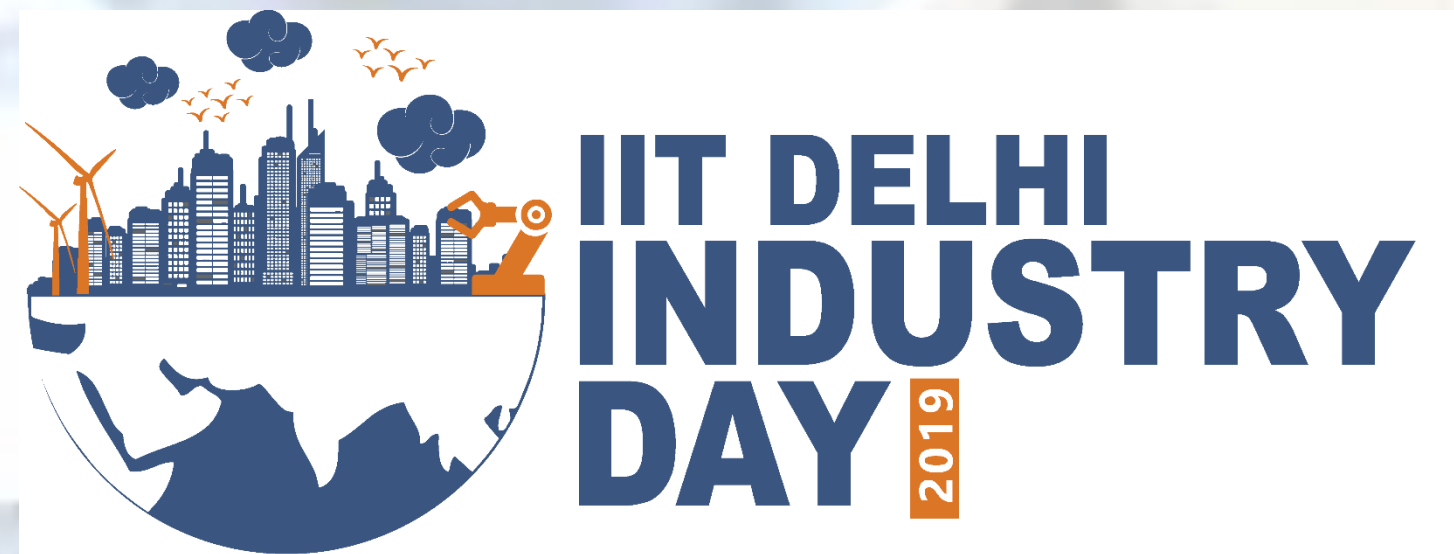




Make in India



Impact of Artificial Intelligence (AI) on Employability in the Indian Healthcare Sector

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Abstract

The employability of current as well as future healthcare professionals is bound to get impacted due to the intervention of AI in medical practices. The objective of this study is to determine the factors affecting employability in healthcare sector due to this intervention, in a holistic view. These factors if taken care of, would ensure well prepared professionals who are ready to embrace and adopt to these changes in the medical services offered to the patients for reduction in health inequality.

Introduction

With a population of more than 1.3 billion, India faces a major challenge in providing quality healthcare facility to all its citizens. The healthcare sector in India is expected to reach US \$372 billion by 2022 yet it is facing a dearth of trained doctors and other staff, thus depriving a large segment of people of primary healthcare services. Indian healthcare organizations are gradually increasing investments in artificial intelligence (AI). This would help in bridging the gap between those who have access to quality healthcare facilities and those who don't, by extending low-cost consultation and diagnostic facilities to the remotest of areas via high-speed communication links. AI-enabled software tools can cater to this increasing demand by connecting patients and doctors-geographically, economically and socially. AI offers the potential to automate some of the tasks and reduce the burden of routine tasks. This could leave doctors free to engage in more challenging and more personalized services to the patients. However, this implementation at a wider scale will require trained professionals. Due to the operational changes brought about by the adoption of AI in healthcare, the training and education needs of the workforce will have to be altered accordingly. These changes will require the professionals to have relevant skill-sets and knowledge about usage of AI tools in their respective fields. This research focusses on the impact and requirements of these developments on employability in the healthcare sector.

Materials and Methods

Eight factors have been identified, supported by the literature. Total Interpretive Structural Modelling (TISM) Technique has been used to develop the framework of employability.

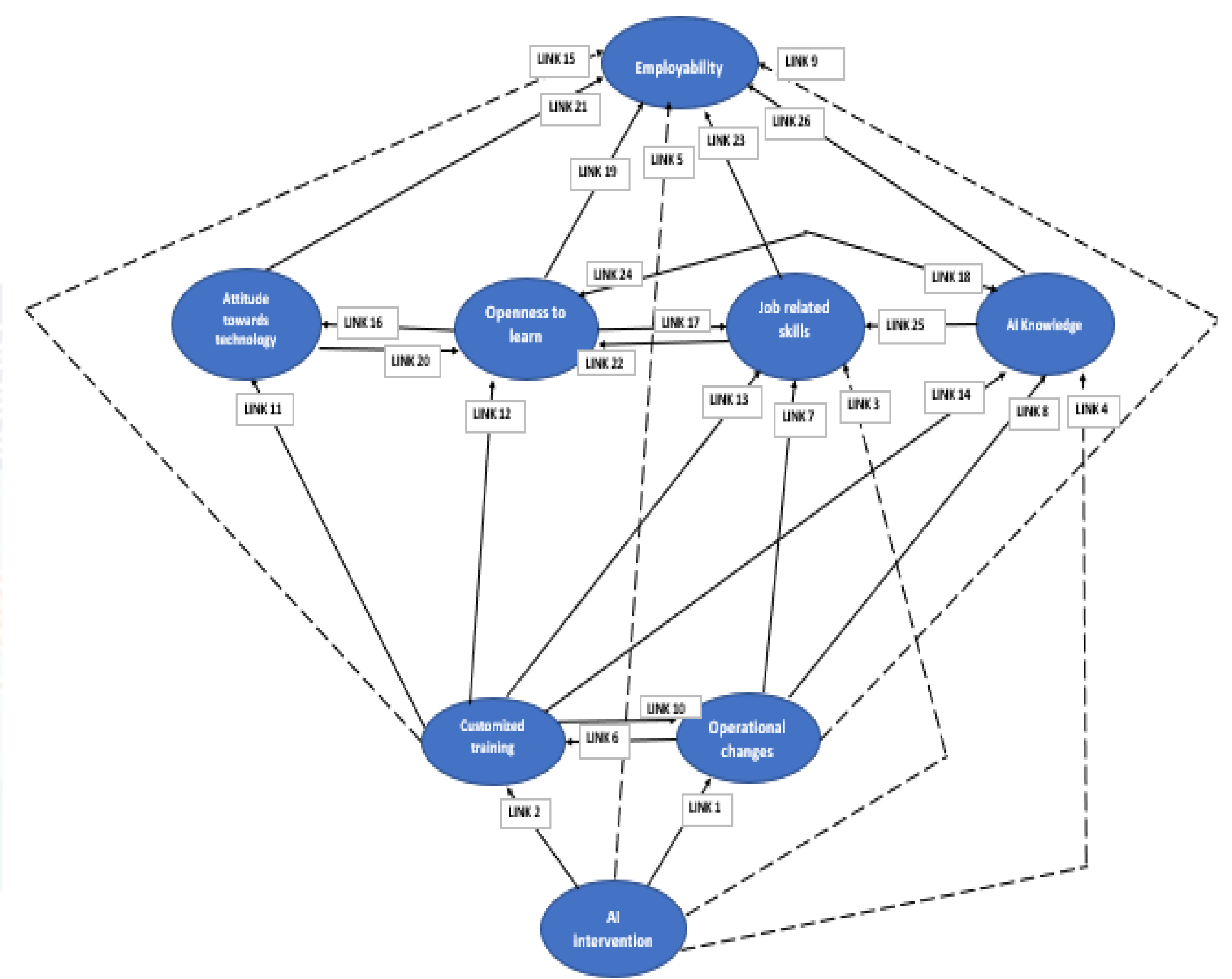
Conclusion

AI intervention in healthcare sector is impacting operational changes and customized training requirements. Operational changes are found to be demanding newer skill sets and knowledge about the usage of AI tools at workplace. While customized training is pervasively impacting learning flexibility, attitude towards technology, job related skills and AI knowledge, which are then directly impacting employability of an individual at an overall level. AI intervention is the major driving force leading to an impact on employability indirectly through the mentioned factors. Hence, the factors affecting employability identified in this study must be catered to, for better employability and hence efficient delivery of medical services to the citizens.

Industrial Significance: The healthcare industry needs to adopt AI enabled software tools to bridge the gap between the haves and have nots related to the access of quality healthcare facilities. They need to put forth the demand of AI knowledge and skill-sets for the current and future professionals for employability readiness.

Result

This study has established the following hierarchical relationships among the factors (i.e. AI intervention, Customized training, Operational changes, Attitude towards technology, Openness to learn, Job-related skills, AI knowledge) affecting employability, in the form of a digraph to develop driving-dependent relationships:



Based on TISM, the following reachability matrix has been developed:

	AI intervention	Operational changes(Job related)	Customized training interventions	Openness to learn	Attitude towards technology	Job related skills	AI related knowledge	Employability
AI intervention	1	1	1	0	0	1*	1*	1*
Operational changes(Job related)	0	1	1	0	0	1	1	1*
Customized training interventions	0	1	1	1	1	1	1	1*
Openness to learn	0	0	0	1	1	1	1	1
Attitude towards technology	0	0	0	1	1	0	0	1
Job related skills	0	0	0	1	0	1	0	1
AI related knowledge	0	0	0	1	0	1	1	1
Employability	0	0	0	0	0	0	0	1

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