e-Journal of New Media / Yeni Medya Elektronik Dergi – eJNM
ISSN: 2548-0200, January 2022 Volume 6 Issue 1, p.31-41
Complication Article

A CONCEPTUAL STUDY TOWARDS DEVELOPMENTS IN COMMUNICATION FIELD IN THE LIGHT OF ARTIFICIAL INTELLIGENCE APPLICATIONS

Engincan YILDIZ
İstanbul Gelişim Üniversitesi, Türkiye
enyildiz@gelisim.edu.tr
https://orcid.org/0000-0003-2549-3473

Atıf	Yıldız, E. (2022). A Conceptual Study Towards Developments in Communication Field in The Light Of Artificial Intelligence Applications, Yeni Medya Elektronik Dergisi, 6 (1), 31-41

ABSTRACT

Numerous examples of artificial intelligence that becomes prominent in academic studies over time emerged in the communication discipline. The experts in the communication field now started to benefit from various impressive properties of artificial intelligence. Sentiment analysis, natural language generation (NLG) and natural language processing (NLP) are some of the fields that communication experts have benefited from artificial intelligence to consolidate their studies. It is possible to analyze the target audience with natural language processing and sentiment analysis and texts generated in the natural language can look like as if created by humans. This study aims to provide a review at the intersection of artificial intelligence and communication field within the related literature and application field. This review study presents the scientific data in the literature and at the same time, provides examples in the application field. The field of artificial intelligence has been evaluated in the context of communication, and as a result of the examples discussed within the scope of the study, it is seen that it has reached the position of an important actor today. Accordingly, artificial intelligence algorithms can be a tool to retrieve data and interpret this data as well as highlighted as an auxiliary element to support the studies in the communication field. If this happens, artificial intelligence algorithms that continuously follow the needs and desires of the target audience, create the most suitable content for the target audience and notify the communication field workers by previously detecting any possible problems will emerge.

Keywords: *Public Relations, Communication, Informatics, Artificial Intelligence*

YAPAY ZEKÂ UYGULAMALARI IŞIĞINDA İLETİŞİM ALANINDAKİ GELİŞMELERE YÖNELİK KAVRAMSAL BİR ÇALIŞMA

ÖZ

Her geçen gün akademik çalışmalarda kendini daha fazla hissettiren yapay zekânın iletişim disiplininde de birçok örneği görülmeye başlanmıştır. İletişim alanındaki uzmanlar artık yapay zekânın sahip olduğu özelliklerden yararlanmaya başlamışlardır. Duygu analizi, doğal dilde üretim (NLG) ve doğal dil işleme (NLP) iletişimcilerin yapay zekadan faydalanarak çalışmalarını güçlendirdiği bazı alanlardır. Doğal dil işleme ve duygu analizi ile hedef kitleler analiz edilebilir, doğal dilde üretim ile metinler bir insan elinden çıkmış gibi oluşturulabilir. Bu çalışmanın amacı, literatür ve uygulama alanları dahilinde yapay zekânın ve iletişim çalışmalarının kesiştiği noktalara yöneliktir. Derleme türünde olan bu çalışma, literatüre dair bilimsel veriler sunmakta ve aynı zamanda uygulama alanında ortaya koyulmuş örneklere yer vermektedir. İletişim bağlamında değerlendirilen yapay zekânın, çalışma kapsamında ele alınan örnekleri neticesinde, özellikle günümüzde önemli aktör konumuna eriştiği görülmektedir. Bu doğrultuda, yapay zekâ algoritmalarının veriyi çekebilen ve bu verileri yorumlayabilen araç olma

Research Article- Submit Date: 23.09.2021, Acceptance Date: 24.11.2021
DOI NO: 10.17932/IAU.EJNM.25480200.2022/ejnm_v6i1004

özelliğine ek olarak, iletişim alanında çalışanlara destek verebilecek bir yardımcı eleman olarak ön plana çıkabileceği öngörülmektedir. Bu durumun gerçekleşmesi durumunda, hedef kitlenin istek ve ihtiyaçlarını sürekli takip eden, kitleye yönelik en uygun içerikleri oluşturabilen dahası, herhangi bir sorunu önceden tespit ederek iletişim alanında çalışanlara bildirebilen yapay zekâ algoritmalarının ortaya çıkacağı düşünülmektedir.

Anahtar Kelimeler: *İletişim, Bilişim, Yapay Zekâ*

INTRODUCTION

The subject of artificial intelligence shows itself in many academic disciplines. Especially globalization, advances in technology, developments in the field of informatics, the increase in data and the importance of data have brought many important developments. In this direction, many conclusions can be reached from the data obtained thanks to artificial intelligence algorithms.

Today, artificial intelligence can be indicated as the strongest research field under computer sciences (Köse, 2018: 94). Artificial intelligence, which has a place in the field of computer science, is frequently used in different ways in this discipline. In addition to data growth and rapid development in algorithms (ex. deep learning), artificial intelligence (AI) made various breakthroughs to gradually improve information technologies resources (Shi et al.,2020: 2167). In this way, it is seen that artificial intelligence, which makes breakthroughs in a wide variety of applications, has expanded considerably in terms of areas where it is used.

In the globalising world with the expansion of mass communication tools, studies in the artificial intelligence field as well as other science fields accelerated and overcame long distances (Karaduman, :5). Many fields such as artistic studies, visual disciplines and communication discipline have been affected by these developments and many examples have been encountered in terms of practice. Artificial intelligence applications can be commonly seen in various important communication disciplines such as public relations, journalism and advertisement. According to Yıldız (2020:606), artificial intelligence (AI) can find an application area in various fields and communication discipline is among these fields. Especially due to various opportunities for usage areas, artificial intelligence (AI) increasingly became an important and investigation worthy field in the communication field.

The growth in the data, algorithms gaining importance and wide range of artificial intelligence applications enabled this field to interact with various fields. It is possible to create numerous opportunities for organizations from the data obtained from artificial intelligence applications. States, governments, holdings, non-governmental organizations, large or small-scale companies can benefit from the opportunities of artificial intelligence. For example, there are some initiatives related to artificial intelligence that have been launched by the Trump administration so far (Mori, 2018: 24). In addition, institutions can use artificial intelligence in their campaigns or in the analysis of target audiences. Accordingly, when artificial intelligence is considered for the communication field, it can be seen that various communication fields such as journalism, advertisement and public relations are increasingly applied to artificial intelligence applications. The artificial intelligence applications are visible on various topics such as digital assistants, chatbots, robot journalism, viewer reactions, crisis management and reputation management. Although artificial intelligence and the communication field are different disciplines, it can be seen that these fields intersect at numerous points.

The businesses that support their communication field activities with artificial intelligence manage to obtain various important opportunities. Accordingly, it is possible to create content that the target audience will enjoy by processing the obtained data, the target audience can be better analyzed with the big data obtained about the target audience, the impact of the messages and the campaign success can be measured more clearly by collection the big data or the possible problems can be detected before these problems occur.

It can be seen that AI algorithms start to play an increasingly large role in modern society (Bostrom and Yudkowsky, 2011: 2). A group of computer scientists from Carnegie Mellon University found that machine learning algorithms made more decisions about personalized recommendations, advertisement and business opportunities along with other things (Etzioni and Etzioni, 2017: 409). Artificial

Research Article- Submit Date: 23.09.2021, Acceptance Date: 24.11.2021
DOI NO: 10.17932/IAU.EJNM.25480200.2022/ejnm_v6i1004

intelligence-based communication studies are included in this study. Accordingly, the main purpose of this study is to offer artificial intelligence applications in the communication field as a review study. In addition to this main purpose, this study aims to show that the artificial intelligence algorithms act as an auxiliary element for the communication experts based on the artificial intelligence applications.

ARTIFICIAL INTELLIGENCE OVERVIEW

Artificial intelligence (AI) is the general name given to developing machine technology to behave and act like humans created with artificial tools (Ilıcak Aydınalp, 2020: 2287). According to Say (2018:83), this is the scientific field that investigates how can we achieve all cognitive effectiveness (with bodies when necessary) of everything the natural systems can do (whether intelligent or not) with artificial systems and higher success levels. Another definition states that artificial intelligence is a study field of non-biologic software that imitates the analysis of thought methods of humans and the operation mechanism of the human brain (Güney and Yavuz, 2020: 417). Today, artificial intelligence can imitate processes such as information processing, thinking and learning and transcend human brain capacities while doing all these things (Şahin, 2021: 121).

The interest in artificial intelligence significantly increased in the last 60 years since artificial intelligence is included in the academic field (Nah et al., 2020: 369). According to Vesa and Tienari (2020: 3), intelligent agent programs became more widespread. These are the decision-making components of modern artificial intelligence and often work together with other important artificial intelligence technologies such as machine learning, natural language processing or AI-driven robotics. Artificial intelligence (AI) impacts and transforms the commercial and daily lives of societies (Panda et al., 2019: 197). Most of the institutions store almost many of their important data in digital media. However, in case of problems in storage, it is of great importance to intervene in this situation. However, any coding error can be repaired or replaced with the Superzapping method (Arslan, 2021: 548-549).

If artificial intelligence is considered accordingly, mathematician Alan Turing from Cambridge is considered as an important name for the computer and artificial intelligence field in history (Franklin,2017: 17). Alan Mathison Turing asked “can machines think?” and brought artificial intelligence into the agenda (Sucu & Ataman, 2020: 42). In 1950, British mathematician Alan Turing published his article called “computer machines and intelligence” where he summarized a few effective ideas about natural language processing, machine learning and genetic calculation (Natale and Ballatore, 2020: 8). Turing Test recommended by Alan Turing (1950) is designed to provide a satisfactory operational definition of intelligence (Russell and Norvig, 2010: 2). All these situations have led to an important breakthrough in artificial intelligence. In this direction, the studies put forward by Turing are important.

In the developments that followed, many sub-fields of artificial intelligence began to emerge. Artificial intelligence studies started to emerge in various disciplines with sub-domains such as machine learning, natural language processing and natural language learning. The broad impact of artificial intelligence expanded to the business field (Naidoo and Dulek, 2018: 2) and entered in the studies in different fields such as computer engineering, electronics, control, mechatronics, programming and philosophy (Öztürk and Şahin, 2018: 27). A recent and a series of high-profile studies on robotics and artificial intelligence (AI) in the economy and sociology field predicted that numerous jobs will be eliminated due to automation and only a few jobs will replace these jobs (Fleming, 2018: 23). This situation is in a position to affect many areas. With the effect of big data together with artificial intelligence technologies, a person or group has come to a position to put forward many studies.

There are new developments in technology and new tactics emerge in this direction (Gökcek,2021: 136). Such that, artificial intelligence continues to transform and change the way to do business and many other things. The developments in artificial intelligence and internet technologies contribute to consolidating different communication levels via platforms (Arrojo, 2017:426). Additionally, artificial intelligence technologies started to be positioned as more complex and almost-real communication partners (Guzman and Lewis, 2019: 73). In this direction, artificial intelligence technologies, together with technologies such as chatbots, etc., have started to be able to perform many tasks.

Research Article- Submit Date: 23.09.2021, Acceptance Date: 24.11.2021
DOI NO: 10.17932/IAU.EJNM.25480200.2022/ejnm_v6i1004

With artificial intelligence (AI), computers started to be in a position to realize the tasks that typically require human intelligence (Panda et al., 2019: 196; Huang and Rust, 2018: 155). According to Say (2018: 123), developing algorithms to communicate in human languages (natural language) has been one of the most common study areas of artificial intelligence researchers from Turing's article that suggested the famous test until now.

RE-THINKING ARTIFICIAL INTELLIGENCE IN COMMUNICATION FIELD

It is possible to say that the number of applications increases proportionally to the increasing intersections between artificial intelligence (AI) and communication science. According to Guzman and Lewis (2019: 71), the gap between artificial intelligence and communication is closing by artificial intelligence (AI) technologies designed to function as communicators. The intersection between the communication field and artificial intelligence is increasing and these are visible in the application field. Accordingly, it is believed that communication is fundamental both for the theory and practice of artificial intelligence (AI) (Gunkel, 2012: 2). A study investigated how much the media organizations in Brazil use artificial intelligence (AI) based communication strategies to create social media measurements and at what level did they increase the interest in Twitter (Nah et al., 2020: 371). From this perspective, artificial intelligence has become an element that influences various fields and media has been one of the influenced fields (Kocabay-Şener, 2021: 239). It is seen that algorithms are used in media analysis, understanding target audiences, and content production. In this direction, software programs such as Python or R Studios, as well as concepts such as machine learning, deep learning, natural language processing and natural language generation, have been frequently encountered in the field of communication. In this way, the target audience can be followed, content suitable for the target audience can be produced, and expectations can be measured.

In particular, inferences can be made by passing the texts obtained with text mining through certain processes. In addition, with artificial intelligence algorithms, personalized content can be delivered to the target audience. Thanks to these "personalized algorithms", content can be presented to people according to the expectations and needs of the target audience.

Sentiment analysis, target audience identification and analysis or organizing communication campaigns by using big data in the communication field can offer significant benefits to organizations. According to Aydınalp Ilıcak (2020:2292), today's artificial intelligence algorithms can complete the routine tasks of communication experts in half time these experts. Such that, collecting the necessary information to create the campaigns requires weeks-long human labor where the data can be collected, organized and turned into usable data rapidly with artificial intelligence. This enabled using algorithms in making research for the activities in the communication field, creating communication campaigns, preparing the messages, applying these messages and measuring the results. In general, communication experts are limited to create and use these algorithms and require external support for all these activities. According to Sütçü and Aytekin (2018), communication experts that avoid big data since a significant amount of data must be collected need to know the related methodology to work on this field and use programming languages such as R, Python to analyze this data.

The emergence of artificial intelligence with all these developments created a situation in which humanoid-like technologies can operate for a long time without human intervention, make their own decisions and act independently. Accordingly, public relations in the communication field need to include the role of artificial intelligence-driven systems to increase human communication (Galloway and Swiatek: 2018: 738). In addition to public relations, various communication fields such as journalism, advertising and radio-TV were and continue to be influenced by artificial intelligence. Accordingly, artificial intelligence-supported (AI) systems took a position to publish real-time social media responses and manage the crisis for the customers of the organizations (Panda et al., 2019: 14). In addition, more user-oriented content can be created with artificial intelligence supported systems. For example, Netflix offers personalized content for areas of interest to people. In addition, Instagram or Google bring ads that people are interested in. Despite the lack of tagged data, crisis information research society continued to advance in different social media data processing tasks. These advancements include data sorting, classification, eliminating, summarizing, ordering and recommendation. The

Research Article- Submit Date: 23.09.2021, Acceptance Date: 24.11.2021
DOI NO: 10.17932/IAU.EJNM.25480200.2022/ejnm_v6i1004

majority of these study lines struggle to apply the latest developments in artificial intelligence (AI) and especially the deep learning field until achieving promising results (Imran et al., 2020: 1-2).

Currently, various important developments such as image processing and sound processing are visible. Accordingly, there are numerous applications to help to interpret the existing images and finding the related subject from the images. Camfind (URL-1) or Yandex images can be given as an example of that. The artificial intelligence technologies that can interpret these images have the qualities to offer support in various subjects to organizations in the future. Voice-activated digital assistants emerge as another important topic. Voice-activated digital assistants such as Google's Alexa can comment on sports games in the US and provide information about the background statistics of the team's performance (Gregory, 2018). Algorithms can use structured data to create crime statistics and news reports about sports games and company results (Thurman, Dörr, & Kunert, 2017: 1240). These technical developments also influence news writing. Data journalism emerges as a rather comprehensive term and it is possible to see the examples of data journalism with data visualization (Broussard, 2018: 91). As seen in many examples, texts can be written as if they were made by a human hand. In addition, with the correct analysis of the target audience, these texts can be made suitable for the target audience.

Artificial intelligence (AI) started to create ripples among journalists with automated news writing and content distribution without human intervention (Panda et al., 2019:11) and according to Bulut (2020: 299), the articles created by algorithmic news cannot be distinguished from an article written by humans. With all these developments, effective applications in version fields from employment decision to performance measurement can be undertaken by artificial intelligence (Bal et al., 2019: 1078).

In the light of this information, it can be seen that various fields in the communication discipline such as public relations, advertising, journalism and media are influenced by the developments in artificial intelligence (AI). Artificial intelligence (AI) changed the way of work in the communication field and took an auxiliary position to help the experts in this field. Accordingly, it is possible to see numerous application examples. These situations can include robot journalism, content production, content analysis and many more. For example, the BBC's election results in the 2019 elections in the UK were one of the trials on this subject, the BBC announced that some of the news published on the election night that resulted in Boris Johnson's victory were written by artificial intelligence (URL-2). Among the examples of Natural Language Generation, these contents can be shown. Thanks to artificial intelligence technologies and natural language generation, the contents can be presented as if they were made by a human.

IS ARTIFICIAL INTELLIGENCE JUST A "MEDIATOR"? OR IS IT AN "AUXILIARY ELEMENT"?

What artificial intelligence (AI) applications can do in the communication field will bring some important questions such as "is it about data and reading this data?" or "is it possible to create an auxiliary element for the communication experts" by processing this data will merge in the future for the communication science and artificial intelligence relationship. It is important for communication experts to analyze the target audience well and reveal the desired activities for campaigns or messages that will be generated. Adopting artificial intelligence-supported business plans in all these processes might further increase the efficiency of the tasks. The communication experts can determine their roadmaps and messages more effectively with artificial intelligence algorithms.

Galloway and Swiatek (2018: 738) investigated the relationship between artificial intelligence and public relations and revealed the variety of roles artificial intelligence can play in public relations Later, the authors suggested that these roles are only the tip of the iceberg. Additionally, it can be seen that the artificial intelligence (AI) algorithms have the power to complete some of the daily tasks of human relations experts in half a time (Aydınalp Ilıcak, 2020: 2292). It is expected from artificial intelligence to influence some of the tasks depending on the type of the task (Chui et al.,2016). Especially when viewed on the basis of communication, it can be seen that fields such as public relations, advertising and journalism are affected by artificial intelligence and this is reflected in applications.

Research Article- Submit Date: 23.09.2021, Acceptance Date: 24.11.2021
DOI NO: 10.17932/IAU.EJNM.25480200.2022/ejnm_v6i1004

In the journalism field, Panda et al. (2018:11) suggested that artificial intelligence not only expanded the scope but also decreased the duration of the entire process. Machine learning-based news personalization systems are commonly used by news publishers such as The New York Times (Stray, 2019: 1078). While it is possible to see the expanding role of algorithmic news curators, these algorithms types that represent editorial decisions must be written with human terms (Hansen et al., 2017: 15).

The reviewed literature reveals that various potential benefits of AI in media are defined (Chan-Olmsted, 2019: 200). Later, it is argued that humans might perceive artificial intelligence and its products as communication partners when they use them (Nah et al. 2020: 369- 370). Hari (2018) argues that communication experts have the responsibility to talk positively about artificial intelligence (2018) and states that utilizing artificial intelligence will enable to focus on more humane aspects of the tasks and societies need to adopt machines and view them as friends, not enemies.

When the communication field is considered, there are various important fields such as image management, crisis communication, traditional media, social media, reputation management, advertising, event management and sponsorship. In these fields, public relations experts sometimes get support from artificial intelligence algorithms (Ilıcak Aydınalp, 2020:2292). By adopting and implementing artificial intelligence tools and technologies, organizations can measure the value of public relations efforts and match with the general mission and targets of a business (Panda, et al. 2019: 2). "The public relations Academy" provides only a few scientific materials about the relationship between public relations and artificial intelligence but this is starting to change. For example, three presentations were carried out about artificial intelligence-related topics in a recent international public relations conference for the first time (Galloway and Swiatek, 2018: 735).

The artificial intelligence systems (ex. robots, chatbots, avatars) have shifted from being perceived as a tool to being perceived as autonomous mediators and team members (Dignum, 2018: 1). With artificial intelligence algorithms, an artificial intelligence tool that can follow the media or the target audience outside the office hours emerges for the communication experts. This shows that artificial intelligence is no longer just data or a robot and act as an auxiliary element for the communication experts to create and detect various subjects.

Voice-based assistants such as Amazon's Alexa can answer human questions and needs with voice (Guzman and Lewis, 2020:72). Various AI applications similar to Amazon's Alexa with natural language processing and speech recognition skills that can interact and communicate with human users can be clearly seen (Nah et al. 2020: 370). With these assistants, individuals can complete a lot of tasks with machines without needing a real person. Robots can rapidly complete complex logical operations, calculations and assessments and rank the preferred results at the highest level. They can communicate with other robots and use the data from the database and internet more effectively than humans (Crnkovic and Çürüklü, 2012: 63-64).

One of the most important developments in the artificial intelligence field is chatbots. With chatbots, most of the needs can be met for fundamental subjects without needing a real employee. According to Barış (2020:43), chatbots offer various benefits in the customer services field.

Now, brands use various methods to develop a relationship with the users. For example, HBO launched "GoT Bot" to enable fans who want to refresh their memories about the important characters and events before the 7th season premiere of Game of Thrones (Bourne,2020: 119). With charisma.ai start-up, artificial intelligence was used to give life to characters. An interactive storytelling engine was created to enable the users to speak in the natural flow and ensure a complete and smooth storyline within the world of the story (URL-3). Thus, humans can communicate without understanding that the other party is a robot and can feel like they are talking to a human and listening to a story from a human (Ökmen, 2021: 430).

Nowadays it is possible to create unique articles thanks to applications such as Wordai and Spinrewriter. (URL-4 AND URL-5).

The researchers or communication experts are interested in artificial intelligence studies with applications such as Mozdeh and can easily retrieve data and complete various applications for their research. All of these can be done without any algorithmic code need (URL-6). In addition to obtained

Research Article- Submit Date: 23.09.2021, Acceptance Date: 24.11.2021
DOI NO: 10.17932/IAU.EJNM.25480200.2022/ejnm_v6i1004

data, it is possible to make sentiment analysis without any algorithmic codes with websites such as Sentistrength (URL-7). All these allow researchers to conduct many researches using artificial intelligence technologies with their basic knowledge.

In The Conference on Intelligence Science and Advertising Development organized on 17-18 November 2018 in China, more than 40 scientists and experts attempted to reveal the problems and latest developments to use artificial intelligence in the advertisement field (Öztürk,2021: 252). This is an indication that the subject of artificial intelligence in the field of communication has attracted attention and that studies on this subject have increased.

Accordingly, it can be seen that there are various applications in the advertisement field. It is possible to collect real-time data from viewer reactions in advertisement impact assessment and real-time optimization can be done to ensure compatibility between advertisement impact and brand impact with the help of machine learning (Li, 2019: 333). With Programmatic Advertisement, artificial intelligence technologies have algorithms that analyze the visitor behaviors and makes real-time campaign optimization for the audience with a higher probability of conversion (URL-8). Such that, it can be seen that "Creative Use of AI" and "Creative Use of Data" awards are given in the TECHNIQUE category by Epica Awards (URL-9).

Currently, it is possible to see that various platforms are further highlighted with personalized content. The largest examples of this can be seen as video content such as YouTube and Netflix. These platforms highlight the content that the users might enjoy and provide a higher user experience. According to Şahin (2021:115), we need to get used to algorithms deciding for us over time. For example, Netflix TV shows and movie platforms make new recommendations based on the TV shows and movies the users have watched. These platforms also have the feature of personalization. For example, even the posters are shaped according to the tastes of the audience and the content in Netflix, In this context, it also has an impact on the design field of communication.

Another development that will impact the communication field can be expressed as companies realizing artificial intelligence and directing to this field. Accordingly, Onclusive company offers various AI-driven services such as sentiment analysis, media analysis and media measurement to its customers. Atomic Reach eliminates the predictions and focuses on rewriting the content preferred by the target audience (URL-10). Phrasee platform also utilizes the power of AI to enable brands to better communicate and express themselves better (URL-11). The number of related AI platforms or companies that offer these services might increase. In fact, all these services are the indicators that the companies are willing to purchase these services and the number of service providers companies is increasing.

Accordingly, it can be seen that the majority of the companies that offer AI-driven communication services not only provide the interpreted data to the companies that are willing to receive these services but also create quality communication messages, create articles that are desired by the target audience with algorithms and offer the ways to create better communication. All of these are the indicators that artificial intelligence is taking solid steps to become an important actor in the communication field.

CONCLUSION

Artificial intelligence that influences the way of business in today's world and completely changes some business fields continue to impact various fields. Within these impacts, artificial intelligence can help to decrease the workload, increasing the quality and effectiveness of the tasks or acting as an auxiliary element for the experts. Continuously updating artificial intelligence algorithms started to take a position to undertake significant tasks in the communication field. When the fields that artificial intelligence algorithms had and will undertake in the communication field are considered, fields such as reputation management, crisis management, content creation, news writing and media monitoring can be shown as examples.

When the application examples in the communication field are considered, it can be seen that artificial intelligence will act as an auxiliary element for the communication experts. From this perspective, artificial intelligence algorithms that can detect any risks, problems or crises beforehand, create content,

Research Article- Submit Date: 23.09.2021, Acceptance Date: 24.11.2021
DOI NO: 10.17932/IAU.EJNM.25480200.2022/ejnm_v6i1004

write news articles, edit the texts to create the highest effectiveness and make target audience analysis can decrease the workload of communication experts and these experts can show more effective work. With that, these algorithms that better understand the target audience creates content for this target audience and provide work results will develop themselves as they are used in the communication field. It is possible to achieve important work results if artificial intelligence algorithms that can hold and process millions of data in its memory which is more than an employee can process are correctly and effectively positioned in the communication field. Artificial intelligence can take a position where communication experts can get support for the campaigns, text writing, advertisements or activities. Currently, there are companies that offer services to organizations in all these fields. In other words, companies are integrating their communication business with artificial intelligence with external support.

In general, it is clear that there are numerous organizations that offer AI-focused services in the communication field. Improvement in the efforts of these organizations every day will bring numerous organizations or businesses to get support from artificial intelligence.

To understand how much artificial intelligence is included in the communication field, it is possible to look into the conferences and awards organized in this field. In this sense, there are numerous conferences on communication and artificial intelligence and there are events to award the artificial intelligence applications in the communication field.

In the light of all this data and research, it can be seen that artificial intelligence is taking an important role in the communication field and it can now act as an auxiliary element to help communication experts. It is possible to state that all these developments can lead to numerous positive results if supported by required artificial intelligence algorithms.

This article the intersections are presented and the intersections of communication and Artificial Intelligence areas are supported by providing examples from AI applications in the communication field. As a result, it can be predicted that artificial intelligence can be an auxiliary element for communicators.

A compilation of academic studies and applications has been made with this study, which reveals the relationships between artificial intelligence and communication fields with examples. In this direction, the collection of researches in the field of communication and examples in the field of application will benefit future studies.

Research Article- Submit Date: 23.09.2021, Acceptance Date: 24.11.2021
DOI NO: 10.17932/IAU.EJNM.25480200.2022/ejnm_v6i1004

REFERENCES

Arrojo, M.J. (2017*). Information and the Internet: An Analysis from the Perspective of the Science of the Artificial. Minds & Machines*. 27, 425–448, https://doi.org/10.1007/s11023-016-9413-2

Arslan, Ş. (2021). *Süpergeçiş (Superzapping).*, Akdemir, N.,Tuncer, C. O. (eds.), Siber Ansiklopedi Siber Ortama Çok Disiplinli Bir Yaklaşım. Ankara, Pegem Akademi.

Bal, M., Bal, Y. & Bozkurt, S. (2019). *İnsan Kaynakları Yönetiminde Etkin Bir İşe Alım Süreci İçin Yapay Zekâ Yöntemlerinin Kullanımı*. 3rd International Congress Ofeurasian Social Sciences.

Barış, A. (2020). GSI *Journals Serie B: Advancements in Business and Economics*. 3 (1), 31-46. DOI: 10.5281/zenodo.4030216

Bourne, C. (2019) *AI Cheerleaders: Public Relations, Neoliberalism And Artificial Intelligence*. Publ Relat Inquiry 8(2):109–125

Bostrom, N., & Yudkowsky, E. (2011). *The ethics of artificial intelligence*. In K. Frankish & W. M. Ramsey (Eds.), The Cambridge handbook of artificial intelligence. Cambridge, UK: Cambridge University Press.

Broussard, M. (2018). *Artificial Unintelligence: How Computers Misunderstand the World*. Cambridge: MIT Press

Bulut, S. (2020). *Dijital Çağda Medya: Makine Öğrenmesi,* Algoritmik Habercilik ve Gazetecilikte İşlevsiz İnsan Sorunsalı. Selçuk İletişim, 13 (1), 294-313.

Chui, M., Manyika, L., Miremadi, M., (2016). *Where Machines Could Replace Humans and Where They Can't (Yet*). McKinsey Quarterly, (3), 58–69

Dignum, V. (2018). *Ethics in ArtificialI Intelligence: Introduction To The Special Issue*. Ethics Inf Technol 20, 1–3 https://doi.org/10.1007/s10676-018-9450-z

Dodig Crnkovic, G., Çürüklü, B. (2012). Robots: *Ethical by Design*. Ethics Inf Technol 14, 61–71 https://doi.org/10.1007/s10676-011-9278-2

Etzioni, A., Etzioni, O. (2017). *Incorporating Ethics into Artificial Intelligence*. J Ethics 21, 403–418 https://doi.org/10.1007/s10892-017-9252-2

Fleming P. (2019). *Robots and Organization Studies: Why Robots Might Not Want to Steal Your Job*. Organization Studies. 40(1):23-38. doi:10.1177/0170840618765568

Franklin, S. (2014). *History, Motivations, and Core Themes*. In K. Frankish & W. Ramsey (Eds.), The Cambridge handbook of artificial intelligence (pp. 15–33). Cambridge: Cambridge University Press.

Galloway, C., Swiatek, L. (2018). *Public Relations and Artificial Intelligence: It's not (just) about Robots*. Public Relations Review, 44, 734–740. https://doi.org/10.1016/j.pubrev.2018.10.008

Gunkel, D. J. (2012). *Communication and Artificial Intelligence: Opportunities and Chal-lenges for the 21st Century*. Communication +1, 1(1), 1–25.

Guzman AL, Lewis SC. (2020). *Artificial Intelligence and Communication: A Human–Machine Communication Research Agenda*. New Media & Society. 22(1):70-86. doi:10.1177/1461444819858691

Gregory, A. (2018). *Professor of PR Voices Concerns over Robots and AL Taking Over PR*. University of Huddersfield News.: https://www.hud.ac.uk/news/2018/ april/professorofprvoicesconcernsoverrobotsandaitakingoverpr/ adresinden alındı

Güney, E. & Yavuz, H. (2020). *Yapay Zekâ ile Sanatsal Üretim Pratiğinde Sanatçının Rolü ve Değişen Sanat Olgusu*. Sanat ve Tasarım Dergisi, Sanat ve Tasarım Dergisi, 415-439.

Gökcek, H., A. (2021). *Dijital Pazarlama Stratejilerine Etkileyici Pazarlama Perspektifinden Bakış*. Gökcek, H., A.(eds.) Dijital Yönetim, Pazarlama ve Medya. Ankara, Nobel.

Hari G (2018). *As Communicators, We have a Responsibility to Talk about AL in A Positive Way*. PR Week, 27 November. Available at: https://www.prweek.com/article/1519621/as-communicators -responsibility-talk-ai-positive-way

Hansen, M., Meritxell R., Jon K., and George, K. (2017). "*Artificial Intelligence: Practice and Implications for Journalism."* Tow Center for Digital Journalism, Columbia Journalism School, New York. https://towcenter.org/research/artificial-intelligence-practice-and-implications-for-journalism/.

Research Article- Submit Date: 23.09.2021, Acceptance Date: 24.11.2021
DOI NO: 10.17932/IAU.EJNM.25480200.2022/ejnm_v6i1004

Huang M-H, Rust RT. (2018). *Artificial Intelligence in Service*. Journal of Service Research. 21(2):155-172. doi:10.1177/1094670517752459

Ilıcak A., Ş. G. (2020). *Halkla İlişkiler Perspektifiyle Yapay Zekâ*. Turkish Studies- Social, 15(4), 2283-2300. https://dx.doi.org/10.29228/TurkishStudies.42106

Karaduman, T." *Yapay Zeka Uygulama Alanları*", Gazi Universitesi, Bilisim Enstitusu, Adli Bilisim. A.B.D.

Kocabay-Şener, N. (2021). *Yapay Zekanın Habercilikte Kullanımı: Olanaklar ve Sakıncalar*. Zengin F. Ve Kıpır B.(eds.), Yapay Zeka ve Medya. İstanbul, Doruk Yayınevi

Köse, U. (2018). *Güvenli Yapay Zekâ Sistemleri İçin İnsan Denetimli Bir Model Geliştirilmesi*. Mühendislik Bilimleri ve Tasarım Dergisi, 6 (1), 93-107. DOI: 10.21923/jesd.394527

Li, H. (2019). *Special Section Introduction: Artificial Intelligence And Advertising.* Journal of Advertising 48 (4):333–7. doi:10.1080/00913367.2019.1654947.

M. Imran, F. Ofli, D. Caragea, and A. Torralba. (2020). ''*Using AL and Social Media Multimodal Content For Disaster Response And Management: Oppor-Tunities, Challenges, And Future Directions*,'' Inf. Process. Manage., vol. 57, Art. no. 102261.

Natale S, Ballatore *A. Imagining The Thinking Machine: Technological Myths And The Rise Of Artificial Intelligence. Convergence*. 2020;26(1):3-18. doi:10.1177/1354856517715164

Naidoo J, Dulek RE. (2018). *Artificial Intelligence in Business Communication: A Snapshot*. International Journal of Business Communication. December. doi:10.1177/2329488418819139

Öztürk, G., (2021). *Dijital Reklamın Yapay Zekalı Yeni Hali: Akıllı Reklamcılık*. Zengin F. Ve Kıpır B.(eds.), Yapay Zeka ve Medya. İstanbul, Doruk Yayınevi

Ökmen, Y. E.,(2021). *Yapay Zeka İle Anlatıların Geleceği*. Zengin F. Ve Kıpır B.(eds.), Yapay Zeka ve Medya. İstanbul, Doruk Yayınevi

Öztürk, K. & Şahin, M. (2018). *Yapay Sinir Ağları ve Yapay Zekâ'ya Genel Bir Bakış*. Takvim-i Vekayi, 25-36.

Panda, G., Upadhyay, A. & Khandelwal, K. (2019). *Artificial Intelligence: A Strategic Disruption in Public Relations*. Journal of Creative Communications., 14(3), 196-213.

S. Russel and P. Norvig. (2010). , *Artificial Intelligence*: A Modern Approach, EUA:Prentice Hall.

Satoru Mori (2018). *US Defense Innovation and Artificial Intelligence*, Asia- Pacific Review, 25:2, 16-44, DOI: 10.1080/13439006.2018.1545488

Say, C. (2018). *50 Soruda Yapay Zeka*. İstanbul: Bilim ve Gelecek Kitaplığı.

Sylvia M. C. (2019). *A Review of Artificial Intelligence Adoptions in the Media Industry*, International Journal on Media Management, 21:3-4, 193-215, DOI: 10.1080/14241277.2019.1695619

Stray, J. (2019). "*Making Artificial Intelligence Work for Investigative Journalism*." Digital Journalism: 1–22. https://doi.org/10.1080/21670811.2019.1630289.

Sütçü, C. & Aytekin, Ç. (2018). *Veri Bilimi*. İstanbul: Paloma Yayıncılık.

Seungahn Nah, Jasmine McNealy, Jang Hyun Kim & Jungseock Joo (2020) *Communicating Artificial Intelligence (AI): Theory, Research, and Practice*. Communication Studies, 71:3, 369-372, DOI: 10.1080/10510974.2020.1788909

Sucu, İ. & Ataman, E. (2020). *Dijital Evrenin Yeni Dünyası Olarak Yapay Zeka Ve Her Filmi Üzerine Bir Çalışma*. Yeni Medya Elektronik Dergisi, 4 (1), 40-52.

Şahin, Z. B., (2021). *Yapay Zeka Uygulamalarının Etik Bağlamında Değerlendirilmesi*. Zengin F. Ve Kıpır B.(eds.), Yapay Zeka ve Medya. İstanbul, Doruk Yayınevi

Thurman, N., Dörr, K. & Kunert, J. (2017). *When Reporters Get Hands-on with Robo-Writing*. Digital Journalism, 5(10), 1240-1259.

Yıldız, E. (2021). *İletişim Alanindaki Yapay Zekâ Konulu Tezlerin İncelenmesi*. İstanbul Aydın Üniversitesi Sosyal Bilimler Dergisi, 13 (3), 605-618. Retrieved from https://dergipark.org.tr/tr/pub/iausos/issue/62979/901647

Y. Shi, K. Yang, T. Jiang, J. Zhang, and K. B. Letaief, "*Communication-efficient edge AI: Algorithms and systems,"* arXiv preprint arXiv:2002.09668, 2020.

Research Article- Submit Date: 23.09.2021, Acceptance Date: 24.11.2021
DOI NO: 10.17932/IAU.EJNM.25480200.2022/ejnm_v6i1004

ELECTRONIC SOURCES:

URL-1: http://camfindapp.com/cloudsight.html Date of Access: 15.09.2021
URL-2: https://www.aa.com.tr/tr/bilim-teknoloji/yapay-zeka-arastirmaci-gazeteciligi-etkilemeyecek/1873021 Date of Access: 27.10.2021
URL-3: https://charisma.ai Date of Access: 15.09.2021
URL-4: https://wordai.com Date of Access: 15.09.2021
URL-5: https://www.spinrewriter.com Date of Access: 20.09.2021
URL-6: http://mozdeh.wlv.ac.uk Date of Access: 20.09.2021
URL-7: http://sentistrength.wlv.ac.uk Date of Access: 20.09.2021
URL-8: https://www.seerinteractive.com/blog/programmatic-advertising-101-works/ Date of Access: 27.10.2021
URL-9: https://www.epica-awards.com Date of Access: 21.09.2021
URL-10: https://www.atomicreach.com Date of Access: 21.09.2021
URL-11: https://phrasee.com Date of Access: 22.09.2021

Atıf İçin: Yıldız, E. (2022). A Conceptual Study Towards Developments in Communication Field in The Light Of Artificial Intelligence Applications, Yeni Medya Elektronik Dergisi, 6 (1), 31-41

Research Article- Submit Date: 23.09.2021, Acceptance Date: 24.11.2021
DOI NO: 10.17932/IAU.EJNM.25480200.2022/ejnm_v6i1004