

Case study on AI applications: Implementation of artificial intelligence (AI) applications in radiology: hindering and facilitating factors

I. INTRODUCTION (*HEADING I*)

Artificial intelligence (AI) has the potential to revolutionize the field of radiology by improving diagnostic accuracy and efficiency. However, the implementation of AI applications in radiology has been hindered by various factors. This case study aims to explore the hindering and facilitating factors of AI implementation in radiology..

II. BACKGROUND

Radiology is a field that heavily relies on image interpretation for diagnosis and treatment planning. The use of AI applications in radiology has been on the rise due to its potential to improve diagnostic accuracy and efficiency. However, the development and implementation of AI applications in radiology face various challenges, including data quality and quantity, regulatory and ethical issues, and lack of standardization.

III. METHODOLOGY

The study used a qualitative research approach to gather data from radiologists and radiology technicians who have experience with AI applications in radiology. The data were collected through semi-structured interviews and analyzed using a thematic analysis approach.

IV. RESULTS

The study identified several factors that hinder and facilitate the implementation of AI applications in radiology. Factors that hinder AI implementation include the lack of data standardization, data privacy and security concerns, and the need for specialized training. Facilitating factors include the potential to improve diagnostic accuracy and efficiency, reduced workload, and improved patient outcomes.

V. APPLICATIONS

The use of AI applications in radiology has the potential to improve diagnostic accuracy and efficiency, leading to improved patient outcomes. The findings of this study can inform policymakers, healthcare providers, and researchers in developing strategies to overcome the hindering factors and maximize the facilitating factors for AI implementation in radiology.

VI. DISCUSSION

The study highlights the need for data standardization and data privacy and security measures to address the hindering factors of AI implementation in radiology. Additionally, the need for specialized training for radiologists and radiology technicians to effectively use and interpret AI results was

identified as a critical factor. Ethical considerations, such as transparency and accountability in AI decision-making processes, were also discussed. The potential impact of AI implementation in radiology includes improved diagnostic accuracy and efficiency, reduced workload, and improved patient outcomes. However, the ethical and societal implications of AI use in radiology should also be considered.

VII. CONCLUSION

The hindering and facilitating factors identified in this study provide insights into the challenges and opportunities for implementing AI applications in radiology. To maximize the benefits of AI in radiology, stakeholders must address the challenges and concerns related to data standardization, data privacy and security, specialized training, and ethical considerations. Future research should focus on developing and evaluating strategies to overcome these challenges and promote the effective and ethical use of AI in radiology.

REFERENCES

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