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7	2023	2735-4008	2536-9393	جامعة الأهرام الكندية، كلية الاعلام	المجلة العربية لبحوث الإعلام و الإتصال	الدراسات الإعلامية	1
7	2023	2682-4663	2356-914X	جامعة القاهرة، كلية الإعلام	المجلة العلمية لبحوث الإذاعة والتلفزيون	الدراسات الإعلامية	2
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7	2023	2682-4620	2356-9158	جامعة القاهرة، كلية الإعلام	المجلة العلمية لبحوث الصحافة	الدراسات الإعلامية	4
7	2023	2682-4671	2356-9131	جامعة القاهرة، كلية الإعلام	المجلة العلمية لبحوث العلاقات العامة والإعلان	الدراسات الإعلامية	5
7	2023	2682-4647	1110-5836	جامعة القاهرة، كلية الإعلام	المجلة المصرية لبحوث الإعلام	الدراسات الإعلامية	6
7	2023	2682-4655	1110-5844	جامعة القاهرة،كلية الإعلام، مركز بحوث الراى العام	المجلة المصرية لبحوث الرأي العام	الدراسات الإعلامية	7
7	2023	2682-292X	1110-9297	جامعة الأزهر	مجلة البحوث الإعلامية	الدراسات الإعلامية	8
7	2023	2735-4016	2357-0407	المعهد الدولى العالى للإعلام بالشروق	مجلة البحوث و الدراسات الإعلامية	الدراسات الإعلامية	9
7	2023	2682-4639	2356-9891	جامعة القاهرة، جمعية كليات الاعلام العربية	مجلة إتحاد الجامعات العربية لبحوث الإعلام و تكنولوجيا الإتصال	الدراسات الإعلامية	10
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7	2023	2735-377X	2735-3796	جامعة بنى سويف، كلية الإعلام	المجلة المصرية لبحوث الاتصال الجماهيري	الدراسات الإعلامية	12
7	2023	2812-4820	2812-4812	جمعية تكنولوجيا البحث العلمي والفنون	المجلة الدولية لبحوث الإعلام والاتصالات	الدراسات الإعلامية	13

The Role of Generative AI ChatGPT Technology

in Renewing Journalism: A Systematic Review

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دور تقنية الذكاء الاصطناعي التوليدي ChatGPT في تجديد الصحافة: مراجعة منهجية

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Abstract

The current study aims to provide a systematic review of the academic literature on the role of generative AI ChatGPT technology in renewing journalism. In this context, 47 selected research published between 2023 and 2024 were reviewed through a search in the Google Scholar database in order to monitor the role of ChatGPT technology in the fields of: its use in press institutions, journalism education, career paths and the future of journalists, along with professional and ethical challenges. Moreover, this study is based in its theoretical structure on the Mediamorphosis Theory.

The study reached a set of general results, the most important of which are:

1) ChatGPT technology is one aspect of technological progress in the field of generative AI that has led to enhancing the basic standards of the journalism profession rather than undermining them.

2) ChatGPT technology is an added value to journalism, due to it has the potential to have a broad and profound impact on how journalism is made and consumed.

3) The effects of ChatGPT on employment paths and the future of journalists are still uncertain, but it considers an invaluable tool in helping journalists meet the requirements of the digital age.

Keywords: Generative AI, ChatGPT, journalism renewing, ethical and professional challenges, employment paths, future of journalists

ملخص الدراسة

تهدف الدراسة الحالية إلى تقديم مراجعة منهجية للأدبيات الأكاديمية حول دور تقنية الذكاء الاصطناعي التوليدي ChatGPT في تجديد الصحافة، وفي هذا السياق، تمت مراجعة 47 بحثًا نُشر بين عامي 2023 و2024 من خلال البحث في قاعدة بيانات Google Scholar بغرض رصد دور تقنية ChatGPT في مجالات: توظيفه في المؤسسات الصحفية، وتعليم الصحافة، ومسارات التوظيف ومستقبل الصحفيين، إلى جانب التحديات المهنية والأخلاقية التي يفرضها، واستندت الدراسة في بنائها النظري إلى نظرية التشكل العضوي لوسائل الإعلام. وتوصلت الدراسة إلى مجموعة من النتائج العامة، أبرزها:

1) تعد تقنية ChatGPT أحد جوانب التقدم التكنولوجي في مجال الذكاء الاصطناعي التوليدي، الذي أدى إلى تعزيز المعايير الأساسية لمهنة الصحافة بدلاً من تقويضها.

2) تعد تقنية ChatGPT قيمة مضافة للصحافة، ولديها القدرة على إحداث تأثير واسع وعميق في كيفية صناعة الصحافة واستهلاكها.

3) لا يزال تأثير تقنية ChatGPT في مسارات التوظيف ومستقبل الصحفيين غير مؤكد، لكنها تعدُّ أداة لا تقدر بثمن في مساعدة الصحفيين على تلبية متطلبات العصر الرقمي.

الكلمات المفتاحية: الذكاء الاصطناعي التوليدي، ChatGPT، تجديد الصحافة، التحديات الأخلاقية والمهنية، مسارات التوظيف، مستقبل الصحفيين.

Introduction

In recent years, the global media landscape is undergoing an unprecedented a fundamental transformation in the ever-evolving digital age. At the heart of this change is the increasing use of generative AI technologies in the media industry. In this context, the journalism sector has experienced tremendous advancements with the emergence of ChatGPT in November 2022 and other generative artificial intelligence applications created by OpenAI, many changes, which heralds an era of potential transformation in the content of journalism and media (Pavlik, 2023) [1].

The application of generative AI ChatGPT is one of the modern technologies that have attracted global attention, especially in light of the repercussions of the widespread use of artificial intelligence in third millennium societies. It is worth noting that the spread and speed of innovation often depend on its use by early adopters and their perception of the new technology (Fütterer et al, 2023) [2].

Indeed, the integration of ChatGPT into journalism is seen as important factor, that providing opportunities to increase production efficiency and create new types of semi-automated content (Ceide et al, 2024) [3].

However, the use of ChatGPT in journalism has also raised concerns about accuracy, job losses, lack of critical thinking and creativity, and the spread of misinformation, especially in today's fast-paced, competitive media landscape. Consequently, the integration of these technologies requires human oversight to maintain the integrity of journalism (Møller et al, 2024) [4]. This is to verify and edit the content produced by ChatGPT to ensure that journalistic values such as honesty, accuracy, and balance are not compromised, as well as the possibility of correcting errors made immediately (Wu, 2024) [5].

As such, this study aims to provide a systematic review of the academic literature on the role of generative AI (ChatGPT) in renewing journalism. In this context, academic research published between 2023 and 2024 was

reviewed through a search of publications in the Google Scholar database in order to monitor the role of ChatGPT technology in the fields of: its use in press institutions, journalism education, career paths and the future of journalists, along with professional and ethical challenges.

Cognitive Framework of the study
Generative AI Definition

There is no doubt that the journalism industry is one of the fields that has been radically changed by generative AI, as it can be used to generate new creative outputs without human intervention (Feuerriegel, et al. 2024) [6].

In short, scholars have provided different definitions of the concept of generative AI that reflect the multifaceted nature of this concept, which has been monitored in the following points (Gondwe, 2023) [7]:

- Content creation:
- Data analysis:
- Newsroom automation
- Audience engagement

ChatGPT: A brief history

ChatGPT application was launched on November 30, 2022 by OpenAI, a non-profit research company working in the field of developing and directing artificial intelligence, founded by two technical entrepreneurs, Sam Altman and Elon Musk (Fitria, 2023) [8].

In fact, the ChatGPT application belongs to a class of language models called the pre-trained generative transformer (GPT). The GPT category refers to large language models (LLMs) that use deep learning techniques for intensive training with huge amounts of data (Cascella et al, 2023) [9]. In March 2023, OpenAI upgraded ChatGPT's capabilities to the next version with the release of GPT-4. It has attracted significant attention from researchers due to the program's significantly improved capabilities compared to previous versions (Rice et al, 2024) [10].

ChatGPT can be defined as a type of machine learning algorithms that have been pre-trained on large amounts of data and that allow to generate answers to questions asked by users in real time (Carvalho & Ivanov, 2024) [11]. It is noteworthy that the ChatGPT application has revolutionized the field of information technology, and its launch in late November 2022 has received significant attention, making it the fastest growing consumer application in history.

Advantages of ChatGPT

The use of the generative AI application ChatGPT provides many advantages that have attracted millions of users in a short period, most notably generating a quick response by acquiring knowledge about the user's language, tone of voice, and style (Aljanabi, 2023) [12]. One of its main strengths lies in its ability to adapt to the user's changing needs (Silva et al, 2024) [13].

Perhaps one of the most interesting features of the ChatGPT technology is its ability to produce high-quality, error-free text that is difficult to distinguish from human-written content (Xu et al, 2024) [14]. Moreover, ChatGPT has a huge database, amazing computational power, and is capable of automatically generating multiple types of text content, which attracted widespread attention around the world upon its launch (Anbin & YongLiang, 2023) [15].

In the same context, there are several capabilities specific to ChatGPT that may affect its use and applications, namely: (1) producing high-quality text in response to human inputs that are often difficult to identify as AI outputs; (2) the ability to engage in conversational interaction on a very wide range of topics; (3) the ability to adapt its outputs to specific language patterns; (4) the ability to learn from interaction, which leads to improving the quality and acceptability of content (Stahl & Eke, 2024) [16].

Theoretical Framework of the study
Mediamorphosis Theory

This study is based on the Mediamorphosis theory, which known as "digital transformation", that was proposed by Roger Fiedler in 1990. The term

"media transformation" refers to the development of communication media as a result of the complex interaction between perceived needs, competitive and political pressures, and social and technological innovations (Marcelina et al, 2020) [17].

In fact, media transformation as a concept explains that new media do not arise spontaneously and independently, but rather arise through the gradual transformation of old traditional media (Okon, 2022) [18].

In this context, the digital revolution that led to the digitization of media has become one of the reasons for media transformation (Astuti et al, 2024) [19]. As new media forms evolve and grow, they have influenced the development of other existing media to varying degrees, such that rather than emerging media replacing existing media, existing media simply converge with them to improve their operations (Okocha & Ola-Akuma, 2022) [20]. For example, the shift from traditional media (for instance newspapers, radio, and television) to new forms of media, such as the internet, social media, and other digital applications. This shift in technology thus occurs and affects how messages are delivered, information is accessed, and media content is interacted with (Shahab, 2023) [21].

Apply theory to the subject of the study

New media technology is a competitor to journalism in the digital age, which has changed the way journalism works in an unprecedented way. Therefore, journalism as an industry needs to adapt to technological developments by effectively leveraging new media technology to continue developing itself.

According to the concept of "digital transformation", new media has only evolved to update and develop old media, as Fiedler emphasized that the emergence of a new medium or technology does not mean the end or death of an existing/old medium. From this standpoint, the use of artificial intelligence has become an indispensable aspect of the media industry, especially within newsrooms, which means that newsrooms will continue to exist, but in a more sophisticated and advanced form.

Given these considerations, the ChatGPT application, like new media, did not appear automatically or independently, but rather as a result of the

gradual improvements of artificial intelligence journalism. Based on the above, this theory was chosen as the best theory for this study because it discusses the current changes in how the entry of generative artificial intelligence, specifically ChatGPT, affects the practice of journalism, in addition to providing insights into the evolving media landscape and the ethical considerations and professional challenges imposed by the application of generative artificial intelligence ChatGPT in the field of journalism.

Problem Statement

Recently, generative artificial intelligence has already been integrated into news production strategies in some media outlets. On the other hand, generative artificial intelligence systems have proven their ability to enhance productivity in content production tasks, which raises the question of automation of communications in the digital age, where artificially intelligent media are no longer just a communication medium, but have become communicative participants themselves. Regardless of all these advantages and opportunities, it was expected that a broad public debate would be raised in academic circles about these systems and the challenges they impose on the field of journalistic production.

Overall, the problem of the current study is summarized in identifying the role of generative AI technology ChatGPT in renewing journalism.

Questions of Systematic Review

The review was guided by research questions that formed the framework for our systematic analysis of the existing literature, namely:

RQ1: What are the areas of employment of ChatGPT within press institutions?

RQ2: What is the role of ChatGPT on journalism education?

RQ3. What are the effects of ChatGPT on employment paths and the future of journalists?

RQ4: What are the ethical and professional challenges that are relevant to the integration of ChatGPT into journalism?

Objectives of Systematic Review

The primary objective of the current review was to evaluate recent publications on the role of ChatGPT in renewing journalism. The secondary objectives were to (1) uncover areas of employment of ChatGPT within press institutions, (2) identify the role of ChatGPT on Journalism Education, (3) determine the effects of ChatGPT on employment paths and the future of journalists, and (4) shed light on the ethical and professional challenges posed by ChatGPT in journalism.

Methodology

This study adopts a systematic review approach to analyze and synthesize the existing literature about the role of generative AI ChatGPT Technology in renewing journalism. This methodology was chosen for its ability to provide a comprehensive overview of a body of literature on this topic, along with identify trends and gaps in research, and provide a solid foundation for future research. Moreover, the review process follows the PRISMA to clarify the review steps, which are:

1.1 The Search Strategy

To capture the relevant academic literature, we systematically searched database Google scholar, and the years of publication were specified between 2023 and 2024. The search strategy included a combination of terms, keywords and search strings listed in the table below were used.

Table 1. The search strategy

Title	Terms/keywords
Generative AI	ChatGPT
Context	Journalism Education - Ethical Challenges - Professional Challenges - Future of Journalism - Future of Journalists

On the other hand, the search process was carried out in three stages: the first stage was through the titles of the studies and ensuring their suitability to the topic of the systematic review; the second stage was through reading

the abstracts to determine the context, sample, and research methodology; and the third stage was reading the entire study and verifying its conformity with the search strategy.

1.2 Inclusion and Exclusion Criteria Strategy

The studies were strictly examined to verify compliance with the Inclusion and exclusion criteria that were classified according to the following table:

Table 2. Inclusion and exclusion criteria

Terms	Inclusion criteria	Exclusion criteria
Period	From 2023 to 2024	Before 2023
Language	Arabic or English	Other languages
Type	Peer-reviewed scientific journals	Books/book chapters, theses, articles
Keywords	Generative AI - ChatGPT & Journalism Education - Ethical & Professional Challenges of ChatGPT - ChatGPT & Future of Journalism	General areas other than journalism
Access	Free	Not Free

1.3 Data Collection

The process of data collection/selecting articles for this systematic review followed the PRISMA guidelines. Initial searches of the Google Scoular database yielded a total of 576 potential articles. After removing duplicates, 187 articles remained for review. The article selection process was carried out in two stages. The first stage was screening of titles and abstracts; of the 187 articles, 141 articles were passed to the next stage. The second stage was a full-text review; of the 141 articles, 47 articles met all inclusion criteria.

1.4 Data Extraction

The systematic review addresses the academic production of the application of ChatGPT technology in the field of journalism during the years 2023 and

2024. Accordingly, the studies subject to the systematic review were extracted as shown in the table below.

Table 3. Studies Included in this Systematic Review

Study ID	Country	Title
Abou Seena, (2024)	Egypt	Attitudes of academics and educational media specialists towards employing ChatGPT in scientific research and content production
Ahmed et al. (2024)	Pakistan	AI and the Future of Journalism: Perception of Pakistani Journalists on the Opportunities and Limitations of ChatGPT
Al Adwan et al. (2024)	UAE	Future anxiety among media professionals and its relationship to utilizing AI techniques
Al-Bahri (2024)	Egypt	Communicators' uses of the Chat - GPT application and its effects on them
Al-Ghatref (2023)	Egypt	The Vocational Use of the Generating Artificial Intelligence in Journalism
AlQaruty et al. (2024)	UAE	The Role of Artificial Intelligence in the Media Content Industry
Amponsah & Atianashie (2024)	Ghana	Navigating the New Frontier
Arguedas & Simon (2023)	USA	Automating democracy: Generative AI, journalism, and the future of democracy
Arya & Sharma (2023)	India	Generative AI Images and Indian Media Industry
Assad (2024)	Egypt	Exploring the use of ChatGPT among media students in Egypt
Bdoor & Habes (2024)	Jordan	Use Chat GPT in Media Content Production Digital Newsrooms Perspective

Calvo-Rubio et al. (2024)	Spain	Criteria for journalistic quality in the use of artificial intelligence
Castillo-Campos et al. (2024)	Spain	Artificial intelligence tools and bias in journalism-related content generation
Demmar & Neff (2023)	UK	Generative AI in journalism education
Dhiman (2023)	India	Does Artificial Intelligence help Journalists
Diakopoulos et al. (2024)	USA	Generative AI in Journalism
Dinçer (2024)	Türkiye	Hard and soft skills revisited: Journalism education at the dawn of artificial intelligence
Gondwe (2023)	USA	CHATGPT and the Global South: How are journalists in sub-Saharan Africa engaging with generative AI?
González-Arias et al. (2023)	Spain	ChatGPT: Stream of opinion in five newspapers in the first 100 days since its launch
Hudíková (2023)	Slovakia	Artificial Intelligence as a creator of journalistic content
Illia et al. (2023)	Switzerland	Ethical implications of text generation in the age of artificial intelligence
Irfan (2023)	Pakistan	Enhancing critical thinking and journalism skills through artificial intelligence literacy
Khadr (2024)	Egypt	The Effectiveness of Using Modern Technologies
Konstantis et al. (2023)	Greece	Ethical considerations in working with ChatGPT on a questionnaire about the future of work
Li et al (2023)	USA	A preliminary study of chatgpt on news recommendation
Lopezosa, et al. (2023)	Spain	Use of generative artificial intelligence in the training of journalists

Mahony & Chen (2024)	China	Concerns about the role of artificial intelligence in journalism, and media manipulation
Nishal & Diakopoulos (2024)	USA	Envisioning the applications and implications of generative AI for news media
Omer (2023)	Egypt	Egyptian youth acceptance of using Chat GPT technology as an application of artificial intelligence
Pinto & Barbosa (2024)	Brazil	Artificial Intelligence (AI) in Brazilian Digital Journalism
Rathore (2023)	UK	Future of AI & generation alpha
Ray (2023)	India	ChatGPT: A comprehensive review on background, applications, key challenges, bias, ethics, limitations and future scope
Sánchez-García et al. (2023)	Spain	Spanish technological development of artificial intelligence applied to journalism
Shi & Sun (2024)	China	How Generative AI Is Transforming Journalism
Simon (2024)	Colombia	Artificial Intelligence in the News
Sundar & Liao (2024)	USA	Calling BS on ChatGPT
Taecharungroj (2023)	Thailand	What can ChatGPT do?
Tawfeeq et al. (2023)	Iraq	The ethical implications of chatgpt ai chatbot
Van Dalen (2024)	Denmark	Revisiting the algorithms behind the headlines

Wu (2023)	China	Exploration on the Development Path of Journalism and Communication Education in China in the Context of ChatGPT
Xia, Wang & Wei (2023)	China	Influence and Philosophical Reflection on ChatGPT in the Media Industry
Yahya (2024)	Egypt	Ethics of using ChatGPT applications and platforms in the production of journalistic content
Zagorulko (2023)	Ukraine	ChatGPT in newsrooms
Zhaocheng (2023)	Russia	The change and development of journalism in the age of artificial intelligence
Zhou (2024)	Australia	Ethical ChatGPT: Concerns, challenges, and commandments
Pavlik (2023)	USA	Collaborating with ChatGPT: Considering the implications of generative artificial intelligence for journalism and media education
Niu (2023)	China	An Analysis of Journalists' Coping Strategies in the Face of ChatGPT

1.5 Data Analysis

The quantitative analysis was applied to the systematic review studies, published in full text in Arabic or English, with 37 foreign studies and 10 Arab studies, through statistics related to the distribution of their number according to geographical location as shown in the table above, year of publication, and language of publication, as shown below.

- **Distribution of studies by Year**

The studies published in 2023 came in first place with 25 studies and a percentage of 53.1%, followed by the studies published in 2024 in second place with 22 studies and a percentage of 46.9%.

- **Distribution of studies by language**

The total volume of current systematic review studies during the years 2023 and 2024 AD amounted to 47 studies, taking into account the inclusion of studies related to the study objective, which are studies that dealt with the use of ChatGPT in the journalistic field at the Arab and foreign levels, and excluding research and studies that are not related to the objectives of the systematic review, as the total number of studies written in Arabic amounted to 6 studies, with a percentage of 12.7%, while the studies written in English were 41 studies, with a percentage of 87.3%.

Discussion of Results

The discussion of the results revolves around the main questions of the current study, which are:

RQ1: What are the areas of employment of ChatGPT within press institutions?

After conducting a systematic review of studies that addressed the use of ChatGPT in press institutions, the main applications of ChatGPT in journalism are summarized:

1) News Gathering

Many studies have agreed on the importance of using ChatGPT to gather information, which is the cornerstone of news production. More specifically, with the integration of ChatGPT, the ways in which news organizations access and collect information, process and transform it into "news," and reach audiences have already changed (Simon, 2024)[22].

In addition, Spanish technology companies have made a clear development in the artificial intelligence sector, with the services and tools necessary for the entire journalistic process, especially in the stages of information gathering and distribution of content related to monetization (Sánchez-García et al, 2023)[23].

Overall, ChatGPT has become an essential tool for journalists not only at the level of collecting and analyzing news in real time, but also at the level of organizing it (Dhiman, 2023)[24].

2) Improve News Efficiency

ChatGPT is one of the most prominent technologies used by media companies and journalistic institutions to increase the efficiency of news coverage and processing. Hence, the use of this technology is an opportunity to improve the quality of media production due to the enrichment and deepening of information it provides and its presentation in an integrated and effective framework on the other hand (AlQaruty et al, 2024)[25].

3) Content Production

ChatGPT plays a crucial role in increasing the efficiency of news organizations in producing content in multiple languages, thus expanding their reach and audience base. Additionally, ChatGPT can be used in content production in two main aspects: summaries and headlines creation and writing diversification [26]. According to Calvo-Rubio & Rojas-Torrijos, (2024) ChatGPT is present in 75% of newsrooms, and simplifies tasks, allowing more creative time for journalists[27].

5) Real-time news delivery and updating

Recently, news organizations have turned to chatbots to engage with their audience more efficiently. Hence, ChatGPT can be used to deliver personalized news updates to audiences via messaging apps or social media platforms, based on their interests and preferences (Li et al, 2023) [28].

RQ2: What is the role of ChatGPT on journalism education?

The results of the studies reviewed revealed two main trends, as shown below:

- **Potential Benefits and Opportunities**

Many studies have agreed that ChatGPT is important and influential, especially in light of the potential benefits and opportunities it provides in the context of journalism and media education. For example, ChatGPT provides many advantages for the journalism profession, most notably: supporting news teams, producing a larger range of content, saving time, producing content, and speed (Demmar & Neff, 2023) [29].

In the same context, the results of the study (Rathore, 2023)[30] showed that ChatGPT can facilitate interactive learning, simplify collaboration between students and teachers, and provide a more efficient way to store and access study materials. In this context, Irfan (2023) [31] pointed out that integrating ChatGPT-3 can enhance critical thinking by encouraging deeper analysis, reflection, and collaboration among students. Moreover, using ChatGPT-3 in journalistic writing tasks can develop students' writing skills, provide a valuable resource for generating content ideas, improving research capabilities, and improving writing techniques.

At the Egyptian and Arab levels, Assad, (2024)[32] concluded that the ChatGPT application is a valuable tool in various aspects of media projects in academic curricula for media students at the level of data analysis tasks, language translation, and media campaign management. Also, Khadr (2024) [33] found that the level of respondents' awareness of the importance of using modern technology in the fields of education and journalism was "high" at 35.89%, and the degree of readiness of educational and journalistic institutions to use modern technology was "medium" at 49.02%, and the level of "expected performance, expected effort, available facilities" was "high", indicating a high intention of the study sample to use these modern technologies in educational and journalistic institutions. While the results of the study (Omer, 2023)[34] showed ChatGPT's ability to allow users to choose between detailed and brief information in the first place within the framework of the nature of the information they prefer when using it.

Overall, employing ChatGPT in journalistic work requires journalists to develop a new skill set that includes advanced data journalism capabilities and maintains the core journalistic values of ethical discernment, critical thinking, and emotional intelligence (Dinçer, 2024) [35].

- **Potential risks and concerns**

Regarding the potential risks and concerns regarding the use of ChatGPT in education, the results of studies agreed on varying degrees of convergence and divergence in various aspects of the technology, including the

integration of ChatGPT into media colleges, and training students to use it in news production and consumption (Lopezosa et al, 2023) [36].

RQ3. What are the effects of ChatGPT on employment paths and the future of journalists?

There is a diverse range of opinion on the issue that can be summarized in three main axes, as shown below:

- **First axis: Pessimists**

ChatGPT technology represents a promise to enhance the work of journalists in newsrooms. According to the study (Pinto & Barbosa, 2024)[37], the use of ChatGPT technology in journalism, now and in the coming years, will play a much greater role in assisting with routine tasks, rather than completely replacing journalists.

- **Second axis: Optimists**

With the rapid progress of ChatGPT technology in the field of journalism, there are many speculations about the possibility of replacing humans in key aspects of journalistic work. In this regard, Konstantis et al, (2023)[38] found that the vast majority of journalists (75.9%) are very concerned that the use of ChatGPT will lead to job losses, while about (48.1%) believe that the use of ChatGPT will not create many new opportunities, if any. In the same context, journalists see ChatGPT technology as a greater threat to their profession than previous forms of automated news writing (van Dalen, 2024)[39], and thus expressed their fear of mass displacement of jobs, including professors and programmers (Taecharungroj, 2023)[40] On the Egyptian and Arab levels, the results of the study (Al Adwan, 2024) concluded that the intensive use of ChatGPT technologies by media institutions contributes to creating professional future anxiety among media professionals [41].

- **Third axis: Neutrals**

In the era of generative artificial intelligence, journalists must keep up with the trend and improve their news capabilities and levels (Niu, 2023) [42]. In this context, (González-Arias et al, 2023) [43] indicated that ChatGPT is an

exceptional technological achievement, even if it makes mistakes that reveal the immaturity of the technology.

On the Egyptian and Arab levels, Yahya, (2024) [44] found a statistically significant, moderate, direct correlation between the aspects of journalists' benefits from ChatGPT applications and their degree of awareness of its impact on the ethics of professional practice. In a related context, the results of the study (Abou Seena, 2024) [45] found statistically significant differences between the attitudes of both academics and educational media specialists towards employing ChatGPT in producing educational media content. While (Al-Bahri, 2024) [46] explained that there are positive effects of using ChatGPT on communicators, most notably the ability to make smart comments and create marketing and promotional content.

In the same context, Ahmed, Abbasi & Shakil, (2024)[47] pointed out that the human element is required for effective use by journalists, in addition to the need for appropriate training for journalists in order to use these applications to improve performance rather than using them as an alternative.

RQ4: What are the ethical and professional challenges that are relevant to the integration of ChatGPT into journalism?

ChatGPT technology can bring many challenges to the journalism profession. In this section, these challenges are discussed at the professional and ethical levels according to the studies reviewed.

- **Professional Challenges**

1. *Obstructing inclusivity in News Organizations*

There is no doubt that the use of ChatGPT may obstruct inclusivity in news organizations if it is not well understood at both the macro and micro levels. Therefore, news organizations must overcome this challenge to maintain their social license and support the dimensions of diversity and inclusion in their social responsibility (Bdoor & Habes, 2024) [48].

2. Impact on the Editorial Agenda

There is no doubt that content creation through ChatGPT may direct the editorial agenda towards specific types of content, especially with its increasing use within newsrooms and media institutions. For example, focusing on entertainment content only without taking into account other forms of content, which leads to the absence of balance in providing daily knowledge to the public on the one hand, and neglecting serious journalism on the other hand (Al-Ghatrefi, 2023) [49].

3. Credibility of News

Credibility is one of the main media criteria that ensure that a journalist maintains the credibility of his audience, by separating verifiable data from personal opinions. In the era of generative AI, it has become difficult to distinguish real news from fake news (Sundar & Liao, 2023) [50]. In fact, over-reliance on ChatGPT responses can threaten the journalist's goal of conveying accurate and credible information, especially when end users are not familiar with the original text (Nishal & Diakopoulos, 2024)[51]. On the other hand, fake news can be used for undesirable purposes such as manipulating public opinion and destabilizing social stability, which negatively affects public confidence in the news on the one hand, and the reputation of the news industry on the other (Zhaocheng, 2023) [52].

4. Bias and Discrimination

It is recognized that ChatGPT may have biases towards certain cultural and linguistic groups, which may lead to biased or inappropriate responses (Ray, 2023)[53], or its tendency to provide information from one side, while remaining silent about an alternative point of view on the queries asked.

5. Accuracy/Content Quality

Zagorulko (2023) [54] pointed out that ensuring the accuracy and reliability of the content generated by ChatGPT is crucial to maintaining the outputs generated by it. Therefore, it should be treated with caution, and its potential impact on the accuracy and impartiality of the content generated

by it should be highlighted (Castillo-Campos et al, 2024) [55]. In this regard, the results of the study (Hudíková, 2023) [56] concluded that the analysis of texts generated by ChatGPT led to results of insufficient compliance with journalistic standards, especially the factual accuracy of information and stylistic correctness in press releases. Therefore, media companies and journalistic institutions should take into account the ethical and societal implications of this technology in the media industry (Arya & Sharma, 2023) [57].

6. *Lack of critical thinking and creativity*

Journalism undoubtedly requires critical thinking, empathy, and creativity, which are unique to human journalists and cannot be replicated by technology. It is worth noting that ChatGPT can help create content, but it cannot replace the unique storytelling capabilities of human journalists. In other words, ChatGPT is not creative in the same way that journalists are, as it does not have the ability to generate original ideas or make connections between ideas in a new way (Pavlik, 2023) [58].

7. *Misinformation and Disinformation*

Combating misinformation and disinformation in the context of ChatGPT technology is one of the issues that have received increasing attention, especially in light of limited monitoring. In this context, (Arguedas & Simon, 2023) [59] pointed out that it is not only the public that can be deceived by digitally manipulated content, but journalists can also fall prey to this content. Moreover, these systems bring some problems, such as sending unwanted false information (Xia, Wang & Wei, 2023) [60]. In addition to using this information as an effective weapon to spread confusion and unrest, socially and politically (Mahony & Chen, 2024) [61].

- **Ethical Challenges**

1) *Intellectual Property and Plagiarism*

ChatGPT contributes to the generation of ideas and even written content, which raises several questions about data ownership and the ethical implications of using it without permission. In this context, the results of a

study (Gondwe, 2023) [62] concluded that ChatGPT enables journalists to write news quickly and efficiently, which makes it easier for journalists to produce work that may not be their own, which threatens not only the authenticity of the content, but also increases the possibility of promoting misinformation and intellectual theft.

2) Responsibility and Accountability

The use of ChatGPT in journalism raises ethical questions about content creation and the responsibility of media companies and journalistic organizations to ensure accuracy and adherence to ethical standards. As such, ethical responsibility should lie with the actors involved in the design and manufacture of AI—"AI developers, journalists using these tools, or news organizations themselves" (Illia, Colleoni & Zyglidopoulos, 2023) [63].

3) Mis-use

ChatGPT has the potential to spread misinformation and manipulate public opinion (Tawfeeq, Awqatiet & Jasim, 2023) [64]. Perhaps one of the main concerns raised by ChatGPT is the risk of impersonation and identity theft (Wu, 2023) [65], especially in light of the lack of human supervision (Diakopoulos et al, 2023) [66].

4) Transparency

There is no doubt that the lack of transparency affects the user's trust in ChatGPT and his ability to make informed decisions about how to use the application. Moreover, ChatGPT answer is "random" meaning that it may give slightly different answers to the same question but in different queries (Zhou et al, 2023) [67].

5) Invasion of User Privacy

Privacy is a critical consideration for ChatGPT, especially in light of the collection and analysis of users' personal data. AI-powered personalization is a double-edged sword, as it provides benefits to the user on the one hand, and also poses risks to the diversity and balance of information on the other hand (Amponsah & Atianashie, 2024) [68].

Conclusions

The current study sought to provide a systematic review of the academic literature on the role of ChatGPT technology in renewing journalism. In this context, academic research published between 2023 and 2024 was reviewed by searching the Google Scholar database to identify: the areas of use of ChatGPT within journalistic institutions, its impact on employment paths and the future of journalists, in addition to monitoring the professional and ethical challenges posed by ChatGPT in the field of journalism.

Generally, the study reached a set of results, which can be summarized in the following points:

- ChatGPT technology is one aspect of technological progress in the field of generative artificial intelligence that has led to enhancing the basic standards of the journalism profession rather than undermining them.

- ChatGPT technology is an added value to journalism, that has the potential to have a broad and profound impact on how journalism is made and consumed.

- The impact of ChatGPT technology on employment paths and the future of journalists is still uncertain, but it considera sa an invaluable tool in helping journalists meet the requirements of the digital age.

- ChatGPT technology carries with it the risk of many ethical and professional challenges surrounding the journalistic scene that cannot be ignored - especially in light of limited oversight.

- The future of journalism in the era of generative AI is a future of cooperation to maintain the professional and ethical standards of journalism on the one hand, and to ensure a strong and ethical media ecosystem on the other hand.

Accordingly, the current study proposes several future research directions to develop the use of generative AI technology ChatGPT in journalism:

- Conduct long-term studies to examine and evaluate the role of ChatGPT technology on various journalistic practices.
- Develop training programs at the professional and academic levels to help journalists better understand and use ChatGPT in journalism.
- Develop guidelines to ensure the responsible use of ChatGPT technology in journalism in order to avoid the professional and ethical challenges it faces

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