices. Evaluators should keep in mind that usability focuses on users and tasks, and the main task is to read news effectively, as quickly as possible, and without irritation.

This study has some limitations, the first being the relatively small sample size, which includes only 12 central online newspapers. Another limitation is the evaluator's subjectivity, inherent in inspection methods.

5 Conclusion

Design heuristics are not only useful for evaluators, but also for designers as design principles based on ergonomic criteria that should be followed to deliver a usable user interface. Romanian online news websites suffer from typical usability issues, having a negative impact on the reader experience. These problems are amplified by commercial priorities that favor advertising and neglecting user-centred design.

State-of-the-art on newspaper advertising format shows that native ads, despite their negative impact on user experience, tend to become a *de facto* standard for publishers. This is contrary to the user design approach that should support the most important task, which is reading the news.

Paying attention to usability and the reader experience is important since the situation may change in the future. Suffocated by so many ads that interrupt reading, consumers may shift their attention to newspapers that do not sacrifice the website's trustworthiness for more advertising revenue. It seems that finding a good balance between the news and the advertising technique is now a critical problem for publishers.

References

- [1] L. Dierickx and C. Lindén, C., "Journalism and FactChecking Technologies: Understanding User Needs", *communication +1*, 10(1), 2003. doi:10.7275/cpo.1879.
- [2] D. Chung, "Interactive Features of Online Newspapers: Identifying Patterns and Predicting Use of Engaged Readers", *Journal of Computer-Mediated Communication*, 13, 2008, pp. 658–679. doi:10.1111/j.1083-6101.2008.00414.x
- [3] J. de Maeyer and A.E. Holton, "Why linking matters: A metajournalistic discourse analysis", *Journalism*, 17(6), 2016, pp. 776–794, doi:10.1177/1464884915579330
- [4] E. Mitchelstein, I. Siles, and P. Coczkovsky, "Online Newspapers", in: R. Mansel and P.A. Ang (eds.), *The International Encyclopedia of Digital Communication and Society*, John Wiley and Sons, 2015, pp. 1-8. doi: 10.1002/9781118290743.wbiedcs073
- [5] Y. Lu, X. Wang, and Y. Ma, "Comparing user experience in a news website across three devices: iPhone, iPad, and desktop", in: *Proc. of the American Society for Information Science and Technology*, 50(1), 2013, 1-4, doi:10.1002/meet..14505001141
- [6] C. Rohrer, and J. Boyd, "The rise of intrusive online advertising and the response of user experience research at Yahoo!", in: *Proc. of CHI '04 Extended Abstracts on Human Factors in Computing Systems*, 2004, pp. 1085-1086, doi:10.1145/985921.985992
- [7] A. Ungureanu, L. Belaşcu, A. Horobeţ, and M.C. Ionuţ, "Programmatic Advertising and Online Publishers: The Case of Libertatea. Ro", *Studies in Business and Economics*, 18(3), 2023, pp. 306-321, doi:10.2478/sbe-2023-0060
- [8] A. Aribarg and Eric M. Schwartz. "Native advertising in online news: Trade-offs among clicks, brand recognition, and website trustworthiness." *Journal of Marketing Research*, 57(1), 2020, pp. 20-34. doi:10.1177/0022243719879711
- [9] M. Padure and C. Pribeanu, "Usability and

- accessibility of Romanian online news websites”, in *Proc. of ICUSI 2025 Conference*, Iasi, 18-19 September, pp. 27-32, doi: 10.37789/icusi.2025.5
- [10] P. Howe and B. Teufel, "Native advertising and digital natives: The effects of age and advertisement format on news website credibility judgments", *ISOJ Journal*, 4(1), 2014, pp.78-90.
- [11] K. Windels & L. Porter, "Examining Consumers' Recognition of Native and Banner Advertising on News Website Home Pages", *Journal of Interactive Advertising*, 2019, pp. 1-16, doi: 10.1080/15252019.2019.1688737
- [12] R. Ferrer-Conill, E. Knudsen, C. Lauerer, and A. Barnoy. "The visual boundaries of journalism: Native advertising and the convergence of editorial and commercial content", in *Sponsored Editorial Content in Digital Journalism*, Routledge, 2023, pp. 65-87.
- [13] K. Kenney, A. Gorelik, and S. Mwangi, "Interactive features of online newspapers", *FirstMonday*, 5(1), 2000, pp. 1-15.
- [14] E. de Waal, K. Schönbach, and E. Lauf, "Online newspapers: A substitute or complement for print newspapers and other information channels", *Communications*, 30(1), 2005, pp. 55-72.
- [15] H. van Oostendorp and C. van Nimwegen, "Locating information in an online newspaper", *Journal of Computer-Mediated Communication*, 4(1), 1998, JCMC411. doi:10.1111/j.1083-6101.1998.tb00089.
- [16] C. Mariage and J. Vanderdonckt, "A comparative usability study of electronic newspapers", in *Tools for Working with Guidelines: Annual Meeting of the Special Interest Group*, London: Springer London, 2001, pp. 325-337.
- [17] J. Nielsen, "The most hated advertising techniques", NN/G, 2004, available at: <https://www.nngroup.com/articles/most-hated-advertising-techniques/>, NN/g.
- [18] S. Zwinger, J. Langer, and M. Zeiller, "Acceptance and usability of interactive infographics in online newspapers", in: *Proceedings of 21st International Conference on Information Visualisation*, 2017, IEEE, pp. 176-181. doi:10.1109/iV.2017.65
- [19] M. Nebeling, F. Matulic, and M. Norrie, "Metrics for the evaluation of news site content layout in large-screen contexts", in: *Proc. of the SIGCHI conference on human factors in computing systems*, 2011, pp. 1511-1520. doi:10.1145/1978942.197916
- [20] W. Jeong and H. Jung Han, "Usability study on newspaper mobile websites", *OCLC Systems and Services: International digital library perspectives*, 28(4), 2012, pp. 180-198. doi:10.1108/10650751211279120
- [21] W.J. Gibbs and R.S. Bernas, "Visual attention in newspaper versus TV-oriented news websites", *Journal of Usability Studies*, 4(4), 2009, pp. 147-165.
- [22] C. Katsanos, N. Tselios, and N. Avouris, "Evaluating website navigability: validation of a tool-based approach through two eye-tracking user studies", *New Review of Hypermedia and Multimedia*, 16(1-2), 2010, pp. 195-214. doi: 10.1080/13614561003605179
- [23] S. Zhou, D. Kiesow, and L. Guo, "The values of print: Affordances and sense-making for newspaper consumers", *Journalism Practice*, 17(2), 2023, pp. 336-353. doi:10.1080/17512786.2021.1910984
- [24] R. Abdullah and K. T. Wei, "Usability measurement of Malaysian online news websites", *International Journal of Computer Science and Network Security*, 8(5), 2008, pp. 159-165.
- [25] Q. Jiang, L. Deng, J. Zhang, and Y. Pengbo, "User-Centered Design Strategies for Age-Friendly Mobile News Apps", *SAGE Open*, 14(4), 2024, doi:10.1177/21582440241285393
- [26] G. Aranyi and P. Van Schaik, "Testing a model of user experience with news websites", *Journal of the Association for Information Science and Technology*, 2016, 67(7), pp. 1555-1575, doi:10.1002/asi.23462

- [27] ISO 9126-1. Software Engineering - Software product quality. *Part 1: Quality Model*, 2001.
- [28] ISO/IEC CD 25010, Software engineering - Software product Quality Requirements and Evaluation (SQuaRE) - *Quality model and guide*, 2009.
- [29] D. Lavery, G. Cockton, and M. Atkinson, "Comparison of evaluation methods using structured usability problem reports", *Behaviour and Information Technology*, 16:4-5, 1997, pp. 246-266, doi: 10.1080/014492997119824
- [30] J. Nielsen, "Heuristic evaluation", in J. Nielsen and R. L. Mack (eds.), *Usability inspection methods*, John Wiley and Sons, New York, 1994, pp. 25–62.
- [31] G. Cockton, D. Lavery, and M. Woolrych, A. "Inspection-based evaluation", in: Jacko, J.A., Sears, A. (Eds.), *The Human-Computer Interaction Handbook*, LEA, 2003, pp. 273-292.
- [32] M. Hertzum, "Problem Prioritization in Usability Evaluation: From Severity Assessments Toward Impact on Design", *International Journal of Human-Computer Interaction*, 21:2, 2006, pp. 125-146, doi:10.1207/s15327590ijhc2102_2
- [33] C. Pribeanu, "A revised set of usability heuristics for the evaluation of interactive systems", *Informatica Economica* 21(3), 2017, pp. 31-38. doi: 10.12948/issn14531305/21.3.2017.03
- [34] M.A. Amazeen, "Native advertising in digital news contexts: Perpetuating the twenty-first-century infodemic", in *The Routledge companion to advertising and promotional culture*, Routledge, 2023, pp. 248-260.



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