REFLECTIONS OF ARTIFICIAL INTELLIGENCE SUPPORTED SOFTWARE ON COMMUNICATION SCIENCES: THE EFFECTS OF CHATGPT IN THE LITERATURE

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ABSTRACT

With the developing technologies and various national and international R&D studies, it is merely inevitable for these technologies to be a part of individual's lives. The importance of artificial intelligence in scientific studies cannot be denied. Thanks to artificial intelligence, it is an undeniable fact that it contributes to human life both fortunately and badly ultimately altering human lives. Namely, an artificial intelligence-supported software called ChatGPT, which has been recently released, seems to be making a breakthrough in the AI field contributing to human lives immensely. The main reason for this is that with the ChatGPT service, it has become possible for scientific and academic writings to be produced with artificial intelligence and the traditional scientist motto has faced the possibility of losing its value. For this reason, within the scope of the study, the effect of artificial intelligence supported software on the field of communication sciences and which innovations it could bring will be explained by examining the literature within the framework of certain keywords, and it will enlighten future studies in this field.

Keywords: Artificial intelligence supported software, ChatGPT, Machine learning, Communication sciences, Academic writing

YAPAY ZEKÂ DESTEKLİ YAZILIMLARIN İLETİŞİM BİLİMLERİNE YANSIMALARI: ALANYAZINDA CHATGPT'NİN ETKİLERİ

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ÖZ

Gelişen teknolojiler, çeşitli ulusal ve uluslararası Ar-Ge çalışmaları ile yeni kavramların hayatımıza girdiği artık bir gerçek olmaktadır. Bunun yanı sıra bilimsel çalışmalarda yapay zekânın önemi de inkar edilemez boyutlara ulaşmaktadır. Çünkü yapay zekâ sayesinde göz ardı edilemeyecek bir gerçeklik ile karşılaşılmakta ve insan hayatında de büyük değişimler yaşanmaktadır. Ancak, geçtiğimiz günlerde piyasaya sürülen ChatGPT adlı yapay zekâ destekli yazılımla birlikte yeni bir çığır açıldığı görülmektedir. Bunun temel nedeni ise ChatGPT hizmeti ile bilimsel ve akademik yazıların yapay zekâ ile üretilebilir hale gelmesi ve geleneksel bilim insanı mottosunun değerini kaybetme olasılığı ile karşı karşıya kalması olarak açıklanabilmektedir. Bu sebeple, çalışma kapsamında yapay zekâ destekli yazılımların iletişim bilimleri alanına etkisi ve ne gibi yenilikler getirdiği literatürdeki belirli anahtar kelimeler çerçevesinde incelenerek açıklanmakta ve çözümlenmekte, gelecekte bu alanda yapılacak çalışmalar için bir rehber niteliği taşıması hedeflenmektedir.

Anahtar Kelimeler: Yapay zekâ destekli yazılımlar, ChatGPT, Makine öğrenmesi, İletişim bilimleri, Akademik yazım

INTRODUCTION

Examining the last two centuries, or even the last century with a slightly bolder discourse, it would not be wrong to say that technological developments in the field of communication have taken a massive place in terms of world history. Additionally, especially in the last century, as the academicians who research in the field of communication has studied in terms of method and theory and processed its acceptance as a field of science in the scientific community coincide approximately with these dates. However, this is not the only reason for this. Especially with the development of communication tools and the processes of McLuhan's definition of medium is a message, communication sciences have taken very important steps in terms of self-development by acquiring a unique competence.

In addition to this, it can be said that with the development of communication technologies and the emergence of companies who use communication technologies at a great extent especially since the 1990s and maybe even the 2000s and allocating very serious research and development budgets to communication, communication has gained a very rapid acceleration since then. However, with the various developments in the field of communication such as print media, radio, television, cinema, and the internet, and later on fields, with the establishment and development of machine learning or artificial intelligence-assisted technologies and software, radical changes have occurred in the field of communication.

With the development of artificial intelligence-supported software and technologies, a great number of new generation communication technologies have emerged. These technologies, namely, are software Alexa, Siri, Google Assistant, Microsoft Cortana. As a result of these developing softwares and in addition to these softwares, health and social situations can be monitored and measured through developing tools which are based on these AI softwares, and an active role can be taken in solving problems by communicating with relevant people when necessary. However, many said above have been evaluated in terms of the benefits of technology, but it should be underlined that technology does not only have its benefits. As for the perspective of this article, it may not be easy to predict how the ChatGPT software might evolve in usage practices. The main reason for this is that it has found a place for itself as a frequently used tool in academic writing processes, especially since the software was released.

When viewed within this scope, it is observed that some researchers give second authorship to ChatGPT in their academic, scientific articles or texts (O'Connor and ChatGPT, 2022) and they conduct research using this software. Therefore, within the scope of this study, the effect of artificial intelligence supported software on the field of communication sciences and what innovations it brings will be explained using the literature review within the framework of certain keywords, and it will be tried to be a pioneering guide for future studies in this field.

1. ARTIFICIAL INTELLIGENCE AND AI-SUPPORTED SOFTWARE

Artificial intelligence technologies have emerged as a topic that has been discussed and argued about in many scientific fields, especially in recent years. However, there are many misunderstandings about artificial intelligence technologies. For this reason, before artificial intelligence technologies and artificial intelligence supported software are mentioned, it is necessary that artificial intelligence is explained as what it is in general.

McCarthy describes artificial intelligence as algorithms that are as capable as humans in solving problems (McCarthy, 2004, p. 7). According to another definition, artificial intelligence is explained as a structure that is coded with intelligent programming methods to give human-like responses (Arslan, 2020, p. 76). The definition made by Büyükgöze and Dereli as computers exhibiting intelligent behaviors such as analysis and learning styles (Büyükgöze and Dereli, 2019) also supports the above views. However, it is not correct to limit the concept of artificial intelligence to the above definitions.

Access to information through machine learning methods that occur and can be used based on artificial intelligence, engineers, natural sciences, health sciences, social sciences and communication sciences, have the ability to be programmed according to certain acceptance and rejection by the people concerned, are coded, have a very wide access channel and can be used by themselves. It is necessary to evaluate it as multiple computer software that can process this information by providing.

Evaluating artificial intelligence supported software from the same perspective and developing a holistic

perspective is an essential action in order to better understand the notions in question. Because, when we look at the definitions above, it seems that it is not possible to consider artificial intelligence from only one angle and artificial intelligence has a great place in human life. In this respect, it is possible to define, explain or define artificial intelligence-supported software as internet-based software developed by using channels called big data, creating a data flow, data warehouse and in other words a data warehouse (Akpınar, 2023, p. 109-110). It should be said that it has such a structure. In this context, it is necessary to briefly mention what artificial intelligence supported software is and its features.

1.1. Alexa

There are a few points that need to be mentioned when talking about artificial intelligence-supported software, and the software called Alexa is an important example in this sense. Because this artificial intelligence-supported software, which can be counted among Intelligent Personal Assistants (IPA) (Göksel Canbek and Mutlu, 2016, p. 592) such as Apple Siri and Microsoft Cortana, is the (URL-1) offered to users by Amazon in 2014 and the word "Alexa" (quoted in Clauser, 2017, Lopatovska, Rink, Knight, Raines, Cosenza, Williams, Sorsche, Hirsch, Li and Martinez, 2018, p. 2) can be explained as an advanced virtual assistant.

1.2. Siri

When we look at artificial intelligence supported virtual assistants, Siri is one of the first Intelligent Personal Assistants (IPA) that comes to mind. The main reason for this is that Siri can make calls, text messages, provide short answers to questions by searching the internet, provide navigation and many other services (URL-2). It is also an important point that Siri was launched in 2011 (URL-3) and is among the firsts of other virtual assistant or IPA technologies with this feature.

1.3. Google Assistant

Google Assistant is an artificial intelligence supported virtual assistant that is generally used in android operating systems, supported by Google, can be operated with voice control and used to manage various mechanical systems (Melikatti and Palmur, 2021, p. 151). At the same time, some studies have hypothesized that Google Assistant may also be effective in the speech development of children (Hadi and Junor, 2022, p. 570).

1.4. Microsoft Cortana

There has been a huge increase in the development of interactive speech technologies and the introduction of Virtual Personal Assistants (VPAs) in recent years. At this point, Microsoft Cortana has gained an important place for itself (Kepuska and Bohouta, 2018, p. 99). Because Microsoft Cortana, one of the virtual assistants that can communicate personally via voice, has the ability to recognize its user by voice, collect various data and analyze a group of evaluation criteria (Reis, Paulino, Paredes, Barroso, Monteiro, Rodrigues and Barroso, 2018, p. 1). In this respect, it would not be wrong to say that Microsoft Cortana emerged as an element that facilitates human life, like other virtual assistants.

Table 1. Differences between Artificial Intelligence Supported Software

Alexa	**Siri**	**Google Asisstant**	**Microsoft Cortana**
It lags behind Google Assistant and Siri in voice recognition.	It is superior to others with Google Asisstant in voice recognition.	It is superior to others with Siri in voice recognition.	It lags behind Google Assistant and Siri in voice recognition.
Compared to Google Assistant and Microsoft Cortana, the relevance of the responses was lower.	Compared to Google Assistant and Microsoft Cortana, the relevance of the responses was lower.	With Microsoft Cortana, it is superior to others in terms of the relevance of its responses.	With Google Asisstant, it is superior to others in terms of the relevance of its answers.
Alexa is more powerful in terms of wide device integration.	It is weaker in terms of wide device integration compared to Alexa.	It is weaker in terms of wide device integration compared to Alexa.	It is weaker in terms of wide device integration compared to Alexa.
Compared to Siri, it is inferior in terms of fun dialogue.	Siri is ahead of others in terms of establishing fun dialogue.	Compared to Siri, it is inferior in terms of fun dialogue.	Compared to Siri, it is inferior in terms of fun dialogue.
It is generally integrated with Amazon products.	Siri is available in limited areas such as iOS, Mac and HomePod.	It can be used with Android, Windows and iOS.	It mainly runs on its own operating system.

Reference: Table prepared by the author of the article. However, the information in it is taken from (Mills, 2020).

2. EFFECTS OF CHATGPT SOFTWARE IN COMMUNICATION SCIENCES ACADEMIC WRITING

Many departments, especially communication sciences, contribute to science by following the developing technologies and, when necessary, by conducting research within the framework of these developments. For this reason, every sectoral and technological change is important at the point of scientific writing. In addition, it must be underlined that the scientific community works in a very tight schedule, since it is the subject of academic research in every situation that takes place in the world. In this research carried out within this scope, ChatGPT software, which has recently created a branch as a new field in academic writing, has been examined within the framework of academic writing in general, especially in Communication Sciences. However, before mentioning the ChatGPT software, firstly, it is necessary to focus on what communication science means and what can be understood from this academic writing.

Communication sciences has emerged as a field that has been argued on and discussed for over a century in terms of world literature (Güngör, 2020). However, the period mentioned here does not explain the historical adventure of communication as a phenomenon, as it expresses the process in which communication has begun to be evaluated as a science. From this point of view, it is necessary not to examine communication only in a structure that is a little longer than a century, but rather as an action that has been performed since the first times of people's existence.

As Aymaz tries to explain these processes mostly with the occurrence of intellectual adventures, he does not express his full agreement with this view, and he refers to the phenomenon of communication as *"the carrier of problems related to the relationship between human and reality, which is one of the ancient problems of the two millennium-old history of thought, in other words, the way people perceive reality"*. (Aymaz, 2018, p. 284). This explanation receives the support of opinion in general from Socrates, Lyotard, Deleuze and Derrida. However, in general, it is not a very correct attitude to put the communication phenomenon within a period of only a few thousand years because as stated above, communication emerges with the emergence of humanity as it is necessary for an individual's life. In fact, it would not be a great mistake to explain the phenomenon, concept or notion called communication, with a bolder expression, as a process that has occurred since the first times when entities who have no cognitive skills ,such as animals who have no cognitive skills contrary to humans, emerged. The general support that can be given to this view is that various sciences have demonstrated that animals have a way of communicating with each other, even if they are different from humans. However, since the entire historical process and definitions of communication will not be included in this study, these statements are only information aiming to draw a general point of view.

The point that is intended to explain within the scope of the study is to see where academic writings in communication sciences can evolve with the emergence of ChatGPT software. In this respect, it should be mentioned that communication sciences have gained a greater quality with the emergence of mass media and research (Uysal, 1996, p. 118). Considering the 19th century, the period in which studies in communication sciences started intensively in addition to mass communication studies, it is observed that the Industrial Revolution was an important milestone in the field of communication (Özçetin, 2018). In this respect, communication sciences should not be considered as an introverted science. Instead, it is important to see communication sciences as a phenomenon that is in constant interaction with external influences, constantly improving itself, and connecting with other fields at the point of science proving its own maturity (Işık, 2012, p. 7).

Since communication sciences have such a close interaction with external factors, it is not difficult to predict that ChatGPT software will make much more effective changes in academic writing in this science because ChatGPT has the potential to produce original text at an incredibly similar rate to human writing with very little information input (Susnjak, 2022, p. 1), it may appear as a threat to academic frameworks for academic researches and academic writing inputs. The main reason for this is that in addition to the this information, ChatGPT software is a large language model and uses this language model. At the same time, it has a strong artificial intelligence support and has a much more solid foundation than its competitors,

with its writings undergoing a kind of machine learning process (Susnjak, 2022, p. 3).

However, as the name suggests, ChatGPT software's use of the GPT (Generative Pretrained Transformer) structure (Vaswani, Shazeer, Parmar, Uszkoreit, Jones, Gomez, Kaiser, and Polosukhin, 2017) and the fact that it has a continuous self-education process will cause it to be used frequently in the writing of academic studies in the coming years. However, in these periods when ChatGPT software has just entered our lives, it is not generally predicted what a plus or minus it can offer on journalism and media studies (Pavlik, 2023), as well as the fact that it is a remarkable artificial intelligence and its various limitations have not yet been discovered. For this reason, it is not a far-fetched thought to think that ChatGPT software has a scope that can have a great impact on testing educational, learning and research experiences (Zhai, 2022, p. 1), leading us to enter a new era in terms of academic writing. On the contrary, believing that, thanks to this software, researchers can achieve partially consistent and generally facilitating effects on literature review can be considered as an important step for scientific development.

It is thought that ChatGPT software is as harmful as the benefits it provides in the field of academic writing, and therefore any researcher should consider this benefit-harm balance in more detail while working on this subject. Because ChatGPT software is an artificial intelligence supported software, it is thought that it will help a new dawn to be born in many scientific fields, especially in communication sciences. In addition to this, it is estimated that we will see ChatGPT software both as an author and in other forms in further research. In this respect, it should be reminded that although a scientist needs to develop an innovative perspective, the scientist should not be blindly attached to and rely on new technologies.

3. CONCLUSION AND SUGGESTIONS

A lot of valuable information has been reached in this literature review on the effects that ChatGPT software, which is a product of developing new technologies and has recently become popular among artificial intelligence supported software, on the field writing of many other sciences, especially communication sciences. However, it is aimed that this study is a compilation study and that

the results obtained will be a source for other academic researches on this subject. As a result of this research, the concepts were defined and as a result of these defined various concepts, ChatGPT, a new generation artificial intelligence supported software, was discussed with its conceptual dimension. In this respect, all the results are arranged to shed light on future studies.

With this study titled *"Reflections of Artificial Intelligence Supported Software on Communication Sciences: The Effects of ChatGPT in the Literature"*, firstly, what artificial intelligence is and some of the artificial intelligence supported software are mentioned. As a result of these mentions, it has been observed that the studies on artificial intelligence and artificial intelligence supported software are generally based on computer sciences, and in some cases, they are handled within the scope of science. However, the fact that artificial intelligence-based studies were not handled from the perspective of communication sciences was seen as a surprising finding during the literature review. At the same time, the fact that this situation has been examined very little by communication sciences has caused various question marks about the adaptation processes of communication sciences to developing technologies. In this respect, it was thought that communication science researchers should do more research on artificial intelligence and especially how artificial intelligence supported software effects on communication sciences should be investigated in more detail.

In this research, the subject that was examined and formed the basis of the study was the examination of where the academic writing processes could evolve in general, together with the ChatGPT software and communication sciences. In the literature review made as a result of this review, it was seen that other researchers generally had positive opinions about ChatGPT software and it was thought that it would cause very different developments in the field of academic writing. However, within the scope of this study, a completely positive or negative attitude about ChatGPT software was not exhibited, it was mainly aimed to blend both attitudes. In this respect, although there are places where this software is praised at times, the negative points of this software are mentioned in some places and it is hoped that later researchers will show a more moderate view. In order to achieve this, in the last paragraph of the

section where ChatGPT software is examined, warnings were made to researchers who will conduct research in this field in the future. In this way, necessary information has been given for the future studies on this subject to be done more consistently and cautiously.

In general, when it comes to the interpretation of the findings obtained in the study, it can be stated that artificial intelligence has a very serious place in today's conditions and in a sense, it has begun to take place in the center of our lives. Especially when we look at the artificial intelligence supported virtual assistants evaluated within the scope of the study, it has been seen that virtual assistants have entered our phones and computers with many mobile devices. In the context of this finding, it has been observed that our lives are surrounded by artificial intelligence supported softwares which are generally in a position to facilitate our lives. At the same time, it has been noticed that many researchers have a positive attitude towards virtual assistants and regard them as helpful elements in human life. Likewise, within the scope of this study, a positive attitude towards virtual assistants was displayed and although it is known that virtual assistants contributed to the formation of the data pool called big data, it is estimated that great benefits will be discussed in controlled use.

It is very important for communication sciences and academic writing to grow, develop and increase its scope with developing technologies in order to ensure scientific development in these fields. The fact that the concept of communication has a constant relationship with external factors in historical process and that it can develop its own perspective in every technological development has been evaluated as an indicator that the life of communication sciences is enlightening for future. In this respect, it is recommended that communication science researchers pursue technology more extensively and conduct comprehensive research on each innovation, since it is foreseen in this way, both the communication sciences and the academic writing field will develop fruitfully and rapidly. As mentioned in the study, ChatGPT will catch a much wider area on the agenda in the following processes, and many different software such as this software will be released in the coming days and it is aimed to keep this area alive. In this sense, however, it is also thought that researchers

should not display a completely technology-sanctifying attitude or completely disparaging technology. In order to balance this, it is recommended that current and future researchers should not think unilaterally and limit themselves to a single point of view.

To summarize, within the scope of this research, it has been observed that communication studies do not encompass artificial intelligence that much and do not do many a research in this field. For this reason, it is stated that communication scientists may need to follow a more careful process and think thoroughly and write more on artificial intelligence, artificial intelligence supported software and virtual assistants. In addition, it is thought that the historical processes and conceptual background of communication sciences should be handled with more careful definitions. In addition, it was underlined that many studies involving content analysis, text reviews, comparative analyzes, and SWOT analyzes should be done to better understand the opportunities and threats in order to detect the revolutions that software such as ChatGPT will make in the field of academic writing.

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