


Evaluation of Postgraduate Thesis Studies on the Use of Artificial Intelligence in the Field of Communication

Hatice Nur Yıldız¹ 

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Article Info

Abstract

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Artificial intelligence, which is used in different ways in different fields, is also used in the field of communication. As a result, artificial intelligence is a subject researched in academic studies. Within the scope of this study, in which the document review method was applied, 21 theses published in the National Thesis Center of the Council of Higher Education in 2020-2023 were examined. Additionally, content analysis technique was used in data analysis.

In this study, the type of theses, the year they were published, their subjects, the methods used and the language in which they were written were analyzed. In the study where the theses on the use of artificial intelligence in the field of communication were examined, it was concluded that the studies were generally completed at a master's degree and their use in the cinema and TV series industry was examined. The fact that there are 21 master's and doctoral theses in total shows that studies on artificial intelligence in the field of communication are lacking in the literature. In particular, it seems that studies on the relationship between journalism and artificial intelligence are minimal.

Introduction

Today, artificial intelligence is one of the most important technological developments. It is an undeniable fact that artificial intelligence is a revolutionary development. Artificial intelligence, which is used in every field from health to military, from industry to agriculture, is also widely used in the field of communication. Artificial intelligence is used both as a tool for establishing communication and

¹Dr., Atatürk University, Faculty of Communication, Department of Public Relations and Publicity, haticenur.yildiz@atauni.edu.tr

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is seen as the party with whom communication is established. In addition to this feature, artificial intelligence is used in many areas such as automatic writing of news texts, accurate analysis of the target audience for advertising campaigns, writing movie scripts, and the use of robot cameramen.

When the literature is examined, artificial intelligence, which has been researched with different methods in the fields of science, health sciences and social sciences, has also become one of the remarkable topics in public relations, advertising, journalism, cinema and communication sciences.

It is important for future studies to analyze in which areas of communication artificial intelligence is most researched and how it is researched. It explains the importance of the study as it helps identify the studies on the role of artificial intelligence in the field of communication and the deficiencies in the literature on this subject. In this context, theses containing the word artificial intelligence in the thesis titles and written in the departments of Public Relations, Journalism, Advertising, Communication Sciences and Advertising were examined.

Artificial Intelligence

Artificial intelligence, defined as the science and engineering of making intelligent computer programs by John McCullach in 1955, is used by different disciplines for different purposes with the development of technology (Arslan, 2020: 76). Artificial intelligence is an information technology that simulates human behavior and exhibits behaviors such as learning and decision-making (Pamuklu and Fındıkçı, 2023: 178). There are features that make artificial intelligence different from human intelligence (Yardımcıoğlu and Şitak, 2020: 344):

Artificial intelligence is permanent: People may forget the subjects or events they have learned and experienced over time, unless they experience similar ones. However, any data written to the memory on the computer will always remain in the memory unless it is deleted consciously.

Artificial intelligence can be shared: Since artificial intelligence is created on a computer, it can be easily transferred to all other computers by copying. But human intelligence cannot be completely transferred to another person.

Artificial intelligence can be achieved more easily: Increasing the intelligence level of any computer will of course be easier than increasing the intelligence level of an individual.

Artificial intelligence is consistent: While artificial intelligence gives the same reactions in every situation, this situation may change in humans.

Artificial intelligence is recorded: When an event is encountered, the reaction produced by artificial intelligence is recorded directly.

Pirim (2006) explains human expertise and artificial expertise as follows.

Table 6. Differences Between Human Expertise and Artificial Expertise

Human Expertise	Artificial Expertise
Can be impressed easily	Permanent
Difficult to transfer	Easy to transfer
Can generate new ideas	Cannot generate new ideas
Has social sense	Has technical sense
Difficult to document	Easy to document
Hard to predict	Consistent

Source: Pirim, 2006: 86.

Artificial intelligence has three purposes: science, education and engineering. The scientific purpose of artificial intelligence; it includes presenting computer models of intelligence by researching its working reports, learning and creation strategies, and practical solution seeking methods. Educational purpose; It aims to provide people with the ability to learn, understand and solve problems, and to ensure that knowledge is remembered through various simulation software. The engineering purpose of artificial intelligence includes information such as producing intelligent programs and robots that think and make decisions like humans, and making human life easier with these produced artificial intelligence products (Aydın, 2017).

Artificial intelligence (AI) is poised to change interactions between machines and humans in remarkable ways (Paschen et al, 2021). Artificial intelligence can be classified as follows according to its functions (Rezk, 2023):

Weak artificial intelligence: Weak AI, also called narrow AI because it is limited to a specific or small area, has the potential to benefit humans by automating time-consuming tasks and evaluating data in ways that humans often cannot. Weak AI systems include:

- a) Video games such as the chess
- b) Google search suggestion
- c) Email spam filters
- d) Suggested purchases' ads
- e) Digital personal assistants like Apple's Siri and Amazon's Alexa

Strong artificial intelligence: Systems with strong artificial intelligence that can perform tasks considered human-like tend to be more complex and difficult systems. A machine that is equal to human intelligence is called strong artificial intelligence. Strong AI systems include:

- a) Robots
- b) Self-driving cars
- c) Hospital operating rooms

Super artificial intelligence: Super AI, which can outperform humans in every way, requires making rational decisions and even doing things like enhancing one's art and developing strong emotional bonds.

Artificial intelligence is used efficiently, easily and reliably by saving labor and time in many fields, from medicine to economy, business world, consumer decision processes, detection of potential criminal elements and defense systems (Karabulut, 2021: 1522). It is possible to list the artificial intelligence applications used in different fields today as follows (Cevher and Aydın, 2020):

In 1999, the first robot dogs named Aibo, which interacted with their environment and could respond to more than 100 voice commands, were produced. In 2000, ASIMO, the first humanoid robot that could walk, climb stairs, and change direction in case of possible collisions, was developed. Robots went to Mars in 2004. In 2005, in a race where autonomous vehicles could participate, five teams completed the route with drivers without a vehicle. Watson, developed by IBM in 2010, managed to beat the most experienced contestants in the quiz show Jeopardy, broadcast on the American television channel. In 2011, a humanoid robot called iCub, which can communicate with people and express their emotions, was developed.

Artificial intelligence also has a very important place in communication. Nowadays, artificial intelligence exhibits great communication skills as it enables information exchange and human-machine relationship. In addition to communicating with individuals, artificial intelligence also helps them in

their communication processes. For example, thanks to translation software, many different languages can be translated into their native languages or sign language communication can be achieved with language symbols developed for the hearing impaired. Therefore, in addition to artificial intelligence's ability to communicate, it helps overcome communication barriers between people by making communication easier, faster and more effective (Koçyiğit and Darı, 2023: 432).

Nowadays, people chat with digital assistants. Apple's Siri, Amazon's Alexa, and Google's translation application are the first applications that come to people's minds in the field of communication today. Here, artificial intelligence is not the communication tool, but the person being contacted (Başfıncı and Koç, 2023: 126).

The following concepts are important to explain the dynamics that emerge as a result of the interaction between artificial intelligence and human communication (Koçyiğit and Darı, 2023: 432):

Principles of Communication: Communication is a process of information transfer and effective communication is based on mutual understanding. Therefore, when communicating, artificial intelligence systems must convey information accurately and understandably.

Differences Between Artificial Intelligence and Human Communication: While human communication relies on factors such as empathy, emotional understanding, and social norms, artificial intelligence systems act accurately and logically. Being aware of these differences is important for effective communication.

The Role of Artificial Intelligence in Communication: Artificial intelligence systems can play a role in communication. For example, natural language processing systems can interact with humans naturally and be used in areas such as customer service or therapy applications.

Interaction Between Human Communication and Artificial Intelligence: Artificial intelligence systems that can communicate with humans can be used as a tool in human communication. For example, many people interact with artificial intelligence systems through their personal assistants.

Communication Quality: Effective communication quality is measured by accurate information transfer and understandability. When artificial intelligence systems take part in communication, information must be transferred accurately and understandably.

The uses of artificial intelligence in communication fields are as follows:

Artificial Intelligence in Public Relations: Thanks to artificial intelligence, news texts can be written automatically, machines can communicate with people with chatbots, people's emotional states can be analyzed and it becomes possible to determine which content is more interesting. In the field of public relations, artificial intelligence is used in issues such as text production process, media monitoring and competitor analysis (Yıldız, 2021: 127).

Artificial Intelligence in Advertising: Artificial intelligence shows advertisers which media channel is the best to reach the target audience and attract their attention. Artificial intelligence-supported software can create advertising content partially or holistically as needed. This includes not only written but also visual and audio content (Şahin Başfıncı and Koç, 2023: 127).

Artificial Intelligence in Journalism: Artificial intelligence technologies can assist journalists in the agenda-setting process in several ways. For example, through data analysis, AI can determine which topics attract more attention by analyzing data such as news read counts, share counts, comment counts, and other metrics. Through social media analysis, artificial intelligence can determine which topics are talked about most by tracking posts and trends on social media. This tells journalists which topics attract more public attention (Özsalih, 2023: 534).

Artificial Intelligence in Cinema: Artificial intelligence technologies have started to be used in the scenario stage of cinema. The artificial intelligence-based software "Benjamin", developed by Ross Godwin, who conducts artificial intelligence research at New York University, wrote a science fiction short film script called *Sunspring* (Oscar Sharp, 2016). Artificial intelligence technologies are also used in the production phase of cinema (Zengin, 2020: 161).

When the literature is examined, it is seen that there are studies evaluating artificial intelligence and academic studies related to artificial intelligence. Kavut (2022) examined studies on artificial intelligence between 2019 and 2021 using the content analysis method in her study. Yılmaz et al (2021) evaluated the theses examining cyber security and artificial intelligence together between 2018 and 2020. Alkan and Sevli (2023) examined the master's theses on "artificial intelligence" in the Department of Computer Engineering between 2017-2021. Yıldız (2021), he examined the theses written in the field of communication until 2020 in his study. For this reason, it is important to increase the number of academic studies in the field of communication, where artificial intelligence is widely used.

Research Methodology

The aim of the study is to examine theses about artificial intelligence in the field of communication. This study is important for future studies as it provides a source for determining whether the subject of artificial intelligence, which is also used in the field of communication, is a research topic in theses and which methods are used when examining artificial intelligence.

Depending on the purpose of the study, in this study, the document review method was used. Document review, which is frequently preferred in qualitative research, includes the examination and analysis of written materials containing information about the subjects targeted to be researched. Research is conducted through document review without the need for interviews and observations. (Karataş, 2015: 72). Additionally, content analysis technique was used in data analysis. Content analysis is a method used to make valid analyzes from text (Weber, 1990: 5).

For the purpose of the study, 21 theses examining the use of artificial intelligence in the field of communication, published from the National Thesis Center of the Council of Higher Education between 2020 and 2023, were examined.

When the articles in which theses are the subject of analysis are examined, it is seen that classifications are generally made under the following headings (Yıldız, 2021:611):

- a) Type of Theses
- b) Years of Theses
- c) Method of Theses
- d) Subject of Theses
- e) Language of Theses
- f) Department of theses

The following questions were determined in the context of the above-mentioned items:

- a) What is the type of theses?
- b) When were theses written?
- c) What methods were used in communication sciences theses written in the field of artificial intelligence?
- d) What topic do theses research?
- e) What is the writing language of theses?
- f) In which sciences/departments are studies carried out in the field of artificial intelligence?

Findings

In this section, the type of theses examined in the research, the year they were published, methods, their subjects and languages are included. The theses examined in the research are according to the type of study; They were examined in two groups: master's thesis and doctoral thesis, and the results are presented in Table 2.

Table 2. Type of Theses

Type	f	%
Master	13	61,9
Doctorate	8	38,1

As a result of the evaluation of the type of study according to Table 2, it was concluded that the use of artificial intelligence in the field of communication was mostly studied at the master's level. It has been concluded that there are fewer studies on the relevant topic in doctoral thesis studies.

Table 3. Years of Theses

Time	f	%
2020	3	14,2
2021	9	42,85
2022	5	23,80
2023	4	19,04

When Table 3 is examined, 3 studies were conducted in 2020, 9 in 2021, 5 in 2022 and 4 in 2023. When Table 2 is examined, it is seen that studies on artificial intelligence increased in 2021 but decreased over time.

Table 4. Method of Theses

Method	f	%
Quantitative	1	7,1
Qualitative	19	92,8
Mixed	1	7,1

When Table 4 is examined, it is seen that Qualitative Research methods are more preferred and especially the content analysis method comes to the fore.

Table 5. Subject of Theses

Subject	f	%
The place of artificial intelligence in public relations practices	5	23,8
Use of artificial intelligence in journalism	2	9,5
Artificial intelligence impact in digital environments	4	19,04
Use and expression of artificial intelligence in the cinema and TV series industry	6	28,5
Use of artificial intelligence in advertisements	4	19,04

When Table 5 is examined, it can be seen that research has been conducted on the use of artificial intelligence, especially in the cinema and TV series industry. The field of journalism is the discipline in which artificial intelligence is least researched.

Table 6. Language of Theses

Language	f	%
English	7	33,3
Turkish	14	66,7

When Table 6 is examined, it is seen that the language of postgraduate studies is mostly Turkish. This situation is interpreted as being due to the fact that the native language of the audience the theses reach is generally Turkish.

Table 7. Departments of Theses

Departments	f	%
Advertising	4	19,4
Public Relations	5	23,8
Journalism	2	9,5
Communication Sciences	4	19,4
Radio, Television and Cinema	6	28,5

When Table 7 is examined, it can be seen that research has been conducted on the use of artificial intelligence, especially in department of Radio, Television and Cinema.

Discussion and Conclusion

In the study where the theses on the use of artificial intelligence in the field of communication were examined, it was concluded that the studies were generally completed at a master's degree and their use in the cinema and TV series industry was examined. It was determined that in studies where qualitative research method was used frequently, content analysis was especially used. This may be due to the examination of the use of artificial intelligence in movies and TV series. The fact that there are 21 master's and doctoral theses in total shows that studies on artificial intelligence in the field of communication are lacking in the literature. In particular, it seems that studies on the relationship between journalism and artificial intelligence are minimal.

Considering the study conducted by Yıldız in 2021, it is seen that studies on artificial intelligence in the field of communication have increased, but this number is not sufficient. For this reason, it is important to increase the number of academic studies in the field of communication, where artificial intelligence is widely used.

Based on the findings from the research, the following recommendations were developed:

- a) The number of doctoral thesis studies can be increased.
- b) Studies can be conducted using different methods other than qualitative research method.
- c) Studies can be conducted on the use of artificial intelligence in the field of journalism.
- d)

Peer-review: Externally peer-reviewed.

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