

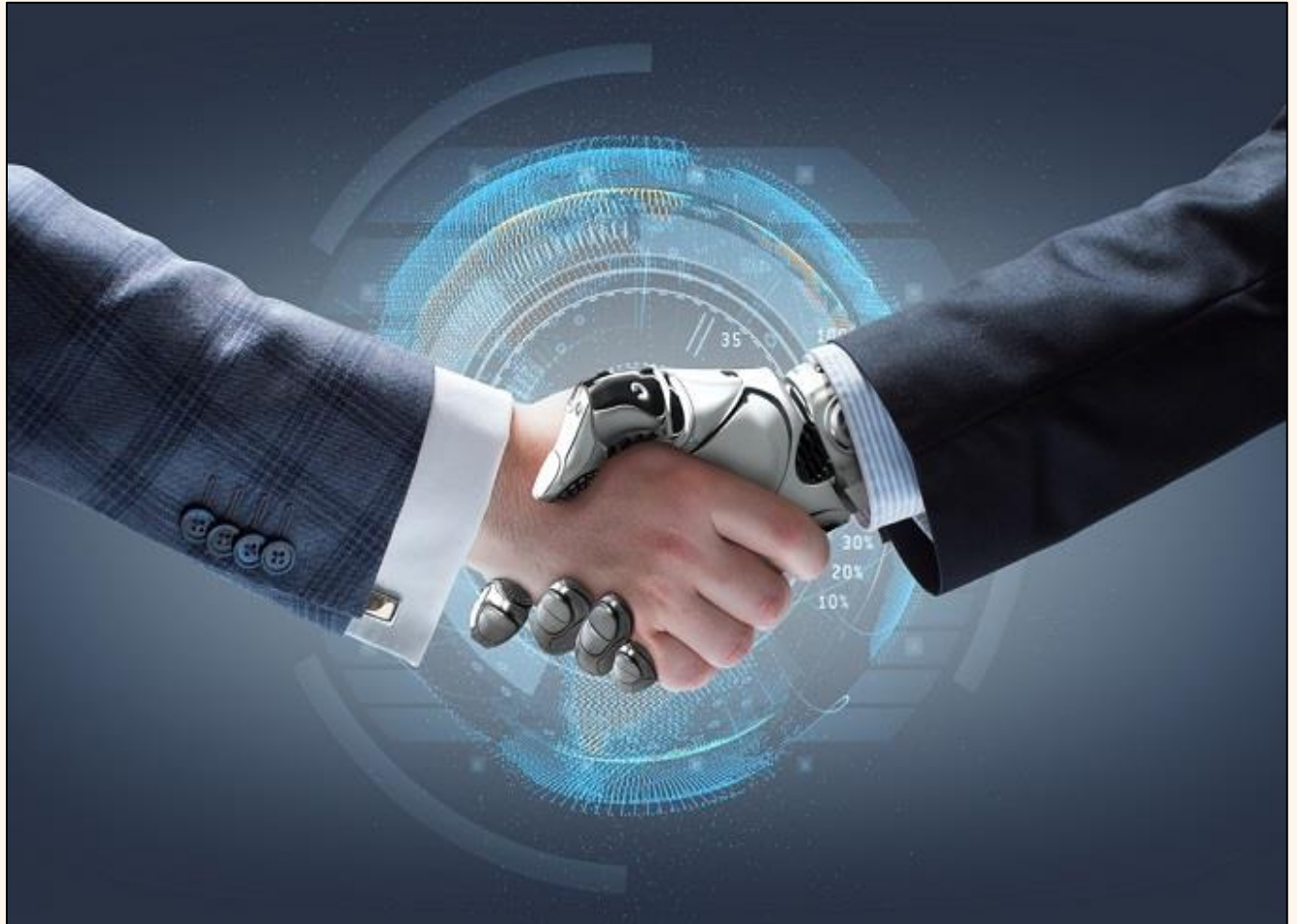
BUSINESS STRATEGY

Next Big Wave

Healthcare Industry: The Way Forward



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INTRODUCTION

ARTIFICIAL INTELLIGENCE, as described in the Oxford dictionary is "*the theory and development of computer systems able to perform tasks normally requiring human intelligence*". The concept of artificial intelligence (AI) has gradually descended from the realms of sci-fi movies and books to that of applied sciences and computing.

There has been a meteoric growth in the interest in AI-based tools which is reflected in the 65% growth in the funding received by AI-based startups in 2016. This growth has resulted from rapid developments in the field of 'Machine Learning' (ML), a sub-discipline of AI that aims to build programs that are capable of 'self-learning' when provided with a large amount of data. In this era of big-data, ML programs are becoming more and more reliable as they process increasingly vast amount of data.

However, with the growth of AI, there has been an increased concern about its effect on jobs. There have been numerous studies on the impact of AI on employment, with one of the most widely-noted studies estimating that 47% of US workers are in the high-risk category of losing jobs, which includes workers in transport, logistics, sales and services. Apart from these sectors, healthcare is another prominent sector likely to be affected by AI. While it is no exception when it comes to the loss of jobs, the sector can expect to reap big benefits as well, a statement backed by multiple studies with one study demonstrating that doctors which were aided by AI saw a 50% increase in successful patient outcomes and a 50% decrease in costs. There are multiple other benefits of AI as well, and they are only going to increase with time. Thus, the writing on the wall is clear, in order to say relevant healthcare companies need to successfully navigate this transition period and adapt to the new technological paradigm. Or else they risk being rendered inept and obsolete.



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It is easy to get overawed by technology and think that in the future, technology will be the only resource required to compete. While, that perhaps might be true in industries where one can observe significant network effects, healthcare is certainly not one of them. It's useful to remember how quickly technology has gotten commoditized in the past and there is no reason to believe that's going to change in the future. Thus, the incorporation of AI seems necessary but not sufficient. Providers need to balance the use of advanced technology and machinery with the core of healthcare and hospitals, i.e. hospitality. The organizations that prosper in the new age will be the ones who are cognizant of this fact and who continually invest in both technology and service and not merely technology.

Thus, while AI can help the healthcare sector in a number of ways, it's unlikely it'll replace humans altogether. The sector requires a certain human touch. While AI can help in determining whether someone has cancer or not, nobody would want it to be the one delivering the news to patients. While it can ask people to take their medication in time, it can't influence them in case they are reluctant to do so. While it can make as well as organize treatment plans for a patient, it

can't properly explain the plan as that requires a human touch.

Even in drug development, AI cannot replace researchers. The decision to research drugs for a particular disease is a strategic decision influenced by the socio-political environment along with many other factors. Something that clearly surpasses the capabilities of AI.

That having been said, organizations are definitely going to get leaner. Routine activities like maintaining medical records, cleaning hospitals, scheduling appointments etc. are all going to get affected by AI. The use of AI indeed threatens such jobs. If not obsolete, these jobs are likely to significantly reduce in number with the advent of AI.

Thus, organizations, need to re-focus their strategies. While strategies based on price competition could certainly work in the short term, in the long term they are a race to the bottom and in most cases strikingly inferior to strategies that focus on differentiation which in the years to come will be mainly through service quality. Hence, adoption of technology not only in upgrading medical care but also in upgrading service quality is the need of the hour, which is our recommendation for all healthcare providers.



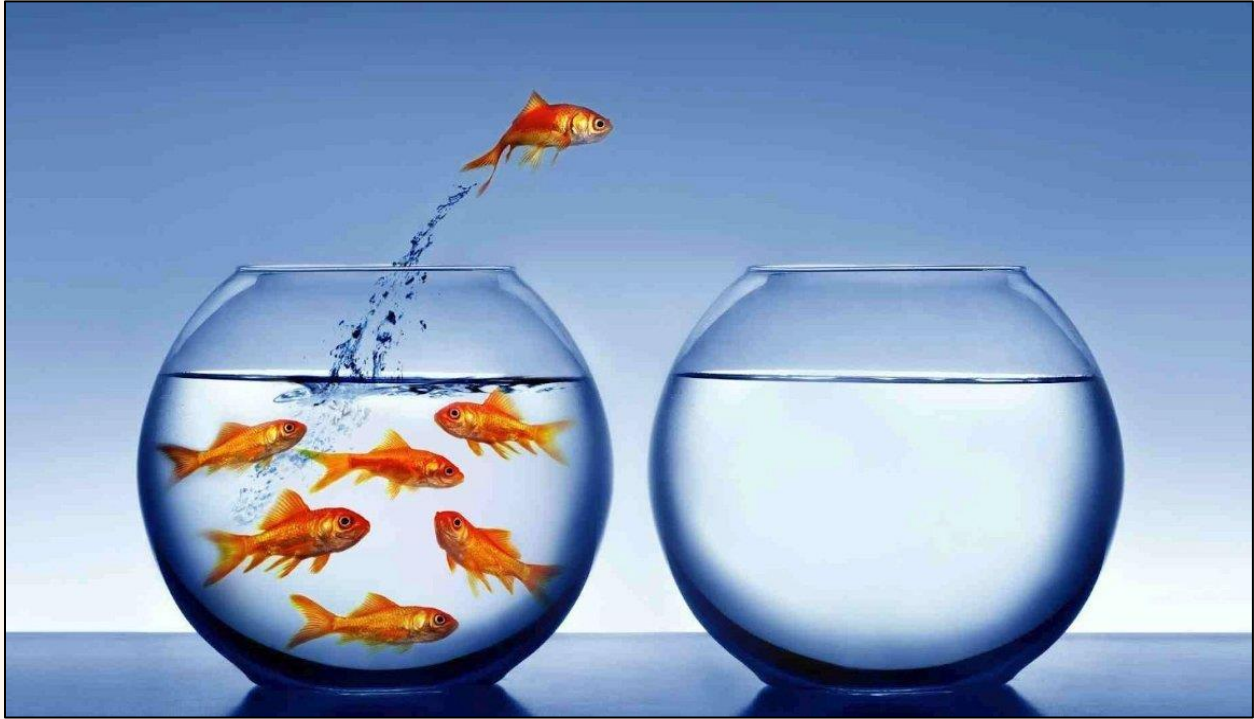
THE MANAGEMENT PERSPECTIVE

Certainly, the constant loss of jobs makes it tricky for managers to maintain the morale of employees. However, that is not the only problem in this new age of technology. Now, with the adoption of AI, processes also need to be in place to determine how teams of robots are going to be evaluated, used and integrated with the rest of the organization.

One possible way is to first run trials by using a minimal number of robots, followed by conducting evaluations on the basis of accuracy of results, time saved and the RoI in terms of lifetime value. Additionally, what will also have to be taken care of is that robotic interventions do not lead to unintended consequences, as the costs can be severe in the healthcare sector. As far as purchases are concerned, robots will have to be purchased up until a point where the marginal RoI of a robot is greater than that of a human being, thus making the task of estimating the RoI of robots and humans extremely vital.

As far as morale is concerned, incentives linked to efficient usage of robots and making employees understand through training programs that robots are not there to replace them but only to assist them in search of better results will be the first step while moving towards an

environment that thrives on human-machine collaboration. However, since that will not be possible for all employees, for the remaining members of staff, firms should either help them seek alternate employment avenues or retire them gracefully with generous severance packages.



MANAGING THE TRANSITION

The dynamics of the workplace are likely to shift from analyzing and maintaining patient information to patient care. Doctors are likely to spend less time going through the reports of the patients and more time in understanding their psychology. Keeping this context in mind, doctors along with nurses and other members of staff need to be reskilled with a focus on revamping their emotional intelligence and on improving their people skills.

Some of the ways in which health care providers can prepare for AI are as follows:

1. **Technical training of employees:** Large parts of the workforce will need to be re-trained so that they know how to use and understand as many new technologies as possible.
2. **Development of metrics:** Since many of these AI centric technologies are new, a lot needs to be done to measure their success, efficiency and cost-effectiveness.
3. **Hospitality training:** As mentioned earlier, almost all the employees need to be trained from this angle if firms are to differentiate themselves in the minds of the consumers.



VALUE PROPOSITION

While the advantages of incorporating AI are numerous, here are some of the top ones:

1. ***Significantly less Error:*** Medical Practitioners can analyze only a limited amount of data within the stipulated time of diagnosis, and they are highly prone to error. On the other hand, AI can help process a large amount of data quickly and consistently. It is predicted that AI will be able to assist technicians in making a better discovery. One such AI is IBM's 'medical sieve', which is qualified in assisting in medical decision making for radiology.
2. ***Improved Drug Development:*** Drug Development is a complex and slow-moving process. It involves testing chemical compounds on a multitude of permutations and combinations of medical conditions. Researchers are forced to limit the number of permutations and combinations due to the paucity of time and money. With the advancement of AI, researchers can run this test smoothly, thus making the drug development process less time consuming and cumbersome.

3. ***Improved Service:*** Technology will help companies to save cost and increase revenue at the same time, companies are likely to use this money to improve their service levels and invest in improving the experience of patients, thus offering significantly better returns to customers.



SUMMARY

Like every other major sector, healthcare is also going to be significantly affected by the new advances in technology. Along with the benefits of AI, companies will need to grapple with the numerous challenges it brings with it. These include keeping organizational and employee morale high, using technology in cost-effective ways, and maintaining differentiation among other health providers who are using the same technologies. The companies that can successfully overcome these challenges via successful integration and an unyieldingly tight focus on service will continue to thrive, while the rest will perish into oblivion and will only be remembered as outdated relics of a bygone era.

*Word Count: 1481 words