COMMUNICATION AND MEDIA IN ASIA PACIFIC (CMAP)
2025, VOL. 8, NO.1, 1-16.
http://doi.org/10.14456/cmap.2025.1

A Survey on Journalists' Use and Perceived Impact of ChatGPT on Thai Newsrooms

Monwipa Wongrujira[a*]

[a]Sukhothai Thammathirat Open University, Thailand

ABSTRACT

This study examined journalists' perceptions of using ChatGPT in Thai media newsrooms. The mixed-methods approach employed a survey of 100 news staff and interviews with 17 media professionals in November 2023. The findings indicated that while most media professionals have reportedly known and used ChatGPT, only a few actively utilized it in newsrooms. The hesitancy stemmed primarily from concerns regarding the trustworthiness of information generated by ChatGPT. Those who have adopted ChatGPT in their journalistic work find ChatGPT beneficial for initiating ideas, gathering secondary data, synthesizing information, and crafting content. However, even these proponents acknowledge the need for journalists to exercise caution when employing this AI-generative tool. Several factors contributed to the hesitation or avoidance of ChatGPT among media professionals. These include untrustworthy information, a lack of source references, limited prompt knowledge, and Thai language barriers. Concerns regarding the potential impact of ChatGPT on newsrooms include job displacement, AI-generated news, copyright issues, media ethics, and misinformation and data manipulation. Media organizations should invest in data ecosystems for AI training, prioritize credibility over speed, and address AI literacy and ethical concerns, as well as develop guidelines and training programs to educate journalists about AI capabilities, limitations, and ethical considerations.

Article Info
Received July 16, 2024
Revised February 6, 2025
Accepted March 7, 2025

Keywords: Journalism, ChatGPT, UTAUT model, Thailand

Introduction

ChatGPT comes from "Chat" and "Generative Pre-training Transformer" (Dasgupta et al., 2023). It is an AI-powered language model developed by OpenAI, capable of generating human-like text based on context and past conversations. It helps answer a variety of questions including data syntheses, food recipes, computer code, math resolution, planning a trip, song composition, etc. ChatGPT was publicly launched in November 2022. ChatGPT allows users to enter text prompts and rapidly generates text responses drawn from its knowledge acquired via machine learning in engagement with the internet (Pavlik, 2023). It has gained widespread popularity in many disciplines, such as marketing, education, computer science, data science, and communication. This is due to its advantage, being trained to learn the magnitude of data from the Internet and its capability of answering and solving varieties of problems with human-like or natural languages.

Artificial Intelligence (AI) has been trained to increase its capabilities. Communication with AI previously was like talking with a robot, which sometimes provides automatic responses. After all its responses become smarter. ChatGPT is a kind

CONTACT
Monwipa Wongrujira (Ph.D., Florida State University, USA.) is Associate Professor, School of Communication Arts, Sukhothai Thammathirat Open University, Thailand.
***Corresponding author's email:** monwipa.won@stou.ac.th

of AI learning to interact and communicate with humans and is being used in many sectors. For example, in education, it assisted in course syllabus and class planning, as well as creating various learning activities for different groups of learners. Marketers apply ChatGPT in market planning and strategies in response to consumers' needs. International research about ChatGPT such as Beckett et al. (2019, 2023) from the London School of Economics surveyed 71 news organizations from 32 countries and found that many of them have used AI in newsrooms, such as machine learning, automation, data analysis and synthesis for news process including news gathering, production and distribution. They found the advantages of using AI help journalists to increase their capacities and increase the competitiveness of the media business. In addition, Biswas (2023) studied the roles of ChatGPT in journalism tasks by having conversations with ChatGPT. Zagorulko (2023) studied ChatGPT in Russian newsrooms by comparing AI-generated content to journalism standards and prospects for its implementation in digital media, whereas Gondwe (2023) explored how journalists in sub-Saharan African countries engage with ChatGPT.

Prior research concentrated on the application of AI in newsrooms across multiple nations, involving data collection from journalists, interactions with ChatGPT, and an analysis of AI-generated content against journalistic norms. However, a few have applied the Theory of Acceptance and Use of Technology (UTAUT model). Thai researchers, Chaisuwan and Rasricha (2024), investigated online conversations and conducted sentiment analysis regarding ChatGPT within the framework of the UTAUT model. They examined dialogues on social media, excluding journalistic work. It would be intriguing to apply the UTAUT model to gain insight into how journalists use this generative AI technology, what motivates or hinders them from applying ChatGPT, and how they perceive the impacts of this technology.

In Thailand, many cases showed the uses of ChatGPT in marketing, mass communication, public relations, and advertising. Applying AI in newsrooms has been found in many Thai media websites such as text-to-speech for the blinds, and AI anchors in some TV broadcasting. Five years ago, Thailand's National Electronics and Computer Technology Center (NECTEC) unveiled Thailand's first artificial intelligence (AI) journalist, which was created by the Information Technology Research Unit at NECTEC (Thailand's first AI, 2019). However, this AI was not commercially utilized. Until 2023 ThaiPBS world forum facilitated learning and preparation for changes in the media landscape especially the widespread application of artificial intelligence (AI) in mass media. There was a variety of AI-used cases in newsrooms from news production to news distribution in Japan, South Korea, and China. For Thai media, text-to-speech technology is still widely used, whereas ThaiPBS demonstrated an AI news announcer, which will be the future project of the TV station (AI and the Future of Newsroom, 2023). Also, Nation Channel launched "Natcha" an AI news anchor in March 2024. (AI-generated Natcha, 2024). Used cases of AI in Thai media are at an early stage. Nonetheless, there is no research about generated text AI such as ChatGPT applied in Thai media newsrooms.

This research investigates the utilization and perceived impact of ChatGPT integration in Thai media newsrooms from journalists' perspectives. Drawing from the UTAUT model, the research examines key variables concerning ChatGPT utilization including effort expectancy (how journalists perceive ChatGPT as user-friendly), performance expectancy (how journalists perceive ChatGPT as useful for their journalistic workflow), social influence (to what extent do their colleagues and media peers influence their ChatGPT adoption), and facility conditions (how their media organizations facilitate technological support, resources, and training for the use of ChatGPT in their journalistic process). The investigation focuses on the technology's application across various stages of news production, encompassing data collection, content generation, revision, and translation processes. The study aims to contribute to research on AI integration in professional settings, particularly focusing on the Thai media context.

Literature Review

Generative Artificial Intelligence (AI) refers to a subset of AI systems designed to generate data that mimics human-created content. Its roots trace back to the mid-20th century with the advent of early neural networks. However, significant progress began with the development of algorithms such as Generative Adversarial Networks (GANs) in 2014 by Ian Goodfellow and his colleagues. There have been diverse applications of generative AI, from text and image synthesis to music and art generation, reflecting its expansive potential across various domains (Gupta et al., 2024). According to a report from the Reuters Institute for the Study of Journalism, newsrooms have been adopting AI-powered tools to automate and enhance their processes. For instance, some digital portals use AI to display sports scores, market indicators, and other information. This trend is noticeable not only among global news agencies like Reuters, AFP, and AP but also among smaller outlets (Mehra, 2023).

Among various generative AI, ChatGPT has become rapidly applied among different sectors. It was developed by OpenAI, an AI research lab founded in December 2015. The company introduced ChatGPT to the public in November 2022. The model is based on the Generative Pre-trained Transformer (GPT) architecture, specifically the GPT-3 model. After being publicly launched it quickly gained widespread attention due to its capabilities and accessibility (Heaven, 2023). By October 2024, ChatGPT had over 200 million active users, marking it as one of the fastest-growing consumer applications in history (Nyst, 2024). Its ability to generate human-like responses in natural language processing which led to numerous applications across various industries, including customer service, education, content creation, and journalism.

The London School of Economics and Political Science (LSE) started the Journalism AI project in 2019 to inform media organizations about the opportunities offered by AI-powered technologies and to foster debate about the editorial, ethical, and financial implications of using AI in journalism. The director, Beckett (2019, 2023), and his team had done global surveys of using AI in the journalism field in 2019 and 2023. The researchers surveyed 71 news organizations from 32 different countries in 2019 and 105 news and media organizations from 46 different countries in 2023, asking about their understanding of AI, how it was used in their newsrooms, their views on the wider potential and risks for the news industry, and about ethical and editorial implications. In 2019, those with IT expertise were 'digital early adopters' and they were more aware of using AI. And less than half of respondents said they use AI for newsgathering, whereas two-thirds said they used it for production. However, a 2023 survey showed an increase in generative AI embraced in news organizations. More than 75% of respondents use AI in at least one of the areas across the news value chain of news gathering, production, and distribution.

In terms of AI strategy, the 2023 survey also found an increase in AI strategy in news organizations whereas the finding in 2019 was a lack of strategic planning. AI strategies will always vary according to the nature of the news organization and what adoption stage they have reached. But in 2023, the result indicated that around one-third of respondents said they had an institutional AI strategy or were currently developing one. In both the 2019 and 2023 surveys, challenges for integrating AI technologies were still around technical difficulties or AI knowledge and skills, financial constraints, trustworthiness and efficient outputs, ethical concerns, and algorithmic bias. However, the fear of losing jobs and of changing work habits reported in 2019 was found to be less prevalent compared to the 2023 survey.

Longoni et al. (2022) conducted experimental research to study how disclosing the use of AI in news generation affected news accuracy perceptions. They found that news articles generated by AI are perceived as less trustworthy than human-written articles, highlighting the need for transparency and accountability around the use of AI in journalism. Similarly, Opdahl et al. (2023) emphasized that the main challenge for newsrooms centers on trustworthiness. This is because quality journalism is under pressure due to loss of revenue and competition from alternative information providers. This refers to the need for providing high-quality, accurate journalism content that can be trusted by the audience, especially in an era marked by fake news and disinformation campaigns. The paper underscores the importance of this trustworthiness at every stage of the journalistic value chain, which includes gathering, assessing, creating, and presenting news and information. Perception of usefulness related to journalistic work but under journalistic principles required journalists to be concerned about the credibility of news/ reported information. Thus, the quality of Gen-AI output could be perceived as useful for journalism work, which will be a key variable in this study.

The adoption of AI, algorithms, and automation in the journalistic field in the United Arab Emirates was studied by Ahmad et al. (2023). Through semi-structured interviews, they explored how AI adoption amongst journalists explains the gaps between journalistic values and journalistic practices empowered by algorithms. The findings suggested that journalists and newsrooms have recognized the strategic value of AI for journalism and journalistic quality. However, the future of AI journalism depends on balancing algorithms with editorial and ethical parameters. To maintain the integrity and trustworthiness of the content, news organizations and journalists themselves need to be able to define how AI is used in the field.

Biswas (2023) studied the roles of ChatGPT in journalism tasks by asking ChatGPT questions regarding its uses for journalism. Whereas it can assist journalists in the creation of content (e.g., news gathering, data-driven journalism, fact-checking, social media management), it has limitations and drawbacks (e.g., accuracy, lack of critical thinking, accountabilities, and ethical concerns). This study did not collect data from journalists. However, several issues should be investigated in the study of Thai newsrooms, such as how Thai journalists utilize ChatGPT in the news process and the limitations and drawbacks of using it.

Zagorulko (2023) studied ChatGPT in Russian newsrooms by comparing AI-generated content to journalism standards and prospects for its implementation in digital media. Six fundamental criteria were used to evaluate the content: topicality, correctness, fullness of information, balance of opinions, and separation of facts and opinions. In order to carry out the assessment, the researcher examined the chatbot's technological capabilities, monitored practical instances of its application in the media, and ran an experiment to gauge compliance with the standard of balanced reporting. The results of the experiment revealed that ChatGPT tends to generate biased content that is rather in line with the context of the user's query, than respecting the rule of balancing. Only 48% of the generated texts met the standard of balance of opinion. ChatGPT produced much more balanced and objective content about politicians than about other public figures. However, the analysis also uncovered limitations of ChatGPT, that is, lack of up-to-date information. The opacity of data sources and the tendency to make up facts are also significant violations of professional journalism standards. Thus, verifying and correcting ChatGPT's output before publishing is important to ensure adherence to journalistic standards. With human oversight and fact-checking, ChatGPT has the potential to be a useful tool for media professionals. Despite these limitations, this AI could rapidly prepare backgrounds for news, translate and correct texts, generate headlines for narratives, and enhance interactivity in digital media.

Gondwe (2023) explored how journalists in sub-Saharan African countries engage with ChatGPT. The researcher conducted interviews in January 2023 with 43 journalists from five sub-Saharan African countries (Congo, Kenya, Tanzania, Uganda, and Zambia), and found only 17 of them had used chatbots. The findings indicated that ChatGPT operated on a limited and non-representative African corpus, which makes it selective in what is considered civil and uncivil language. This limits the effectiveness of the tool in the region. It can also contribute to the spread of misinformation. Using this AI to create articles without proper attribution could lead to issues of plagiarism. Generative AI tools can extend stereotypes, as they may produce outputs that reinforce existing biases and preconceived notions about certain regions or groups of people. However, some benefits of using ChatGPT were effective journalism practice, augmenting human capabilities, access to global information, and promoting post-colonial thinking.

Simon (2024) investigated the growing role of artificial intelligence in journalism through extensive interviews with 134 news professionals from 35 organizations across the US, UK, and Germany, plus 36 international experts from various sectors. The research explored AI's integration into news operations and its broader implications for journalism and public discourse. The study found that news organizations adopted AI due to technological progress, market pressures, competition, and a mix of uncertainty and optimism about AI's potential. AI applications in newsrooms span multiple functions, including content discovery, audience analysis, content classification, language services, and personalized recommendations. However, significant challenges exist. News organizations largely depend on major tech companies like Google, Amazon, and Microsoft for AI capabilities, as developing in-house solutions is prohibitively expensive and complex. This dependency increases these platform companies' influence over news operations, potentially compromising journalistic autonomy through pricing changes or shifting corporate priorities. The lack of transparency in AI systems raises concerns about biases or errors creeping into journalistic output. While AI currently augments rather than replaces journalists, this relationship could change in the future. Also, AI will not be a panacea for journalism's challenges, and news organizations must continue demonstrating their value.

Among Thai researchers, there was little research about ChatGPT in mass communication and media studies. A social listening study was done by Chaisuwan and Rasricha (2024). They applied a Social Listening tool on online platforms, specifically Facebook and X (former Twitter) Thai users from December 2022 to April 2023, then conducted sentiment analysis regarding ChatGPT within the Theory of Acceptance and Use of Technology framework. They found that the most prevalent theme was the perception of performance expectations, followed by risk perception, perceived effort expectation, perceived credibility, perceived price, perceived social influencer, and perceived self-efficacy in descending order. As for the sentiment analysis, the findings indicate that the highest occurrence of positively expressed comments was associated with the dimension of perceived performance expectations in the effectiveness of Chat GPT.

In addition, Promsombut et al. (2024) employed a survey of 200 participants and 10 interviews with professionals in the advertising sector to explore the effectiveness and satisfaction derived from AI artwork. They found the perspectives were optimistic about the role of AI in advertising, particularly innovative ideas. Nevertheless, concerns about practical AI applications in the advertising sector were somewhat different from the journalism area. While the news organizations were concerned with ethical issues and trustworthiness, the

advertising sector was concerned with copyright and ownership laws.

Previous studies have highlighted both opportunities and challenges in the newsroom adoption of this technology. Although several researchers found beneficial usage of this text-generate AI, some concerns were mentioned. For example, the reliabilities and trustworthiness of generated text, data bias, and ethical and copyright issues. Many countries, though, have adopted ChatGPT and other AI in news organizations but with caution. Research by Beckett (2023) reveals increased AI adoption, with over 75% of news organizations utilizing AI across their value chain, marking significant growth from 2019. However, concerns about AI implementation persist, including trustworthiness, ethical considerations, and algorithmic bias. Studies by Longoni et al. (2022) and Opdahl et al. (2023) emphasize the critical challenge of maintaining trustworthiness in AI-generated content, particularly given the current climate of misinformation. Simon's (2024) comprehensive study across multiple countries identified various motivations for AI adoption, including technological advancement and market pressures, while highlighting concerns about platform dependency and autonomy.

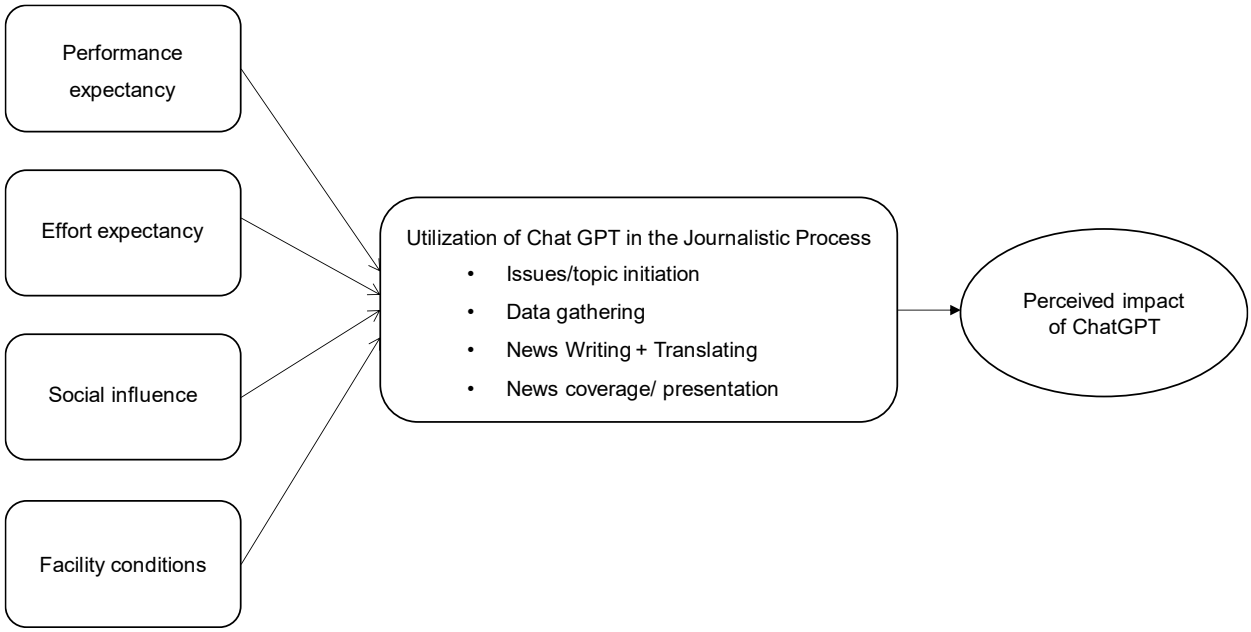
In the Thai context, research by Chaisuwan and Rasricha (2024) found positive perceptions regarding ChatGPT's performance expectations, though studies specifically examining its newsroom applications remain limited. Several researchers, such as Kim & Kim (2021), Wang et al. (2023), applied UTAUT Model to figure out the key determinants of technology acceptance across different contexts and settings. It enables organizations to identify and address barriers when promoting technology adoption. While ChatGPT offers promising applications in journalism, its implementation requires careful consideration. The aspects affecting the newsroom's adoption of ChatGPT should be explored.

UTAUT Model

The Unified Theory of Acceptance and Use of Technology (UTAUT) model is a widely recognized framework in the field of technology adoption. It integrates various existing models to explain and predict users' acceptance and use of technology. The model, developed by Venkatesh et al. (2003), integrates elements from various related theories, including the Technology Acceptance Model (TAM), the Theory of Reasoned Action (TRA), the Theory of Planned Behavior (TPB), and others. UTAUT offers insights into the major factors that influence technology acceptance, allowing organizations to identify and address adoption barriers. The model incorporates four key determinants: Performance Expectancy (the extent to which a user believes the technology will enhance their performance), Effort Expectancy (the degree to which the technology is user-friendly), Social Influence (how users perceive others' opinions), and Facilitating Conditions (availability of resources and support for use) (Venkatesh et al., 2003).

In the context of this study, (1) Performance expectancy means journalists perceive that using ChatGPT might improve their capacity to gather, analyze, write, or distribute news content and information more efficiently. (2) Effort expectancy means journalists perceive ChatGPT as user-friendly and easy to integrate into their journalistic workflows, and it may hinder acceptance if they find it complicated to use. (3) Social influence may encourage their usage if journalists perceive that their colleagues or industry peers advocate the usage of ChatGPT and regard it as a helpful tool for improving journalistic practices. Additionally, (4) Facilitating conditions mean their media organizations provide adequate resources, technical support, training opportunities, and compatibility with existing systems to support their work with ChatGPT. By adopting the UTAUT model from Venkatesh et al. (2003), the research framework is as follows (see Figure 1).

Figure 1: Research Framework



Methodology

This study applied mixed methods research. For the quantitative approach, a survey questionnaire was distributed online to 100 journalists and editorial staff, working in 10 newspapers, 22 broadcasting channels, and 14 online news media with volunteer sampling. The questionnaire consists of demographic questions, the ChatGPT use behavior in general and specifically in the news process, and the perception of possible impacts of ChatGPT usage in journalism.

Qualitative data were collected through both face-to-face and online interviews. The key informants were purposively selected based on their experience with ChatGPT, resulting in 17 individuals. They work in media organizations including newspapers, broadcasting, and online news agencies. The key informants consisted of 12 males and 5 females. Most have worked in the journalistic profession for 10-20 years; only 3 have experienced less than 5 years. They are 3 reporters, 2 rewriters, 7 editors, 3 news agency executives, and 2 experts in artificial intelligence technology. Semi-structured interview guideline was created based on the UTAUT model--e.g. effort expectancy, performance expectancy, social influences, and facilities conditions (Venkatesh et al., 2003), and the news production process (idea/story initiations, news gathering, production, and distribution). Questions about ChatGPT's impact both positively and negatively were also included. The data were collected in November 2023, one year after ChatGPT was widely introduced to the general public.

Results

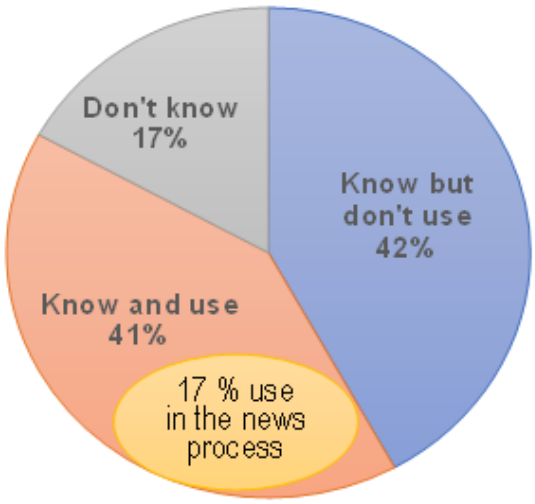
The questionnaire results from 100 respondents are reported. Demographic information of the survey participants (see Table 1) revealed that they mostly work in broadcasting media (58%), and the rest work in online media (19%), newspapers (17%), and others (6%). One-fourth of the respondents are reporters (27%). Others are editors (23%), rewriters (12%), content creators and managers (7%), heads of the news desks (6%), news program producers (6%), news anchors (6%), webmasters or page admins (2%), columnists (2%) and others (9%). The respondents' experiences in journalism professions vary from half a year to more than 30 years. Almost half of them have <1-10 years of experience (45%); one-fourth have 11-20 years of experience (25%); 14% have 21-30 years of experience, and 16% have worked in journalism professions for more than 30 years.

Table 1: Demographic Information of the Survey Respondents

Demographic Information	*N*	*%*
Workplaces		
Broadcasting	58	58.0
Online	19	19.0
Newspaper	17	17.0
Others	6	6.0
Job position		
Reporters	27	27.0
Editors	23	23.0
Rewriters	12	12.0
Content creators and managers	7	7.0
Heads of the news desks	6	6.0
News program producers	6	6.0
News anchors	6	6.0
Webmasters or page admins	2	2.0
Columnists	2	2.0
Others	9	9.0
Years of experience in journalism		
<1-10 years	45	45.0
11-20 years	25	25.0
21-30 years	14	14.0
>30 years	16	16.0

Most of the respondents knew or recognized about ChatGPT (83%). 42% of the respondents "Know but Do Not Use ChatGPT;" 41% of them "Know and Use ChatGPT;" and 17% reported that they "Do Not Know ChatGPT." Within 41% of using ChatGPT, only 17% use it in the news process (see Figure 2).

Figure 2: Know and use ChatGPT



The main reasons for not using ChatGPT (42.0% of all respondents) are that: most of them (27.6%) indicate the inefficiency of ChatGPT (i.e. unreliable, inaccurate, inadequate, and not up-to-date data/information), especially the Thai version (ChatGPT3.5); whereas 23.7% were satisfied with the existing technology/Google search; 19.7% do not know how to use it, and 18.4% reflect that it is not necessary at this time (see Table 2).

Table 2: Reasons for not Using ChatGPT

Why don't You Use ChatGPT?	*N**	*%*
The inefficiency of ChatGPT	21	27.6
Satisfy with the existing technology/Google search	18	23.7
Do not know how to use	15	19.7
Not necessary at this time	14	18.4
No interest	5	6.6
The media organization's database is not supported	2	2.6
Afraid of its impact	1	1.3

Note: *The respondents answered more than one choice.

Users' Behavior

From Table 3, among those who used ChatGPT (41.0%), the majority opted for a free version (GPT3.5) either the website OpenAI.com (60.7%) or the application on mobile devices (32.1%); only 7.1% used a paid version (GPT4). 73.2% of them were not trained only 26.8% reported attending some training programs. For the language used in conversation with the GPT, most of them use both Thai and English (43.9%), English (29.3%), and Thai (26.8%).

Table 3: Usage of ChatGPT Versions and Devices

Program Versions and Devices*	*N*	*%*
Website OpenAI.com (GPT3.5 free version)	34	60.7
Mobile application (GPT3.5 free version)	18	32.1
Web/mobile (GPT4 paid version)	4	7.1
Total	**56**	**100.0**

Note: *The GPT3.5 and GPT4 versions were available during the data collection (November 2023).

The main reasons for using GPT are that 22.1% want to test the system, 19.1% search for general information, 13.2% want to be trendy or fear of missing out, 12.5% indicated that their job necessitates the use of GPT, and 11.8% used GPT for translation (see Table 4).

Table 4: Reasons to Use ChatGPT

Why do You Use ChatGPT?	*N**	*%*
Want to test the system	30	22.1
Search general information	26	19.1
FOMO/ want to be trendy	18	13.2
Job and organizational trends necessitate the use of ChatGPT	17	12.5
Help translate information	16	11.8
Follow friends' recommendation	12	8.8
Help writing guidelines, rewriting & editing	6	4.4
For entertainment/Time killing	5	3.7
Image creation	4	2.9
Help trip planning	1	0.7
Food recipe/Restaurant recommendation	1	0.7

Note: *The respondents answered more than one choice.

In relation to their experiences of using ChatGPT, the total mean of experience using ChatGPT is at a high level ($\bar{x}$=3.83, S.D.=0.85) (see Table 5). They indicated high items that to get good answers requires knowledge/skills in prompts ($\bar{x}$ =4.17, S.D.=0.86), little information on Thai ($\bar{x}$ =4.02, S.D.=0.82), easy to use ($\bar{x}$ =4.00, S.D.=0.77), ChatGPT does not understand the dynamic of the Thai language ($\bar{x}$=3.98, S.D.=0.85), and the information used in ChatGPT is limited ($\bar{x}$=3.95, S.D.=0.77).

Table 5: Experience with ChatGPT

How have Your Experiences been in Utilizing ChatGPT?	*Mean*	*S.D.*	Results
Getting good answers requires knowledge/skills in prompts	4.17	0.86	High
There is little information on Thai	4.02	0.82	High
Easy to use & not complicated	4.00	0.77	High
GPT does not understand the dynamic of the Thai language	3.98	0.85	High
The information used in ChatGPT is limited	3.95	0.77	High
Reduces data collection time	3.93	0.91	High
Very useful assistant	3.78	0.76	High
Language barrier	3.44	1.14	Medium
The answers given by GPT are unreliable	3.20	0.78	Medium
Total	**3.83**	**0.85**	**High**

Note: Mean scores interpretation: 5.0-4.6 = highest, 4.5-3.6 = high, 3.5-2.6 = medium, 2.5-1.6 = low, 1.5-0 = lowest)

Using ChatGPT in the News Process

From Table 6, In terms of utilizing ChatGPT in the news process, those using ChatGPT who do not use it in the news process provide reasons that ChatGPT is not efficient enough, especially the Thai version (17.1%); the data is not up-to-date & not sufficient to be used for news production (16.2%); they are satisfied with existing technology or familiar with Google search (15.3%); the information from ChatGPT is non-referenced (13.5%); they concern copyright issues (12.6%); the GPT outputs are not accurate and not reliable and it is not necessary at this time (11.7%).

Table 6: Reasons for not to Use ChatGPT in the News Process

Why don't You Use ChatGPT in the News Process?	*N**	*%*
ChatGPT is not efficient enough, especially the Thai version	19	17.1
Data is not up-to-date & not sufficient to be used for news process	18	16.2
Satisfy with existing technology/familiar with Google search	17	15.3
Information from ChatGPT is non-referenced	15	13.5
Concern copyright issues	14	12.6
The outputs are not accurate and not reliable	13	11.7
Not necessary at this time	13	11.7
Do not know how to use	1	0.9
Against media ethics	1	0.9

Note: *The respondents answered more than one choice.

Those who use ChatGPT in the news process revealed the total mean of using ChatGPT in the news process at a medium level ($\bar{x}$=3.13, S.D.=1.21). They indicated that they use GPT to analyze data to fill in the news contents (such as background stories) ($\bar{x}$=3.56, S.D.=0.96). Other usages in the news process are at the medium level, for instance compiling information to produce content or news reports ($\bar{x}$=3.44, S.D.=0.89), helping break subtopics ($\bar{x}$ =3.31, S.D.=1.01), translating and summarizing from foreign language ($\bar{x}$ =3.18, S.D.=1.63), and rewrite stories ($\bar{x}$ =3.13, S.D.=0.89) (see Table 7).

Table 7: Using ChatGPT in the News Process

How do You Use ChatGPT in the News Process?	*Mean*	*S.D.*	Results
Analyze data to fill in the news content (as a background)	3.56	0.96	High
Compile information to produce content or news reports	3.44	0.89	Medium
Helping to break subtopics	3.31	1.01	Medium
Translations and summarizing from foreign language	3.18	1.63	Medium
Rewriting stories	3.13	0.89	Medium
Refining the content to help boost SEO	3.12	1.69	Medium
Suggesting ideas or news issues and topics	2.87	1.06	Medium
Graphic or image creation	2.41	1.58	Low
Total	**3.13**	**1.21**	**Medium**

Note: Mean scores interpretation: 5.0-4.6 = highest, 4.5-3.6 = high, 3.5-2.6 = medium, 2.5-1.6 = low, 1.5-0 = lowest)

From Table 8, regarding the perceived usefulness of ChatGPT, the total mean of perceived usefulness is high ($\bar{x}$ =3.74, S.D.=0.86). They indicated high items that ChatGPT is suitable for news features or content creation ($\bar{x}$ =3.88, S.D.=0.86), suitable for writing news with patterns such as stock prices, gold, and exchange rates (($\bar{x}$=3.88, S.D.=0.93), suitable for PR news or sponsored content ($\bar{x}$=3.88, S.D.=0.86), saves time on data compilation ($\bar{x}$=3.82, S.D.=0.81), and previous experience with ChatGPT was brought to apply in the news process ($\bar{x}$=3.76, S.D.=0.75).

Table 8: Performance Expectancy of ChatGPT

How do You Perceive ChatGPT's Usefulness?	*Mean*	*S.D.*	Results
Suitable for news features or content creation	3.88	0.86	High
Suitable for writing news with patterns	3.88	0.93	High
Suitable for PR news or sponsored content	3.88	0.86	High
Saves time on data compilation	3.82	0.81	High
Previous usage was brought to apply in the news process	3.76	0.75	High
Help in translating international news	3.59	1.00	High
Not suitable for the current news/event report	3.35	0.79	Medium
Total	**3.74**	**0.86**	**High**

Note: Mean scores interpretation: 5.0-4.6 = highest, 4.5-3.6 = high, 3.5-2.6 = medium, 2.5-1.6 = low, 1.5-0 = lowest)

When asked about their suggestion for using GPT in the newsroom, those who use GPT in the news process are likely to recommend others (82.40%), whereas those who do not use it in the news process do not recommend it (70.80%) (see Table 9).

Table 9: Recommend Using GPT in the Newsroom

Will You Recommend Using ChatGPT in the News Process?	Yes (%)	No (%)	Total (%)
Use GPT in the news process	82.4	17.6	100.0
Do not use GPT in the news process	29.2	70.8	100.0
Total	**51.2**	**48.8**	**100.0**

UTAUT Model Analysis

Similar outcomes were obtained when ChatGPT was applied in newsrooms using data from interviews. Every key informant has used ChatGPT at some point, though not primarily for journalistic purposes. The majority were the early users and innovators of this AI technology. The qualitative data in this study were explained using the UTAUT model (Venkatesh et al., 2003), and the aspects that contributed to the use of ChatGPT in newsrooms.

Effort Expectancy

Both survey and interview results revealed similarities in terms of effort efficiency. As seen in Table 5 that ChatGPT is easy to use and not complicated, whereas most interviewees perceived that ChatGPT is user-friendly. Some noted the need for specific prompting skills to achieve desired outcomes. This is also reported in Table 5 that getting good answers from ChatGPT requires knowledge/skills in prompts. Some interviewees do play with ChatGPT rather than seriously use it for the news production process. Many expressed that they talked with ChatGPT to comprehend this new technology. Additionally, some experimented with other conversational approaches in an attempt to verify or validate its capabilities. This is similar to the questionnaire respondents indicated one of the reasons for using ChatGPT is to test the system (as shown in Table 4).

> "*Since we are in the media business, I think we should catch the technological trend. When ChatGPT launched last year (2022), my journalism friends and I had tried it. I want to explore how the application works. It is easy to use. I chat in the Thai language. However, the users should know how to ask questions (prompting) to get better answers*." (Editor of the Manager Online, November 2, 2023).

The majority of respondents (both survey and interview) utilized a free version (GPT 3.5), while a minimal number employed a paid version (as illustrated in Table 3). Furthermore, the predominant language used in their interactions with GPT was Thai. The findings (as presented in Tables 4-5 and interview data) indicate that user-friendliness is a notable strength of ChatGPT; however, prompt engineering skills are essential to optimize its functionality. According to Venkatesh et al. (2003), ease of use reflects individuals' perceptions of the effort required to learn and use the technology. The results demonstrated that Thai journalists perceived ChatGPT as user-friendly, which could contribute to the adoption of this technology.

Performance Expectancy

Two distinct differences in the perceptions of performance expectancy were observed. On the one hand, the majority of interviewees, despite acknowledging ChatGPT as a potentially beneficial tool, concluded that it was not yet suitable for journalistic work. The primary rationale was the discovery that GPT-synthesized results were untrustworthy and inappropriate for use in newsrooms. This finding aligns with survey responses in Tables 2 and 6, which indicate that ChatGPT is inefficient and the outputs are not accurate and not reliable.

On the other hand, those who perceived that ChatGPT could enhance their ability to gather, analyze, or create content more efficiently (as evidenced in Tables 5 and 7) viewed ChatGPT as a useful assistant that could reduce data collection time. This perception led these journalists to adopt ChatGPT in their newsrooms. Similarly, one-fourth of the interviewees considered it helpful for tasks related to journalism. For instance, it assists in generating initial ideas, developing storylines, and organizing content; however, users are still required to initiate the thought process. Additionally, GPT could be beneficial in the collection and synthesis of data, particularly secondary data obtained from internet sources.

> "*ChatGPT is a very good assistant if you understand how to properly prompt. It reduces the time for data analysis. Unlike searching on Google, you might end up with a bunch of websites that you need to read through several of them to get what you want. But ChatGPT provided you a summary of synthesized information that is almost ready to use*." (Associate Director Digital Media of TNN 24, November 15, 2023)

Although the results indicated the perceived usefulness of journalists on ChatGPT, the adaptation of this technology is still with caution. According to some interviewees, ChatGPT is not useful for covering current affairs or events that require first-hand information. Furthermore, although this technology aids in the drafting and shaping stories, users must still rewrite them before publication. Certain types of news, including entertainment news that compiles information from social media or summarizes stock exchange and currency exchange reports, may make use of ChatGPT. The findings aligned with the survey results shown in Table 8 indicating that ChatGPT is useful for writing news with patterns but not for the current news or event report.

> "*Using ChatGPT for writing news or scoops should be a caution. Current situations need reporters to cover and report the story but it cannot use ChatGPT, for example. Some news with a certain pattern such as PR news or stock exchange reports might be OK, but still need humans to verify*" (News editor, ThaiPBS, November 19, 2023)

According to a broadcasting news editor, ChatGPT could assist create a pattern of TV news program scripts and rundowns. Various online editors reported that this AI was appropriate for content creation, particularly evergreen content. Every key informant concurred that ChatGPT, which synthesizes and summarizes the data, is a useful collaborator and aid for their work, akin to Google but more functional. They benefit from time savings, as demonstrated by Zagorulko's (2023) study, which found that this boosts text processing and generation speed and has broad subject-matter expertise. Notably, those who perceived the usefulness of ChatGPT positively encouraged their colleague to utilize it with awareness of the need for AI literacy (i.e. do not trust everything this AI generates; always double-check). Also, as seen in Table 9 users of ChatGPT would advise others to adopt it in newsrooms.

In conclusion, performance expectancy (Venkatesh et al., 2003) reflects individuals' perceptions regarding the extent to which technology facilitates more effective job task performance or enhances performance outcomes. This study demonstrates that although Thai journalists perceived ChatGPT as a beneficial tool, its contribution to the adoption of this technology remains limited due to the hallucinations present in this AI-generated content.

Social Influence

Thai journalists and editorial personnel are still learning about this AI because it was only made public in November 2022. The interviewees reported that many of them had learned about it through news from overseas applicants. They were less affected by others' pressure to use this technology. This is relevant to survey responses (as shown in Table 4), a handful of respondents reported that they were fear of missing out (13.24 %) and followed friends' recommendations (8.82 %). The results indicated that social influence, according to Venkatesh et al. (2003), has less pressure on Thai journalists to adopt or reject a technology based on the opinions or expectations of others within their social network.

Facilitating Conditions

Interview data indicated that most journalists and editors had not undergone any ChatGPT training. Only two or three interviewees ever attended ChatGPT training. Many news agencies still did not facilitate ChatGPT for journalistic work, nor did they offer upskilling or technology provision. However, data security continued to be an issue for certain newsrooms. Few respondents indicated that human creation is still necessary for journalism. The results revealed that facilitating conditions, as elucidated by Venkatesh et al. (2003), such as the availability of resources, technical support, or training opportunities, did not promote the adoption of ChatGPT in Thai newsrooms. This was because their media organizations rarely provide adequate support, training, and resources to facilitate the integration and utilization of ChatGPT in their work.

Factors Related to Hesitating or not Applying ChatGPT in Newsrooms

In addition to the UTAUT model, the researcher identified several factors contributing to hesitation or reluctance in applying ChatGPT in newsrooms. The factors, that reflect underlying barriers, include issues related to data and information, AI literacy and skill, and language proficiency.

1. Data and information: The primary cause of the newsroom's hesitation or not using ChatGPT was the untrustworthiness of the data/information it offers. The primary problems were either information accuracy or incompleteness. Despite having a large amount of material to synthesize, ChatGPT was unable to distinguish between fact and opinion. These could deteriorate the credibility of news organizations. Many key informants were concerned about the untrustworthy data provided by ChatGPT, and its propensity to generate inaccurate or misleading information raises concerns about the credibility of its output. They discovered that ChatGPT's inability to cite the sources of its material makes it difficult to independently confirm its assertions and guarantee journalistic veracity. Furthermore, ChatGPT training was not supported by primary data sources or Thai government data. The news organizations need to invest in and facilitate a database for the journalistic workflow to provide trustworthy input for GPT.

2. Knowledge and skill: Journalists lacked the expertise to craft effective prompts that elicit accurate and relevant responses from ChatGPT. This confirmed the quantitative data that many respondents had accepted, according to which users must be proficient in prompting in order to receive a useful output from ChatGPT. According to several responses, a lot of news staff members are accustomed to using a specific platform, like Google, thus switching to a new technology could need time and effort from the news organization as well as from the staff members themselves.

3. Language: In communicating with ChatGPT, numerous interview respondents confirmed that ChatGPT is less capable of comprehending the Thai context. The survey respondents also reported a language barrier that ChatGPT does not understand the dynamic of Thai Language (as seen in Table 5). Linguistic limitations could weaken ChatGPT's functionality, especially when interacting with languages other than English. Many respondents felt that the Thai text ChatGPT generated was not functional and needed to be rewritten.

Perception of the Potential Impact of ChatGPT

The interview data corroborated the quantitative findings about ChatGPT's impact on newsrooms. Media ethics, the spread of false information or fake news, copyright, data privacy, and data security were among the issues mentioned by several interviewees and survey respondents (see Table 10). Other concerns are that ChatGPT might automate some journalistic duties and cause job losses in the media sector. Rewriters and translators could be examples of such substitutes. Media proprietors could find that ChatGPT and AI could speed up assignments without exhaustion or replace some repetitive duties; as a result, they could cut their workforce by half. A few interview respondents predicted the rise of news organizations driven by artificial intelligence. There is still no consensus regarding the quality of content produced by AI.

Table 10: Potential Impact of ChatGPT in the Newsroom

How do You Project the Impact of ChatGPT in a Newsroom?	*Mean*	*S.D.*	Results
Ethical issues in the news process	3.83	1.12	High
Increase in fake news dissemination	3.80	1.19	High
Job replacement	3.80	1.03	High
Use in Data Journalism	3.76	0.97	High
Copyright problems	3.76	0.92	High
Diminishing the credibility of news	3.54	1.19	Medium
Helping the workflow of the newsroom more efficiently	3.32	0.99	Medium
Establishing AI news agencies in the future	3.15	1.31	Medium
Improving Fact-checking	3.07	1.03	Medium
Improving news quality	2.80	1.12	Medium
Reducing the recruitment of reporters	2.73	1.03	Medium
More use in investigative news	2.71	1.12	Medium
Increase in the credibility of news agencies	2.41	1.09	Low
Total	**3.28**	**1.09**	**Medium**

Note: Mean scores interpretation: 5.0-4.6 = highest, 4.5-3.6 = high, 3.5-2.6 = medium, 2.5-1.6 = low, 1.5-0 = lowest)

Based on the interviews with several journalists and survey data (as evidenced in Table 10), copyright concerns are just as important as data security and privacy concerns. The majority of interviewees reaffirmed the moral ramifications of utilizing ChatGPT to create news content, emphasizing the need to exercise caution when it comes to objectivity, accuracy, and possible manipulation. It is the users, not the technology, who determine ethics. Deepfake and the spread of false information are comparable to this. To preserve their credibility and reputation, professional journalists need to be concerned about the accuracy of the material before publication. Total reliance on ChatGPT is not recommended. However, since ChatGPT and other AI technology may help with the analysis and synthesis of massive volumes of data, it is anticipated that the positive influence of data journalism and investigative stories will increase.

Discussion

This study examines the adoption and perceived impact of ChatGPT in Thai newsrooms through the lens of the Unified Theory of Acceptance and Use of Technology (UTAUT). The findings reveal complex dynamics influencing the integration of this AI technology into journalistic practices, aligning with broader global trends in AI adoption in newsrooms (Beckett et al., 2023).

In terms of performance expectancy, this study found varied perceptions of ChatGPT's utility in newsroom operations. This generative AI tool demonstrates value in data analysis for background stories, information compilation, and content structuring. The tool's effectiveness is notably recognized in feature writing, pattern-based news (such as stock reports), and PR content creation. Television broadcasters identified potential benefits in generating templates for news scripts and rundowns, while online editors found utility in evergreen content creation. Thai journalists recognize ChatGPT's potential benefits, but its adoption remains limited due to concerns about hallucinations and reliability (as seen in Tables 2 and 6). Accuracy, trustworthiness, and ethics are the major journalistic principles to enhance media credibility. Even though Thai journalists perceive ChatGPT's usefulness, their adoption may be discouraged by its inaccurate results and dearth of references. As Shah et al. (2024) noted AI algorithms are susceptible to ethical issues such as biases in datasets, privacy concerns, and the possibility that false information would be included in news reports, which could erode credibility and audience confidence. The research findings aligned with previous research suggested by Pavlik (2023) and Opdahl et al. (2023) that balancing the technology's perceived usefulness with critical evaluation and human oversight in journalistic practices is important.

This study found the effort necessary for the effective use of ChatGPT. Although the research results indicated the perceived ease of ChatGPT use among Thai journalists, they necessitate certain prompting skills. In addition, numerous respondents cited inefficiencies in ChatGPT's Thai language capabilities as a major adoption barrier (as seen in Table 5). This challenge mirrors similar findings in other non-English contexts, including Chinese (Huaping et al., 2023) and Malay/Indonesian languages (Nomoto, 2023). Also, the findings from Gondwe's

(2023) research in Sub-Saharan Africa regarded AI systems' limitations in local contexts. A major concern was the lack of representative African data in the AI's training corpus, leading to outputs that often failed to capture nuanced local perspectives or relied on outdated stereotypes about African countries and leaders. Journalists reported that ChatGPT frequently produced shallow or irrelevant content when asked about specific African news topics or events. The requirement for extensive content revision due to contextual misunderstandings significantly impacts the tool's perceived ease of use.

Social influence has less influence over Thai journalists' decisions to embrace or reject technology based on the expectations or views of people in their social network. Similar to facilitating conditions the research highlights limited institutional support and infrastructure for ChatGPT adoption. In terms of behavioral intention and use behavior, the study reveals a notable gap between awareness and actual implementation of ChatGPT in newsrooms.

In addition to data reliability issues, other key concerns affecting behavioral intention include technical literacy, employment displacement, and ethical considerations such as the potential proliferation of misinformation, copyright violations, and source attribution challenges. The inability of ChatGPT to cite sources and distinguish between fact and opinion was seen as a significant limitation for journalistic use. These concerns align with previous research findings such as Longoni et al. (2022), Noain-Sánchez (2022), Beckett and Yaseen (2023), and Gondwe (2023). Their findings regarded misinformation, plagiarism, and ethics, most journalists indicated growing awareness of ChatGPT's limitations in fact-checking and producing original content. They emphasized the need for human oversight and viewed the tool as an aid for organizing thoughts or initial research rather than a source of factual information or complete stories.

The study's findings have significant implications for the future of AI integration in Thai journalism. While ChatGPT shows promise in certain areas, such as data synthesis and content ideation, its current limitations suggest that a cautious and strategic approach to adoption is necessary. The research highlights the need for targeted training programs to enhance AI literacy among journalists, particularly in areas such as prompt engineering and critical evaluation of AI-generated content. News organizations may need to invest in developing specialized databases and workflows that can provide more reliable and context-appropriate inputs for ChatGPT, especially for Thai-language content. The ethical concerns raised by respondents underscore the importance of developing clear guidelines and best practices for AI use in newsrooms, particularly regarding fact-checking, source attribution, and maintaining journalistic integrity. As Noain-Sánchez, A. (2022) noted the emergence of ethical issues underlines the need for continuous control and supervision of the processes undertaken by AI.

In Thailand, AI ethical guidelines have been developed by government organizations concerning digital literacy such as the National Digital Economy and Society Commission and the National Science and Technology Development Agency. Both focus on general ethics for AI developers and users, but not specifically on news processes and content creators. However, the National Council of Thai Journalists recently announced an ethical guideline for AI usage in news productions (National Council of Journalists, 2024). Looking ahead, the potential for AI to enhance data journalism and investigative reporting presents an exciting opportunity, but one that must be balanced against the need to preserve human judgment and ethical considerations in news production.

Conclusion

ChatGPT could assist in initiating ideas, gathering and summarizing data, and crafting content in the news process. This research found that not many Thai journalists apply ChatGPT in their newsrooms. Even though its fast-generated text is obvious, data analysis and synthesis are still questionable, particularly in untrustworthy results, so-called 'hallucination'. Survey results revealed that although many Thai journalists used ChatGPT, only a few applied it to news processes. The main reasons for non-use were perceived inefficiency, satisfaction with existing tools, and lack of knowledge or skill about prompts. Users primarily employed ChatGPT for testing, general information searches, and translation. ChatGPT was used moderately in newsrooms for tasks like data analysis, content compilation, and story breakdown. Users found it most suitable for feature writing, pattern-based news, and PR content. The technology was perceived as user-friendly but required prompt engineering skills for optimal results.

The study applied the UTAUT model to explain adoption influences. While effort expectancy was generally positive, performance expectancy varied, with ChatGPT seen as helpful for certain tasks but not yet fully suitable for journalism. This is due to the untrustworthy answers and lack of references. Social influence was limited, and facilitating conditions in newsrooms were mostly lacking. Key barriers to adoption included concerns about data accuracy, completeness, and trustworthiness; lack of AI literacy among

journalists; and limitations in understanding the Thai language context. Ethical concerns, potential for misinformation, job displacement, and copyright issues were identified as significant potential impacts.

While ChatGPT shows promise in assisting certain journalistic tasks, significant challenges remain in terms of data reliability, prompt skill requirements, and ethical considerations. The findings suggest a cautious approach to ChatGPT adoption in Thai newsrooms, with an emphasis on developing AI literacy among news workers and establishing clear guidelines for its use. ChatGPT is a tool, not a replacement for human journalistic skills and judgment. Journalists should critically evaluate the content generated by this AI, fact-check information independently, and maintain their ethical responsibilities to provide accurate, unbiased, and well-sourced news coverage. Media organizations should also invest in data ecosystems for AI training, prioritize credibility over speed, and address AI literacy and ethical concerns, as well as develop guidelines and training programs to educate journalists about AI capabilities, and limitations, particularly in areas such as prompt engineering and critical evaluation of AI-generated content.

Future research could explore the long-term impacts of AI integration on news quality, credibility, and the evolving role of journalists in an AI-augmented media landscape. Comparative studies across different cultural and linguistic contexts could also provide valuable insights into optimizing AI tools like ChatGPT for diverse global newsrooms. As the field of AI in journalism continues to evolve rapidly, ongoing research and adaptive strategies will be crucial for news organizations navigating this changing landscape.

ORCID ID

Monwipa Wongrujira: http://orcid.org/0009-0007-8792-823X

References

AI and the Future of Newsroom. (2023, November 20). https://www.thaipbsworld.com/ai-and-the-future-of-newsroom/

AI-generated Natcha and Nitchan set to take Nation TV by storm. (2024, March 28). https://www.nationthailand.com/thailand/general/40036775

Ahmad, N., Haque, S., & Ibahrine, M. (2023). The news ecosystem in the age of AI: Evidence from the UAE. *Journal of Broadcasting & Electronic Media, 67*(3), 323-352. https://doi.org/10.1080/08838151.2023.2173197

Beckett, C. (2019). *New powers, new responsibilities: A global survey of journalism and artificial intelligence*. https://blogs.lse.ac.uk/polis/2019/11/18/new-powers-new-responsibilities/

Beckett, C., & Yaseen, M. (2023). *Generating Change: A global survey of what news organizations are doing with AI.* https://www.journalismai.info/s/Generating-Change-_-The-Journalism-AI-report-_-English.pdf

Biswas, S. (2023). *Role of ChatGPT in Journalism: According to ChatGPT.* http://dx.doi.org/10.2139/ssrn.4405396

Chaisuwan, B., & Rasricha, K. (2024). Exploring technology acceptance through social media listening: An investigation of ChatGPT utilization. *Journal of Information Science Research and Practice, 42*(1), 58-75. https://doi.org/10.14456/jiskku.2024.4

Dasgupta, D., Venugopal, D., & Gupta, K. D. (2023). *A review of generative AI from historical perspectives*. https://doi.org/10.36227/techrxiv.22097942.v1

Gondwe, G. (2023). ChatGPT and the Global South: How are journalists in sub-Saharan Africa engaging with generative AI? *Online Media and Global Communication, 2*(2), 228-249. https://doi.org/10.1515/omgc-2023-0023

Gupta, P., Ding, B., Guan, C., & Ding, D. (2024). Generative AI: A systematic review using topic modelling techniques. *Data and Information Management*, *8*(2), Article 100066. https://doi.org/10.1016/j.dim.2024.100066

Heaven, W. D. (2023, March 6). *The inside story of how ChatGPT was built from the people who made it*. https://www.technologyreview.com/2023/03/03/1069311/inside-story-oral-history-how-chatgpt-built-openai/

Huaping, Z., Linhan, L., & Chunjin, L. (2023). ChatGPT performance evaluation on Chinese language and risk measures. *Data Analysis and Knowledge Discovery, 7*(3), 16-25. https://doi.org/10.11925/infotech.2096-3467.2023.0214

Kim, D., & Kim, S. (2021). A model for user acceptance of robot journalism: Influence of positive disconfirmation and uncertainty avoidance. *Technological Forecasting and Social Change*, *163*, Article 120448. https://doi.org/10.1016/j.techfore.2020.120448

Longoni, C., Fradkin, A., Cian, L., & Pennycook, G. (2022). News from generative artificial intelligence is believed less. *2022 ACM Conference on Fairness, Accountability, and Transparency*, 97-106. https://doi.org/10.1145/3531146.3533077

Mehra, P. (2023, July 25). *Google testing Genesis AI for journalists: A brief history of tech in the newsroom.* https://www.techcircle.in/2023/07/25/google-testing-genesis-ai-for-journalists-a-brief-history-of-tech-in-the-newsroom

National Council of Journalists. (2024). *Guidelines on the ethical use of artificial intelligence (AI) in journalism B.E. 2567*. https://www.presscouncil.or.th/regulation/10886

Noain-Sánchez, A. (2022). Addressing the impact of artificial intelligence on journalism: The perception of experts, journalists and academics. *Communication & Society, 35*(3), 105-121. https://doi.org/10.15581/003.35.3.105-121

Nomoto, H. (2023). *Issues surrounding the use of ChatGPT in similar languages: The case of Malay and Indonesian* (pp. 76-82). https://doi.org/10.18653/v1/2023.ijcnlp-short.9

Nyst, A. (2024, October 9*). History of ChatGPT: A timeline of the meteoric rise of generative AI chatbots.* https://www.searchenginejournal.com/history-of-chatgpt-timeline/488370/

Opdahl, A. L., Tessem, B., Dang-Nguyen, D., Motta, E., Setty, V., Throndsen, E., Tverberg, A., & Trattner, C. (2023). Trustworthy journalism through AI. *Data & Knowledge Engineering*, *146*, Article 102182. https://doi.org/10.1016/j.datak.2023.102182

Pavlik, J. V. (2023). Collaborating with ChatGPT: Considering the implications of generative artificial intelligence for journalism and media education. *Journalism & Mass Communication Educator*, *78*(1), 84-93. https://doi.org/10.1177/10776958221149577

Promsombut, P., Rungpanya, V., Chumworratayee, K., & Kerdvibulvech, C. (2024). Perspectives on AI artists in generating artwork in advertising industry. *International Journal of Information Technology*, *16*(6), 3549-3554. https://doi.org/10.1007/s41870-024-01878-y

Shah, M. H. A., Khoso, I. A., & Dharejo, N. (2024). Journalist perceptions and views towards the integration of AI-based applications in the journalism industry in Pakistan: Expansion of the UTAUT model. *Annals of Human and Social Sciences,* 5(2), 317-326. https://doi.org/10.35484/ahss.2024(5-II)30

Simon, F. M. (2024). *Artificial Intelligence in the News: How AI retools, rationalizes, and reshapes journalism and the public arena.* Tow Center for Digital Journalism, Columbia University. https://doi.org/10.7916/ncm5-3v06

Thailand's first AI journalist named 'Suthichai AI' unveiled (2019, September 10). *Thai PBS World.* https://www.thaipbsworld.com/thailands-first-ai-journalist-named-suthichai-ai-unveiled/

Venkatesh, N., Morris, N., Davis, N., & Davis, N. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, *27*(3), 425-478. https://doi.org/10.2307/30036540

Wang, G., Xu, J., & Lin, S. (2023). Influencing factors of using behavior for computational advertising under the theoretical model of UTAUT. *Journal of Control and Decision*, *10*(1), 19-25. https://doi.org/10.1080/23307706.2022.2082568

Zagorulko, D. I. (2023). ChatGPT in newsrooms: Adherence of AI-generated content to journalism standards and prospects for its implementation in digital media. *Scientific Notes of V I Vernadsky Taurida National University Series Philology Journalism*, *2*(1), 319-325. https://doi.org/10.32782/2710-4656/2023.1.2/50