



PERCEPTION OF DOCTORS ON EFFECTIVENESS OF ARTIFICIAL INTELLIGENCE IN HEALTHCARE

Prakash A.G.¹, Dr. Arun Choudhary²

¹Research Scholar, Department of Computer Science

²Professor and Dean, Department of Computer Science

Venkateshwara Open University, Lekhi Village, Naharlagun, Arunachal Pradesh, India

agprakash1@gmail.com, choudharyarun@rediffmail.com

Abstract

The evolution of an organisation must always include the incorporation of artificial intelligence. To be more explicit, when it comes to the myriad of digital technologies, artificial intelligence is one of the most essential variables and is being seen as a key technology in the process of evaluating whether or not medical research will be successful. In today's rapidly changing healthcare climate, healthcare organisations want to take full advantage of the potential of artificial intelligence enabled solutions and its inherent edge in order to stay ahead of other healthcare organisations in a highly competitive environment. This is why healthcare organisations want to take full advantage of the potential of artificial intelligence enabled solutions. There is no evidence to suggest that successful organisations are founded on the underlying values of enabling successful innovation and technology adoption. These values enable organisations to align themselves with trends and changing market climates, which frequently enables organisations to develop more quickly than comparable competitive organisations.

Keywords: *AI, Doctors, healthcare etc.*

1. INTRODUCTION

In healthcare, there are various levels of AI which use databases on the web, which makes it effortless for the doctors to get hands-on access to a plethora of diagnostic resources. Hence AI is improving the diagnostics, physician's work. AI even provides the finer outcomes which could be customized according to their medical proficiency. The unnaturally made Artificial Intelligence's ability to think like humans can help doctors in many ways and even increases the chances of escalated accuracy in prediction or diagnostics based on the outcomes and responses. These outcomes compromise various backend databases, analysis of reports of a particular patient, doctors, and firms who are experimenting regarding health care. AI can even escalate the assurance, significance, performance, and quality. The data collected is the accumulations of the reports of every patient, readings of the medical instruments, lab outcomes, medical tests, and



numerous other things. AI in the field of healthcare comprises applications from very basics to advanced. From examining the medical records or reports, answering calls, suggesting the treatments and medications, analyse the health of the population of the country like what was the most dangerous or what the most people suffered a particular year. We can see AI developing the medications and medical devices, reading radiography images, making the reports and suggesting the therapy, communicating with the patients, creating trends for each patient, like how they managed to recover or from what they suffered, for how long and lastly how frequently they suffer from a particular disease. Hence the AI alone will be able to increase the efficiency, will be able to give proper treatment to the patients using the concept of machine learning in which it learns from the real applications. It can effectively monitor the patient trends and provide them the solutions.

In the coming future, with some advancements, it will be able to do surgeries as well. However, anything in this world has so many pros, it'll have some cons as well. So, on the other hand, some doctors believe the fact the extensive use of AI can lead to:

- Disassembling of medications.
- Increase the unproductivity.
- Can have the ability to overtake the role of human doctors.

Artificial intelligence (AI) may not replace clinical decision-making, but it may help clinicians make better decisions. If insufficient medical expertise is available, which is often the case in resource-poor regions, AI could be utilised to undertake screening and evaluation. Yet, the trust of physicians, patients, and health-care professionals in AI-based technology is just one of many aspects that must improve before AI can expand beyond specific jobs.

2. REVIEW OF LITERATURE

Mukherjee, Subhodeep &Chittipaka (2022) In this chapter, we conduct a literature review to determine the elements that contribute to TOE and provide the findings of survey-based study that the authors conducted in hospitals in India. Exploratory factor analysis (EFA) and structural equation modelling are the two methods that the authors use to examine the data (SEM). The obtained evidence supports the ideas that were provided. The healthcare industry may benefit from this research in regards to the use of AI.

Kooli, Chokri& Al Muftah, Hend (2022) The ability of technological advancement and artificial intelligence to imitate the general cerebral process of humans lends credence to AI while also posing a threat to humanity. Because AI is a relatively new technology, and technology in general might have unintended consequences, the safety of patients is the most important ethical issue.



Martin, John & Jeribi, Fathe & S.L, Swapna (2022) In order to expose the unknown and unpredictable features of the SARS-CoV-2 virus, which is now being investigated, the scientific community throughout the globe has used a range of different analytical and statistical methodologies. This article provides an overview of the artificial intelligence (AI) healthcare apps that are presently in use and discusses the relevance of these tools in addressing the Covid-19 epidemic.

Uma Maheswaran, S. & Kaur, Gaganpreet & Pankajam (2022) The terms "artificial intelligence" (AI) and "machine learning" (ML) are used interchangeably to refer to the same concept. According to the findings of this research, these models are helpful in improving the quality of the food as a whole in an efficient way. The current study investigates the significance of AI technologies in analysing the significance of these AI technologies in boosting service quality in the food and healthcare sectors. 37.9% of the people surveyed have said that they choose AI above conventional drugs.

Sam, Toong Hai & Samad (2022) The term "artificial intelligence" (AI) refers to a phenomena that is sweeping the globe and making headway in a broad range of industries. Diagnostics, decision-making, large-scale data analysis, and administrative tasks might all be facilitated by AI, which has the potential to reduce the strain on the industry's human resources. The applications of AI bring down the costs of healthcare while simultaneously improving the efficiency of medical procedures.

3. RESEARCH METHODOLOGY

The methodology of the survey was the primary topic covered in the study that was presented. The primary data is collected by sending out questionnaires directly to respondents working in healthcare institutions equipped with artificial intelligence. In addition, for the purpose of gathering primary data, the questionnaire is produced and distributed at various designations and levels.

To select the sample participants, a simple random sampling method is used from the thirty six digital healthcare service providers and selected 15-20 respondents randomly from each organization and totally 500 are chosen.

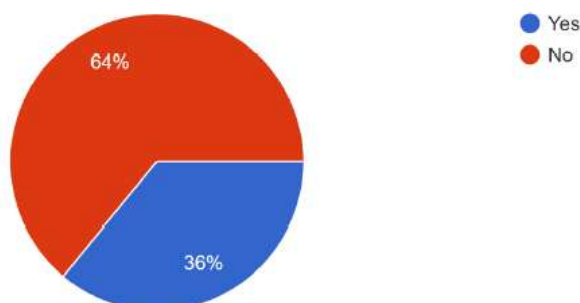


4. DATA ANALYSIS & INTERPRETATION

4.1 Are you currently working with artificial intelligence at your workplace

Table 1: Artificial intelligence at your workplace

Are you currently working with artificial intelligence at your workplace	Frequency	Percentage
Yes	180	64
No	320	36
Total	500	100



Graph 1: Artificial intelligence at your workplace

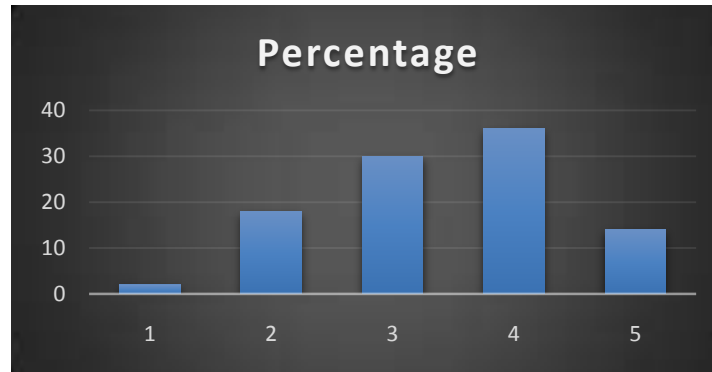
According to result, 64% said no that they are not working with AI in their workplaces and remaining 36% said yes, they are working with AI in their workplaces.



4.2 AI can give more accurate and faster response in diagnosis

Table 2: AI can give more accurate and faster response in diagnosis

Rating	Frequency	Percentage
1	10	2
2	90	18
3	150	30
4	180	36
5	70	14
Total	500	100



Graph 2: AI can give more accurate and faster response in diagnosis

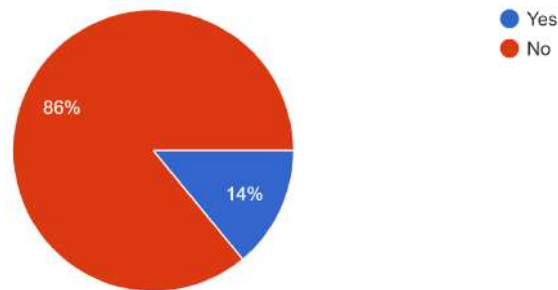
According to results, 2% respondents gave 1 rating, 18% respondents gave 2 rating, 30% respondents gave 3 rating, 36% respondents gave 4 rating and remaining 14% respondents gave 5 rating.



4.3 Do you think AI will replace doctors at your workplace

Table 3: Do you think AI will replace doctors at your workplace

Do you think AI will replace doctors at your workplace	Frequency	Percentage
Yes	70	14
No	430	86
Total	500	100



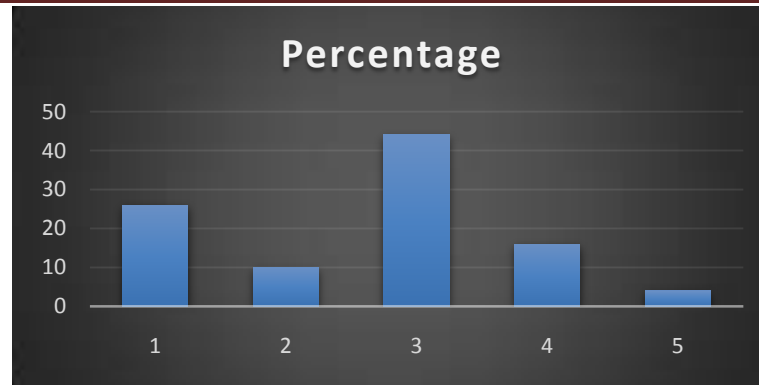
Graph 3: Do you think AI will replace doctors at your workplace

According to result, 86% said no that AI will not replace doctors at our workplace and remaining 14% said yes, AI will replace doctors at our workplace.

4.4 Can AI help reduce healthcare professional's workload

Table 4: Can AI help reduce healthcare professional's workload

Rating	Frequency	Percentage
1	130	26
2	50	10
3	220	44
4	80	16
5	20	4
Total	500	100



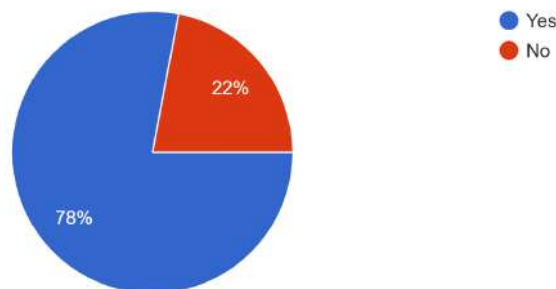
Graph 4: Can AI help reduce healthcare professional's workload

According to results, 26% respondents gave 1 rating, 10% respondents gave 2 rating, 44% respondents gave 3 rating, 16% respondents gave 4 rating and remaining 4% respondents gave 5 rating.

4.5 Using AI based tools for healthcare purpose is something I would consider

Table 5: Using AI based tools for healthcare purpose is something I would consider

Using AI based tools for healthcare purpose is something I would consider	Frequency	Percentage
Yes	390	78
No	110	22
Total	500	100



Graph 5: Using AI based tools for healthcare purpose is something I would consider

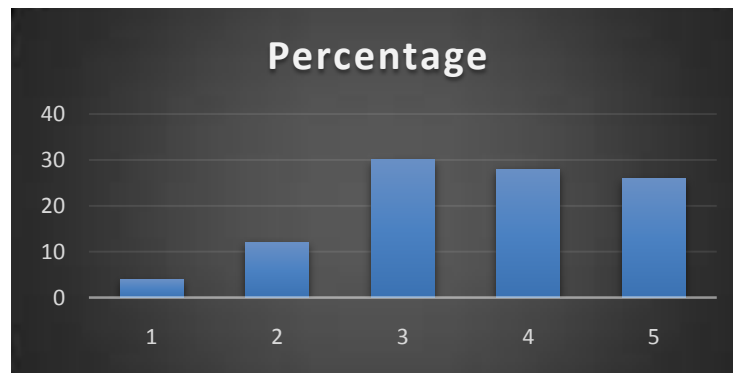


According to result, 22% said no that they would not consider and remaining 78% said yes, they would consider.

4.6 AI is not flexible enough to be applied to every patient

Table 6: AI is not flexible enough to be applied to every patient

Rating	Frequency	Percentage
1	20	4
2	60	12
3	150	30
4	140	28
5	130	26
Total	500	100



Graph 6: AI is not flexible enough to be applied to every patient

According to results, 4% respondents gave 1 rating, 12% respondents gave 2 rating, 30% respondents gave 3 rating, 28% respondents gave 4 rating and remaining 26% respondents gave 5 rating.



5. CONCLUSION

So it is concluded that Despite the positive reception, most doctors acknowledge that AI lacks the adaptability to meet the needs of every patient they see. The rising contact from radiologists, cardiologists, and ophthalmologists who are all employing AI efficiently in their workplaces lends credence to our findings and should be given greater weight. Thus, this partiality highlights this aspect of the study. The medical community in India Emirates seems to be open to the use of AI. Although doctors are confident of its usefulness, they also realise that technology cannot take their position in the healthcare sector. In other words, AI may be used by medical professionals to supplement their work rather than replace them during procedures like surgery, examination, and diagnosis.

REFERENCES

- [1]. Mukherjee, Subhdeep & Chittipaka, Dr. Venkataiah & Baral, Manish & Pal, Dr-Surya & Rana, Dr. Sudhir. (2022). Impact of artificial intelligence in the healthcare sector. 10.1016/B978-0-323-88468-6.00001-2.
- [2]. Kooli, Chokri & Al Muftah, Hend. (2022). Artificial intelligence in healthcare: a comprehensive review of its ethical concerns. Technological Sustainability. ahead-of-print. 10.1108/TECHS-12-2021-0029.
- [3]. Martin, John & Jeribi, Fathe & S.L, Swapna. (2022). Artificial Intelligence in Healthcare during Covid-19 Pandemic. International Journal of Computer Applications. 184. 975-8887. 10.5120/ijca2022922007.
- [4]. Uma Maheswaran, S. & Kaur, Gaganpreet & Pankajam, Ambigaivelu & Firos, A. & Vashistha, Piyush & Tripathi, Vikas & Mohammed, Hussien. (2022). Empirical Analysis for Improving Food Quality Using Artificial Intelligence Technology for Enhancing Healthcare Sector. Journal of Food Quality. 2022. 1-13. 10.1155/2022/1447326.
- [5]. Sam, Toong Hai & Samad, Abdul & Memon, Salman & Rasli, Amran & Tan, Kowang. (2022). ARTIFICIAL INTELLIGENCE POWERED HEALTHCARE APPLICATION: CHALLENGES AND SOLUTIONS. Seybold Report. 55. 55-67. 10.5281/zenodo.6955871.
- [6]. Amisha, Malik, P., Pathania, M., & Rathaur, V. K. (2019). Overview of artificial intelligence in medicine. Journal of family medicine and primary care, 8(7), 2328–2331.
- [7]. Azuaje, F. (2019). Artificial intelligence for precision oncology: beyond patient stratification. NPJ precision oncology, 3(1), 1-5.
- [8]. Murali, Nivetha & Sivakumaran, Nivethika. (2018). Artificial Intelligence in Healthcare- A Review. 10.13140/RG.2.2.27265.92003.
- [9]. Reddy, S. (2018). Use of artificial intelligence in healthcare delivery. In eHealth-Making Health Care Smarter. IntechOpen.



-
- [10]. Houssami, N., Lee, C. I., Buist, D. S., & Tao, D. (2017). Artificial intelligence for breast cancer screening: opportunity or hype? *The Breast*, 36, 31-33.
- [11]. Luxton, D. D. (2016). An introduction to artificial intelligence in behavioral and mental health care. In *Artificial intelligence in behavioral and mental health care* (pp. 1-26). Academic Press.
- [12]. Begg, Rezaul. (2008). *Artificial Intelligence Techniques in Medicine and Healthcare*. 10.4018/9781605660509.ch057.
- [13]. Jakab, Zsuzsanna&Tsouros, Agis. (2014). Health 2020 – Achieving Health and Development in Today’s Europe. *Open Access Macedonian Journal of Medical Sciences*. 2. 10.3889/oamjms.2014.090.
- [14]. Le Nguyen, T., & Do, T. T. H. (2019). Artificial Intelligence in Healthcare: A New Technology Benefit for Both Patients and Doctors. In *2019 Portland International Conference on Management of Engineering and Technology (PICMET)* (pp. 1-15). IEEE.