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Talk to the News: Designing a Human-Like AI Chatbot for Verified Information

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ABSTRACT

Background: There are challenges in journalism today, including misinformation, low-level news literacy, and declining interest in traditional news formats. To respond to the challenges, this article reports an applied study project about Arya, an AI-driven chatbot designed to convey factual information through conversational and interactive storytelling. **Purpose:** This research explores the feasibility, user acceptance, and indications of Arya's communicative potential in supporting a personalized, engaging, and verifiable news consumption experience. **Methods:** The project employed an approach so-called Design Science Research (DRS) and Retrieval-Augmented Generation (RAG) to ensure the use of theories of anthropomorphism, parasocial interaction, and artificial communication in enhancing engagement and trust through adaptive human-like traits. **Results:** It is found that Arya may facilitate more personalized and engaging news experiences. Users respond positively to a conversational approach that blends storytelling and Q&A. However, some limitations were found in terms of scope, adaptability, and naturalness. **Conclusion:** Chatbot designs for conveying factual information need to incorporate anthropomorphism to enhance users' trust and comfort during interactions. It is not only about technical efforts but also the need to design communication methods that feel human and consistent. Nevertheless, accuracy and transparency are priorities, especially for journalists. **Implications:** Combining rule-based logic, LLMs, and RAG can be a strategy for more verifiable communication. Furthermore, the application of anthropomorphism and parasocial interaction principles could strengthen engagement, but it should be balanced with flexibility, knowledge, and dialogue quality to make the system more natural and resilient.

Keywords: anthropomorphism; conversational AI; design science research; human-AI communication; RAG architecture

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INTRODUCTION

The distribution of information has increasingly faced various and complex issues in the recent digital age, such as extensive multiplication of misinformation (Pérez Tornero et al., 2021), low media and news literacy level (Johnson et al., 2021), and declining interest in traditional news formats (Alzubi, 2023). These issues promote multipurpose communication platforms that spotlight clear interactions and reciprocal trust. Particularly, these concerns apply with younger media audiences, who have developing preference for conversational and dynamic engagement over conventional platforms (Deti & Matondang, 2024; Mulyani et al., 2025; van der Nat et al., 2023). Therefore, this transition places communication scholars and practitioners in various chances, as well as critical points to develop a suitable design of media technologies that provide verified information while maintaining users' engagement in versatile and meaningful experiences (Hafied et al., 2025). To meet these objections, this study involves the project by introducing Arya. Arya is an AI–driven chatbot designed to bridge the gap between factual and contextual reporting and users' personalized engagement through conversational storytelling and interactive 'questions and answers' (Q&A).

Technically, Arya is built as a hybrid system that integrates rule-based logic with generative AI capabilities through the Retrieval-Augmented Generation (RAG) architecture. RAG works by mandating the system to extract factual, verified data from a predefined knowledge base before formulating responses via Large Language Models (LLMs) (Ayala & Bechard, 2024; Do et al., 2024; Shahade & Deshmukh, 2024). This system serves as a precaution to eradicate AI 'hallucinations', guaranteeing that every interaction is presented in accordance with curated external information sources (Ayala & Bechard, 2024; Do et al., 2024; Gupta et al., 2024). Unlike Q&A systems limited by model memory and training data cut-off, the RAG architecture enables the retrieval of external, curated information. Some experiments found that RAG-based information retrieval architecture is better than vanilla LLM models (Huang et al., 2025; Muludi et al., 2024). As an example, the F1(harmonic mean of Precision and Recall) score for vanilla LLM in Sun et al.'s research is 5.45% while F1 for their RAG system is 42.21% (Sun et al., 2024). This makes RAG-based systems more reliable for news distribution applications.

Beyond its technical infrastructure, Arya's design is intensely established in the human-AI interaction theoretical framework (Bozdag, 2023; Fortunati & Edwards, 2020). Picturing upon the theory of anthropomorphism, Arya is facilitated with human-like characteristics. This includes a human name, several communication modes, as well as socio-emotional cues. These features are intended to build trust, engagement, and perceived social presence during interaction. Previous studies have demonstrated that users probably show positive responses to AI platforms attached with related personalities and behavioral traits (Maeda & Quan-Haase, 2024; Nass & Moon, 2000; Qiu & Benbasat, 2009).

Referring to this, Arya's design anticipates the emergence of parasocial relationships. Users can develop one-sided yet emotionally engaging connections with digital platforms. Although parasocial theory originally described relationships with media personas, recent work has applied it to AI interactions. As users project emotional complexity onto chatbots, their trust and willingness to adopt the technology are significantly altered (Brandtzaeg et al., 2022; Maeda & Quan-Haase, 2024; Wienrich et al., 2023).

To analyze this interactional setting, this study is based on the perspective of Artificial Communication (AC), which develops from Luhmann's systems theory, to examine how communication continues when humans interact through AI-based platforms (Esposito, 2022). In Luhman's framework, the social system consists of communication, while human consciousness or psychic system and technical artifacts, which are not parts of the system,

remain in the environment of that system (Baraldi et al., 2021, p. 235). AI platforms, including Arya, do not function as understanding interlocutors within the social system. They operate as technical media that shape the conditions of communicative selections by producing outputs through structured procedures (Baraldi et al., 2021; Esposito, 2022). This perspective enables researchers to study how meaning is built through ongoing communication, even when interactions involve non-conscious technical artefacts that shape and influence the flow of conversation (Esposito, 2022).

Viewing the above circumstance, this study figures more previous research that has been exploring the AI chatbot potential as interactive narrators across diverse fields, such as engaging children (Beredo & Ong, 2021) and those to support mental health through expressive (Park et al., 2021). Regrettably, their application in journalism and the dissemination of data-based information has gained relatively limited attention. Contextually, this study connects the gap by incorporating technological advancements, communication theories, and user-centered evaluation of conversational performance. Specifically, the evaluations examine whether Arya's responses are relevant to users' questions and whether the chatbot produces natural-sounding language that enhances anthropomorphic impressions during interaction.

Through the integration of retrieval-based accuracy via RAG, applying the anthropomorphism's emotional design, and using the AC of the systemic theory, this study offers a functional working prototype and a conceptual foundation for exploring AI that reshapes the ability to convey and interpret information, hence the project could be safely experienced by its users in society.

RESEARCH METHOD

This study investigates alternative channels for distributing and disseminating information in the digital society, specifically, among young audiences who are increasingly disengaging from traditional media and moving to more interactive media platforms. It employed the Design Science Research (DSR) method, also known as constructive research (Dresch et al., 2015). This approach corresponds with the pragmatic or problem-solving research paradigm (De Sordi, 2021).

DSR highlights the focus on creating artifacts that respond to real-world problems while contributing tested scientific knowledge. They can be concepts, models, methods, prototype systems, or design propositions (De Sordi, 2021; Dresch et al., 2015). Practically, DSR bridges research and application by generating alternative solutions. It is able to be assessed directly in the context in which it is intended to operate. Ultimately, it results in an artifact, concept, or solution that effectively addresses the problem investigated (Dresch et al., 2015).

The use of DSR in this study is based on the perspective that communication science is not only a descriptive and interpretative paradigm but also an applied and design-oriented discipline. This new perspective could solve a particular problem through the development of scientific guidelines for actions (Arrojo, 2015). DSR provides a systematic and methodical framework for designing, generating, and evaluating artifacts, especially those produced to bridge particular communication requirements, as it happens with the Arya chatbot. Moreover, this approach enables the study to come up with theoretical feedback and tested and applicable practical contributions. At the same time, this approach introduces methodological innovation within the field of communications (De Sordi, 2021; Dresch et al., 2015).

DSR methodology complies with a structured process, assisting researchers in identifying the real-world challenges and therefore conveying an effective solution. Besides the slightly varying processes, the methodology generally encompasses six important aspects. The first one

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is the aspect of problem identification and motivation. This is an aspect to factually identify the relevant problems faced by practitioners without ignoring the available solutions. This aspect further clarifies those affected and the importance of the problems.

The second one is the aspect of defining the objectives for a solution, where we can evidently state the result aimed by operating the new artifact. This involves specifying its future improvement or its difference from available solutions. The third aspect is the process of defining and developing by constructing the artifact, referring to the defined requirements and objectives. This aspect is commonly iterative, involving repeated assessment and refinement, and often resulting in potential users' feedback, which in this study is obtained from questionnaires and interviews involving university students and media professionals. The fourth aspect is demonstration, which is done by presenting the use of the developed artifact to address the observed problems. This stage functions to describe the functionality and potential of the developed artifact. The next one is evaluation. This stage is to test the artifact's effectiveness and usefulness in real-world settings. Ideally, it involves actual users within their everyday environment. Therefore, the researcher could ensure the practical relevance. The last aspect is communication, where the researchers can share the study findings and the artifact development. This stage usually employs two audience groups: the academic community via scientific publication and practitioners via applicable guides, tools, or practical resources.

The above stages commonly remain repetitive in iterative cycles, particularly the aspect of design, demonstration, and evaluation. It happens to continually enhance the artifact's operation to reach an accepted level of performance and usability. In the case of Arya, the stages of development and evaluation have been conducted. Nevertheless, this project remains in progress due to Arya's current limitation to reach its maximum performance.

The Arya project was initiated through the identification of communication obstacles and initiation to solve them. Developed as an AI-based chat application, Arya was set to address the two requirements and was grounded in best practices and theories about human-AI interaction. Its design integrated innovative concepts, including the RAG, conversational design principles, and strategies. Arya was also generated to be more relatable through anthropomorphic personality traits and prompt engineering. After the prototype was completed, it went to be evaluated and reviewed by the first evaluation group, whose feedback would be applied to further refine its functionality enhancements.

The first assessment was taken from semi structured interviews with media professionals from some outstanding media institutions in Surabaya, including *Jawa Pos*, *Ngopibareng.id*, *Beritajatim.com*, and *Suara Surabaya Radio*. The second assessment was conducted throuh post-use surveys, involving journalism students from Universitas Padjadjaran (Unpad). The latest assessment, including post-use surveys, involved journalism students from Universitas Multimedia Nusantara (UMN) and a faculty member from the Faculty of Social and Political Sciences Universitas Gadjah Mada (UGM). These three universities were chosen because they are among educational institutions that have specific studies in journalism and digital communication. These assessments resulted feedback followed and implemented into design modifications.

At the time of presentation and early-stage testing, all invited participants were requested to provide consent for their involvement in the phases, as well as their personal information submission. Following that, they started to test Arya for its functional purposes and continued with the completion of post-trial surveys to assess their experience in using the chatbot. Among the participants, some users repeated the test due to their records of previous interactions.

RESULTS AND DISCUSSION

The initial stage of Arys's development

The Arya chatbot was developed by applying an iterative approach underlying the principles of Design Science Research (DSR). It aimed to produce an artifact in the form of an AI-driven chatbot with its capability to convey factual information within a flexible and personalized setting. The personification of Arya is presented in Figure 1.

At the first stage of development, the chatbot's initial version was constructed according to literature and foundational theories associated with AI chatbot development and the chatbot's conversational design. It strongly relies on an essential aspect of the initial literature study, emphasizing the significance of integrating personality cues into the chatbot, including name assignment, communication styles, and a self-introduction mechanism, as well as the introduction of functions and services. Theoretically, these aspects should improve users' perceptions about authenticity, engagement, and trust in the application (Kuhail et al., 2022). Defining clear roles and starting conversation with self introduction and explaining it functions also plays a key role in shaping user expectation and their sense of comfort during interaction. Furthermore, well-designed conversational gestures could successfully deliver the bot's personality traits, even during short-terms exchanges (Heppner et al., 2024).

Arya's interaction design considers anthropomorphic elements, such as human speech styles to foster sturdier social connection (Yu & Lan, 2024). Those principles agree with several other literatures which suggest that embedding personality traits into AI agents is a

Figure 1. The figure personification of Arya the Storyteller created by Adi Wibowo and generated by Leonardo.ai

Source: Research subject, 2025

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vital component in developing AI-based communication systems that are not only functional but also socially acceptable (Sutcliffe, 2023).

This project mainly focuses on the development of Arya as an AI-based chatbot. It was designed to assist its users to understand factual stories by conversationally narrating actual events and answer user related questions. Arya was provided with the research team's curated knowledges to ensure accuracy and relevance of its responses. The conversation flow design can be seen in Figure 2.

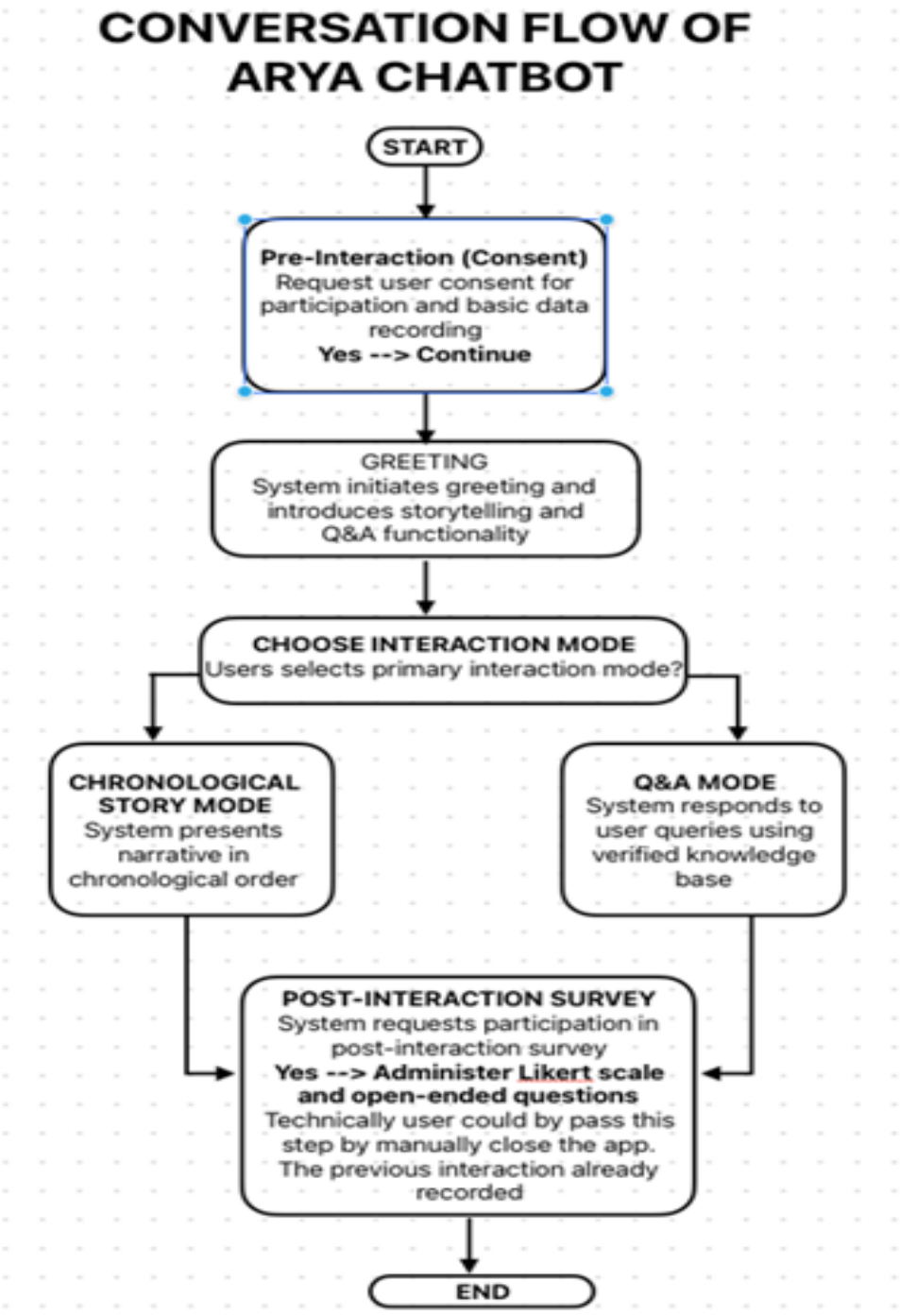

Figure 2. T The flowchart of how the logic of Arya's conversation was developed
Source: Research subject, 2025

Figure 3. This is how Arya initiates the conversation by introducing its credentials
Source: Research subject, 2025

Arya's program is equipped with a distinguished personality and complies with a defined interaction structure. As presented in Figure 3, when the interaction process starts, Arya warmly greets users, introduces itself, describes its functions, and asks them how to assist. At the same time, it attempts to verify whether they have previously interacted with it by requesting their previously signed email addresses and matching them in the system. When they are found, Arya greets the users by name, providing a sense of closeness and social relations. However, if no email addresses are found, Arya records them as a new entry in the system.

Arya combines rule-based conversation design with Large language Models (LLMs) Natural Language Understanding (NLU) capabilities. In this project, returning users could continue with their previous interaction history or ask a new question. Whereas fist-time users generally receive rule-based conversation scheme that explains an overview of available story and services.

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LLMs implementation on Arya

The chatbot's architecture integrates multiple LLMs, including *Claude-3-Haiku-20240307* and *Claude-3-5-Sonnet-20241022*, which is accessed via API and *GPT-4o-mini* incorporated in the *Voiceflow* platform. The platform offers a low-code environment to support chatbot development, allowing conversational agents to be efficiently managed without extensive programming.

LLMs in Arya are primarily allocated to meet the standards of *Natural Language Understanding* (NLU) and narrative generation, which includes: 1) intent recognition - identifying user intent and guiding the dialogue accordingly; 2) input transformation - transforming users' feedback into more effective prompts; 3) RAG integration - linking queries to a RAG system to retrieve confirmable knowledge base; and 4) output rephrasing - formulating obtained content into clear and understandable responses, applying a predetermined conversational style, including a non-formal conversational style with a maximum of three sentences that representing the interests of Gen Z audiences. By integrating the Anthropomorphism principle, LLMs, and RAG, Arya is developed to convey accurate, context-aware, and engaging

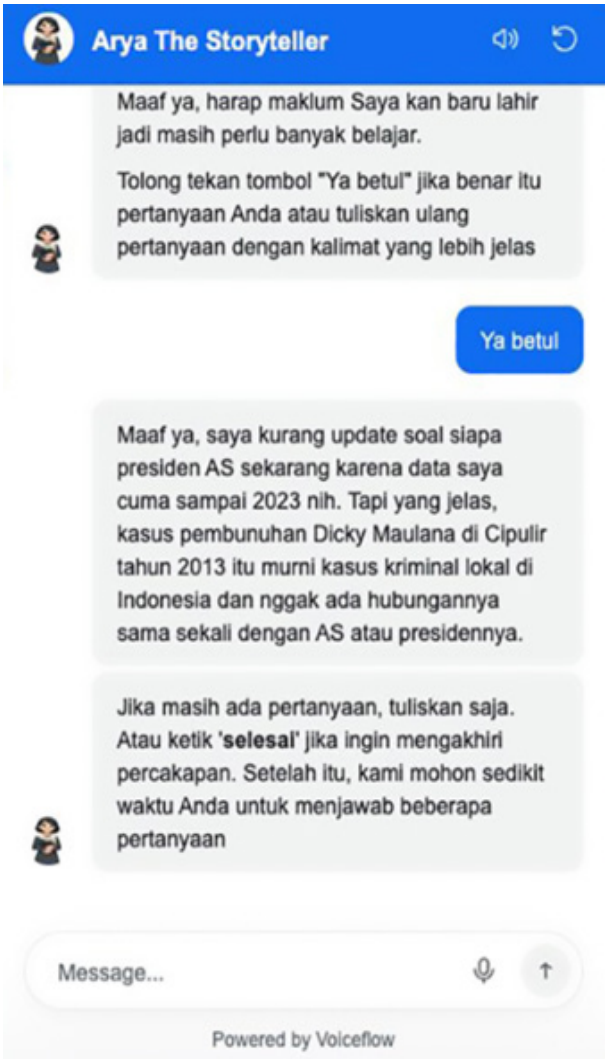

Figure 4. Arya equipped only with Cipulir murder case data. Arya politely refused to answer an irrelevant question using a casual tone

Source: Research subject, 2025

interactions. However, the effectiveness should be continually verified by systematically assessing its usage and performance.

Arya was tested within a scenario as an accompanying conversation agent for a news story. Arya provide an alternative for users who don't have privilege to read long news article. During the test, Arya was fed with a verified knowledge base, comprising verifiable reports and data associated with the 2013 street musician murder case in Cipulir, Jakarta. The information was initially gathered by students of *Universitas Multimedia Nusantara* (UMN) for a book project in 2014 and employed with the contributor's consent.

Arya was deliberately designed to generate responses merely based on its predefined knowledge base. The system was restricted from generating responses based on the pre-trained LLM's data or accessing information through external web sources. The response can be seen in Figure 4.

Through three iterations of demonstration and assessments, Arya presented several important capabilities. The first one, Arya demonstrates the capability to accurately identify the general intent behind user inputs and queries. Secondly, Arya can direct the conversation according to the designed conversational flow. Next, Arya can maintain consistency within conversational tone across follow-up queries. Lastly, Arya is capable in recalling earlier parts of the conversation and integrating them into ongoing interactions. However, Arya shows limitations when attempting to handle user queries that extend beyond the scope of its predefined knowledge base.

Testing Arya by experts from the media

Arya underwent a multi-stage evaluation involving seven expert evaluators from the media profession, representing four prominent media outlets in Surabaya, alongside 159 beta evaluators from university students and the general public. Also, there are two alpha testers from the research team. In total, the testing phase logged 225 user interactions from 168 unique users, suggesting that several participants engaged in multiple interactions with Arya.

The first development iteration was conducted following Arya's assessment by expert evaluators in Surabaya. The second phase was concluded after trials involving students at Universitas Padjadjaran, while the third phase was conducted after assessments with students at Universitas Multimedia Nusantara and a limited segment of the public. Participation from the limited public was facilitated through invitations distributed in the Journocoders WhatsApp Groups. Student participation was organized by distributing access links during class sessions, whereas expert evaluations were conducted through in-person interactions.

The post-testing survey that accompanied the assessment was designed to capture users' perceptions and experiences during interacting with Arya. It contained 19 items, combining both Likert's scale (1-5) and open-ended questions. Several items included follow-up inquiries, allowing deeper exploration of related themes. There were 166 external users who interacted with the Arya chatbot. However, only 64 completed the survey.

Forty seven percent (47%) of the 64 respondents indicated previous experience using similar chatbot, while 53% claimed no similar experience. Usage frequency appeared relatively consistent across both groups. Average scores of 2.83 gained from users with previous experience and 2.85 among those without it.

Evaluation concerning Arya's performance shows, 67% of respondents gave ratings of 4-5 for Arya's ability to help users in understanding the story. Seventy seven (77%) assigned similar ratings of 4-5 for Arya's consistency in providing relevant responses. Similar ratings also appeared from 56% of respondents to evaluate the delivery of comprehensive information.

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Moreover, 58% of the users rated 4-5 for willingness to recommend Arya to others. Meanwhile, there were varied scores for Arya's naturalness. 13 respondents rated it 2, 20 respondents scored it 3, and 21 respondents assigned a score of 4.

In general, users' reception about Arya's functions reflects a positive assessment. It reveals a clear distinction between perceiver usefulness and the quality of specific responses. The system gained a strong mean score, 3.81 for facilitating users' news comprehension effectively. This positive assessment was strengthened by the overall interaction experience, which received mean score 3.98 and median score 4.0. This is one of the highest evaluations, reflecting the fact that users generally found the interaction process engaging and satisfactory.

On the contrary, affective and qualitative assessments revealed greater variability. The attitudinal perceptions toward Arya were polarized, as reflected by a high standard deviation (1.15) around a moderate mean (3.58). These numbers suggest some users had positive experience regarding its connection with the system, yet some others perceived a sense that the interaction style is lacking human-like quality.

The most significant finding in the quantitative survey was directly concerned with naturalness of the response quality. The survey recorded the lowest score of mean (3.06) and media (3.0). The substantial variation in responses (with standard deviation 1.08) indicates inconsistency in how users saw Arya's replies, where some regarded them natural, while others perceived the experience as rigid or non-contextual.

Outside the above limitations, the general outcome remained positive. The high score and the willingness to recommend Arya to others suggest that deficiencies in the naturalness do not significantly weaken users' confidence in Arya's future potential or its interaction design.

Qualitative Findings: A Triangulated Analysis of Users' Perception

A profound qualitative analysis was conducted on the users' open-ended responses to gain more understanding about users' experiences. The textual corpus, lessening from 12 distinct open-ended questions, was structurally pre-processed. It was then analyzed using a mixed-methods approach, incorporating computational text analysis with inductive thematic coding.

A significant tension in user sentiments was disclosed after a frequency-based computational analysis of the 60 most common terms, excluding standard stopwords. In addition to the name "Arya" (mentioned 116 times), the polarity of term dominated the analysis. The frequent of positive evaluative language, such as "*baik*" or good (mentioned 102 times), "lebih" or more (mentioned 80 times), "*jelas*" or clear (mentioned 25 times), and "*memahami*" (understand, mentioned 22 times), could be interpreted as evidence indicating a positive evaluation baseline on Arya's responses.

However, this pattern revealed a strong contrast through the frequent use of "*tidak*" or no/not (mentioned 154 times) and exceeded all positive evaluations. In addition to that, the prevalence of "*pertanyaan*" or question (mentioned 84 times) was commonly associated with users' complaints that referred to inquiries or instructions in "Arya's" conversational flow.

The word frequency data reflects a mixed style of user perceptions; despite many of those valuing the experience as "good", the popularity of "not" points to an inconsistency in many users' experiences. Through the following open coding process, five essential themes were revealed assisting in clarifying this central tension. First, perceived naturalness and fluency. Based on several users' evaluations, "Arya" demonstrates a high usefulness and a tendency of natural sounds in use, evidenced by repeat feedback, including remarks such as "like talking to a human", "responsive", "detailed", and "helpful for understanding". This theme indicates "Arya's" capability in a series of interaction, to present a significant level of naturalness.

Second, response rigidity and contextual failure. On the other hand, the most important criticism is given to "Arya's" lack of consistency, which appeared as a central factor that shaped perception of naturalness. Users often described responses as "*tidak nyambung*" or irrelevant, "lacked contextual understanding", "answer overly general", or "sometimes filed to address the main point". These responses imply that Arya lacked the consistency to perform well. This inconsistency aspect apparently leads to the moderate perception of naturalness.

Third, conversational flow and User Experience (UX). Further analysis showed important feedback on conversational UX, which suggested to perceived naturalness extended beyond language, to include the overall flow of interactions. This feedback shows a weaknesess on the conversational design, in which interaction appeared to be more mechanical rather than adaptive. Fourth, user expectations for enhanced naturalness. Users underlined the need for "*lebih luwes*" or a greater flexibility, "enhanced adaptiveness, "less formality in tone", and an improved ability to "recognize emotion" or "infer implicit meanings". These responses imply that users are seeking more values than accurate information processing. They expect a capability to interact and to engage with implicit meanings and emotional context. This findings are consistent with several research that shows the significant of anthropomorphism to strengthen perceived social presence during human-AI interaction (Maeda & Quan-Haase, 2024; Nass & Moon, 2000; Qiu & Benbasat, 2009).

The last theme is social presence and personification. Responses to the question "if Arya were a human..." showed some differences. Some users expressed supportive statement, others shared mild criticism. Several users described interaction with Arya, as "like chat with a friend". These responses suggest that users were at ease attributing human-like traits to Arya (reflecting an indicator of perceived social closeness), while still maintaining a distance due to experiences with unnatural interactions.

The triangulated examination shows some findings that draw a reasoned pattern. Overall satisfaction with the interaction is relatively high, even though perceptions of naturalness and contextual accuracy of Arya vary among the users. Positive comments underlining clarity and human-like interactions are in line with a high score of general experiences. Equally, critiques related to rigidity, overly general responses, and occasional misinterpretations are closely associated with lower mean scores for response quality.

Conclusively, the findings describe Arya as a conversational agent with clear potential, even though it remains underdeveloped. The system can produce human-like conversations in particular situations, though it shows inconsistency across varied conversational context. While users recognize Arya's potential and respond favorably to well-constructed interactions, some problems in contextual understanding have significantly eradicated perceptions of naturalness in conversations.

Whereas evaluators' qualitative feedback concerned several key factors for the chatbot's improvement. The first factor is to expand the knowledge base by integrating more detailed case information and contextual data to facilitate targeted users' inquiries better. The second factor is to strengthen source transparency by offering direct and easily accessible links for supporting key responses. The third one is to improve linguistic style by minimizing template-driven responses. This could be done by developing more flexible conversational modules, which could reduce the sense of mechanical interactions. The last factor is to extend features. Future iterations may integrate voice-based interactions and visual responses. This possibility needs to be considered to enhance the user experience.

These findings reveal the users' need for projected improvements in terms of contextual emphasis, as well as management of flexible patterns, and design of conversational flow to

promote a sustained natural conversation.

Media professionals' perspective: Opportunities, constraints, and design imperatives

Media professionals in Surabaya, including practitioners working for *Jawa Pos*, *Ngopibareng.id*, *beritajatim.com*, and *Suara Surabaya Radio*, generally appreciate the existence of AI chatbot as a promising tool for news dissemination with their ability to summarize news content, records audience interests, and support data collection for journalists. However, the adoption of this system requires thorough verification of chatbot-generated information, disclosure of sources, and the preservation of a natural conversational tone. Recognizing the efficiency and expanded audience reach enabled by AI technology demands the enforcement of ethical safeguards, rigorous data-integrity practices, and adjustments to available journalistic workflows.

There are key recommendations proposed by media practitioners for improving the Arya-chatbot, such as data transparency and credibility, links to verifiable news sources to develop trust and create deeper engagement, and clear statements about the sources of the information (particularly if produced internally). Another recommendation is that when facing data unavailability, transparent responses are required instead of remaining silent or providing vague answers. This is followed by further recommendations, such as allowing newsroom teams to update the system with new data to cover previously unanswered queries, and also considering users to share their feedback or corrections, such as an interactive comment section.

The practitioners also recommend two more suggestions. The first one is to provide natural interaction and personalization, which includes creating responses to be more conversational and less rigid or repetitive, exploring the option to personalize tone or style yet transparent about any editorial bias, slowing down response timing slightly or using typing animations to set the interaction more human, and avoiding standard expressions repetition, which often makes the chatbot seem mechanical.

The last recommendation by the practitioners is to expand capabilities and user experience. This could be done by improving the chatbot's ability to handle difficult or sensitive questions by openly informing its limitations, considering future incorporations of voice or visual elements despite the adaptation to local accents and media requirements, allowing users to start topics or questions instead of initiating a fixed story frequently, ensuring that the chatbot has a wide access to abroad and credible data set to facilitate users' interests, and evaluating the chatbot's ability or inability to support contexts or perspectives involving human editorial roles.

The Arya chatbot operates through a hybrid system that incorporates RAG, rule-based dialogues, and LLM components. Therefore, it can convey verified information conversationally. Users positively responded to its capacity to set a sense of social presence, deliver personalized greetings, and sustain coherence across multi-turn interactions. Previous studies suggest that the incorporation of personality-trait features in chatbots can enhance users' trust and engagement (Maeda & Quan-Haase, 2024; Nass & Moon, 2000; Philip, 2025; Qiu & Benbasat, 2009).

The chatbot system adopts an informal communication style, aimed at resonating with Gen Z users. It generally receives a positive response from younger users, while some older ones consider it less natural and, at times, distracting. This difference suggests the requirement for dynamic style adjustments, allowing the chatbot to adjust its communication tone to respond to user preferences. Despite existing limitations, including limited memory and handling out-of-scope queries, Arya offers a meaningful contribution to studies on human-computer interaction by illustrating how anthropomorphic design can support the development of parasocial engagement.

CONCLUSION

This study applies the Design Science Research (DSR) framework in communication science to develop Arya, an AI chatbot that improves news comprehension through interactive storytelling. The result shows that Arya has been acting as a masterpiece that integrates key concepts in human-AI interactions. From a quantitative point of view, most respondents gain positive experiences within their interaction with Arya, especially in the effort to understand events and news. However, these positive responses contravene more moderate assessments of Arya's accuracy and contextual alignment. From the qualitative study, participants mostly described the response of Arya as 'clear', 'detailed', and occasionally 'human-like'. These pictures reflect that the system can generate linguistically natural and socially meaningful exchanges. At the same time, participants identified several limitations, especially in terms of perceptions of naturalness and reliability. Furthermore, interviews with media professionals authenticate the findings by underlining real-world settings on AI-supported journalistic tools. Their professional perspectives verify user-based findings and extend them by situating Arya within the epistemic and institutional frameworks of journalism.

The results from surveys, qualitative analysis, and interviews highlight the methodological value of the DSR approach. In general, the project demonstrates that the development of AI in the news industry is communicative on socio-technical issues, which require close attention to the use of language, contextual interpretation, credibility, and relational dynamics that became the base of the interaction. Based on several key priorities for future research and the development of system design, the study suggests that Arya can achieve its consistency in terms of perceived naturalness better by doing some enhancement in contextual comprehension, more adaptive management of tone, and a stronger memory mechanism. In addition, upholding ethical safeguards and clear data-integrity frameworks remains essential to ensure responsible implementation in journalism. Finally, the integration of voice and visual modalities may further improve accessibility and engagement across diverse demographics.

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Ethical clearance: This study did not involve ethically sensitive subjects such as underage persons, people with special needs, animal subjects, the collection of sensitive personal data, or activities that could pose harm to the informants; therefore, formal ethical clearance was not required.

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