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Impact of AI on Smart Healthcare Sector

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Abstract :- The purpose of Artificial Intelligence is to make computers more useful in solving problematic healthcare challenges and by using computers we can interpret data which is obtained by diagnosis of various chronic diseases like Alzheimer, Diabetes, Cardiovascular diseases and various types of cancers like breast cancer, colon cancer etc. It helps in early detection of various chronic diseases which reduces economic burden and severity of disease. Various automated systems and tools like Brain-computer interfaces (BCIs), arterial spin labelling (ASL) imaging, ASL-MRI, biomarkers, IT bra, Natural language processing (NLP)and various algorithms helps to minimize errors and control disease progression. The computer assisted diagnosis, decision support systems, expert systems and implementation of software may assist physicians to minimize the intra and inter-observer variability. To streamline the process of diagnosis artificial intelligence methods specifically artificial neural networks (ANN), Fuzzy approach can be implemented to handle diverse type of medical data. ANN technique discovers the hidden patterns and correlation in medical data and effective in designing support system in clinical field. The application of AI facilitates interpretation of results with high accuracy and speed. This review will explore how artificial intelligence and machine learning can save lives by helping individual patients. Our objective is to find the impact of Artificial Intelligence (AI), Internet of Thing (IOT) and Machine Learning (MI) on Healthcare Industry including diagnostic and detection of disease and biomedicine production.

Keywords: - Healthcare, Technology, Artificial Intelligence

Introduction:

Artificial intelligence leverages computers and machines to mimic the problem-solving and decision-making capabilities of the human mind. Artificial intelligence (AI) is the ability of a
computer or a robot controlled by a computer to do tasks that are usually done by humans because they require human intelligence and

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discernment. AI technology is important because it enables human capabilities – understanding, reasoning, planning, communication and perception – to be undertaken by software increasingly effectively, efficiently and at low cost.

Machine learning is a method of data analysis that automates analytical model building. It is a branch of artificial intelligence based on the idea that systems can learn from data, identify patterns and make decisions with minimal human intervention. Machine learning is a subfield of artificial intelligence, which is broadly defined as the capability of a machine to imitate intelligent human behaviour. Artificial intelligence systems are used to perform complex tasks in a way that is similar to how humans solve problems. Machine learning is
one way to use AI.

The Internet of Things (IoT) describes the network of physical objects — "things"—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet.

Not just internet access to people in a city but to the devices in it as well – that's what smart cities are supposed to be made of. And we can proudly say that we're going towards realizing this dream. Efforts are being made to incorporate connected technology into infrastructural requirements and some vital concerns like Traffic Management, Waste Management, WaterDistribution, Electricity Management, and more. All these work towards eliminating some day-to-day challenges faced by people and bring in added convenience. Smart city spans a wide variety of use cases, from traffic management to water distribution, to waste management, urban security and environmental monitoring. Its popularity is fuelled by the fact that many Smart City solutions promise to alleviate real pains of people living in cities these days. IoT solutions in the area of Smart City solve traffic congestion problems, reduce
noise and pollution and help make cities safer.

Healthcare is an essential part of city life. A healthcare system involves distinct parties (e.g., patients, primary care physicians, pharmacists, specialists, and other experts) and different stages (including health condition monitoring, disease diagnosis, medical treatment, and rehabilitation). Recent years have witnessed the rapid growth of population density in cities, the steadily aging population, and the rise in chronic illness, which poses grand challenges on existing healthcare systems, such as the high demand on hospitals, medical personnel, and medical resources in sustainable cities. The advancements in Internet of Things (IoT) and ubiquitous computing have brought us a smart city, where we believe the controllable and networked city infrastructures (e.g., transportation tools, buildings, public exercise facilities) can be employed to assist disease transmission detection, treatment monitoring, and rehabilitation management. Furthermore, artificial intelligence (AI) empowered healthcare has proven to be more efficient, more affordable, and more personalized. Therefore, it is highly necessary to aggregate AI technologies to healthcare in the context of smart cities.

OBJECTIVES

- To understand the people's perception toward AI.
- To understand people's expectations toward healthcare sector.
- To understand people's willingness to accept AI in daily healthcare.
- To understand the loyalty level of people who are inclined towards AI

SCOPE OF THE PROJECT

1 What is level of awareness among people regarding AI and Smart healthcare?

2 What are peoples thought regarding the AI in daily life?

3 What are people's expectations from AI's involvement in healthcare sector?

4 What are people's fear regarding AI?

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LITERATURE REVIEW

The current state of artificial intelligence (AI)-based technology applications and their impact on the healthcare business are examined in this study. This study looked at several real-world instances of AI applications in healthcare, in addition to a thorough examination of the literature. According to the findings, prominent hospitals are currently adopting AI-enabled tools to assist medical professionals in patient diagnosis and treatment for a variety of disorders. Furthermore, AI systems are having an impact on enhancing the efficiency of hospital nursing and management functions. While healthcare providers are enthusiastic about AI, its applications provide both a utopian (new opportunities) and a dystopian (new threats) (challenges to overcome). To present a balanced picture of the usefulness of AI applications in healthcare, we address the specifics of those prospects and obstacles. It is apparent that significant advancements in AI and associated technologies will assist healthcare providers in providing additional value to their patients while also improving the efficiency of their operational procedures. To realize the benefits of what technology has to offer, effective AI applications would necessitate good planning and strategies to revolutionize the overall care service and operations. (Yoon, 2021)

Artificial Intelligence (AI) is the imitation of human intelligence in technology such as computers or robots that are intended to emulate cognitive capabilities such as learning and problem-solving that humans associate with other human brains. Artificial intelligence, machine learning, and deep learning are all trendy buzzwords these days. Algorithms for many types of tasks, such as regression, clustering, and others, are included in machine learning, and algorithms should be taught on data. The more information you give your algorithm, the better it becomes. Deep learning, which is based on artificial neural networks, is a relatively new branch of artificial intelligence. Data is also required for deep learning algorithms to learn how to solve problems. (Yoon, 2021)

Health is a fundamental requirement. It is also a human right to have access to high-quality health care. Due to a lack of resources, India is currently dealing with a slew of health challenges. This review paper discusses the concept of leveraging cutting-edge technology, such as the Internet of Things, to solve health problems. It gives an architectural review of a smart health care system based on the Internet of Things that aims to serve everyone with high-quality health care. Patients' bodily parameters can be measured in real time using this system architecture. Sensors capture patient body parameters and send them to an Arduino Uno, which then sends the data to the cloud using a Wi-Fi module.

This information is saved in a MySQL database server, which maintains information and makes it accessible. The Android App can be used to view this information. Which can be installed on a smartphone, tablet, or computer. Authentication, privacy, security, and data management are all handled via cloud computing. If the data is abnormal, the patient and caretakers will be notified through email. Different decision-making algorithms can be used to make decisions, and users can access the database based on them. The patient has access to their medical records. As a result, this system offers everyone with high-quality health care as well as error-free and seamless contact with patients. (Kalarthi, 2016)

Artificial intelligence (AI) has the potential to have a significant impact on how modern civilizations respond to difficult situations. AI, when used correctly, can help to create a more just, healthy, and inclusive society. AI has matured into a mature technology that is becoming an increasingly crucial element of the fabric of modern life. Artificial intelligence is already being used in a variety of applications, including recommendation systems, spam filters, picture identification, voice recognition, virtual assistants, and so on. Since the word was coined in the 1950s, it has spanned a wide range

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of industries, from medical to transportation, as well as decades.

From the 1950s' foundational AI algorithms to the 1970s' paradigm change in symbolic algorithms and expert system development, the methodologies have developed as well. In the 1990s, machine learning was popular, and in the 2010s, deep learning algorithms were popular. Starting with the fundamental definitions and building on the historical context, this report summarizes the evolution of AI, introduces the "seasons" of AI development (i.e., winters for decline and springs for growth), describes the current rise in interest in AI, and concludes with the uncertainty surrounding AI's future, with the possibility of another AI

winter or an even greater AI spring. (BlagojDelipetrev, 2018)The new era of mobile health is being ushered in by the widespread adoption of ubiquitous and pervasive mobile communication and computing, which has created great potential for businesses and governments to rethink their healthcare strategies. In addition, the worldwide movement of urbanization is a serious challenge that draws professional attention to communities that can accommodate large populations and provide services to them in a humane and effective manner. The constant requirement for these two trends led to the development of the smart city plus mobile healthcare idea. (MajedKamel Al-Azzam, 2019, p. 171)

The purpose of this article is to provide an overview of smart health, which is defined as context-aware health that is complemented by mobile health in smart cities. The objective of this article is to present a viewpoint on the major domains of research and knowledge that are discussed during the process of developing a new concept. In addition, the paper will focus on the significant potential and obstacles that s-health implies, as well as provide a common opportunity for future research.

The widespread adoption of ICT in the setting of cities has resulted in the development of smart cities. In a similar vein, employing mobile technologies and ICT for health-related concerns will result in the widespread use of e-health and m-health to monitor patients and health care. While researchers are focusing on the further development of the m-health plus smart cities ideology, it is also believed that there is a growing demand for a new concept known as smart health (s-health), which emerges from the amalgamation of identified smart cities with mobile and electronic health services.

The research is attempting to pave the way for potential research to have a clarified plus better concentration as well as a common explanation to improve healthcare by offering this new s-health ideology and by clarifying the reach of this concept. The presented editorial provided an overview of the s-health concept and assisted in the analysis of most of the associated research topics. The article also contributed to a discussion of the major challenges that are commonly encountered during the development and implementation of s-health, as well as highlighting all of the opportunities for implementing the concept and the future potentials of s-health, which the researchers believe are limitless. (MajedKamel Al-Azzam, 2019, p. 175)

Artificial Intelligence (AI) is a technology that, when linked with healthcare apps and smart wearable devices like Fitbits, can anticipate the onset of health issues in users by gathering and analyzing their health data. The integration of AI with smart wearable devices offers a wide range of potential applications in smart healthcare, however there is an issue with the black box operation of AI models' judgments, which has led in a lack of accountability and trust in the decisions made. Explainable AI (XAI) is a field where strategies are created to explain AI system predictions. In this study, XAI is explored as a technique for using AI-based systems to analyze and diagnose health data, as well as a recommended approach for establishing accountability. In the field of healthcare, transparency, outcome tracing, and model improvement are all important.

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Smart healthcare is defined as the application of technology such as cloud computing, the Internet of Things (IoT), and artificial intelligence (AI) to create a more efficient, convenient, and personalized healthcare system. These technologies provide real-time health monitoring via healthcare apps on smartphones or wearable devices, empowering people to take charge of their health. Health data gathered at the user level can be shared with professionals for further diagnosis, and AI can be used in health screening, early disease diagnosis, and treatment plan selection. In the healthcare arena, the ethical issue of AI transparency, as well as a lack of trust in AI systems' black-box functioning, necessitates the development of AI models that can be explained. (UrjaPawar, 2020)

The book's motivation is described in the first chapter, which also includes a summary of the primary argument. The book proposes a revolutionary taxonomy of artificial intelligence thatmay be applied to the ethical and human rights challenges brought by AI technologies. It proposes a moral framework based on the concept of human flourishing. The book analyses the metaphor of AI ecosystems after a study of currently discussed techniques of resolving and reducing ethical difficulties. (Kinderlerer, 2020)

When the ecological metaphor is taken seriously, it becomes possible to identify the requirements that mitigation methods must meet. The book proposes a series of recommendations based on these characteristics that allow AI ecosystems to be created in ways that support human wellbeing.

Artificial intelligence (AI) is fraught with ethical issues. Concerns like these must be addressed. These two assertions are uncontroversial. What is less obvious is what defines ethical problems, why they are ethical concerns, who should address them, and how they should be addressed.

Because AI is becoming more common, the repercussions of its use may be seen in many different parts of life. AI has a lot of beneficial effects and has a lot of social benefits. AI may be used to enhance living circumstances and health, as well as to promote justice, create money, increase public safety, and reduce the impact of human activities on the environment and climate. (Kinderlerer, 2020)

The Internet of Things (IoT) has swept the commercial world, with applications ranging from agriculture to healthcare to transportation and beyond. A hospital setting can be quite stressful, particularly for seniors and children. The traditional patientdoctor appointment has lost its usefulness as the world population grows. As a result, smart healthcare becomes critical. From monitoring babies' temperatures to monitoring vital signs in the elderly, smart healthcare may be adopted at all levels. The complexity and expense of installation are determined by the precision required of individual devices, as well as the functions and sophistication of the application for which they are utilized. VLSI, embedded systems, big data, machine learning, cloud computing, and Artificial Intelligence are all vertical areas that smart healthcare falls under. It provides a clearer understanding of the various platforms on which future study in this dynamic topic may be conducted. (PrabhaSundaravadivel, 2018)

The Internet of Things (IoT) is a system that connects various gadgets and technologies without requiring human involvement. This makes it possible to build smart (or smarter) cities all over the planet. The internet of things has accelerated the development of smart city systems for sustainable living, greater comfort, and productivity for inhabitants by hosting various technologies and permitting interactions between them. The Internet of Things for Smart Cities spans numerous sectors and relies on a variety of underlying systems to function. We present a comprehensive overview of the Internet of Things in Smart Cities in this article. The fundamental components that make up the IoT based Smart City landscape are discussed first, followed by the technologies that allow these domains to exist in terms of architectures, networking technologies, and Artificial Algorithms deployed in IoT based Smart City systems.

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After that, there's a look at the most common practices and applications in several Smart City fields. Finally, the obstacles that IoT systems for smart cities face, as well as mitigating strategies. (Abbas Shah Syed, 2021)

The internet of things (IoT) is an ever-expanding network of smart objects that are connected to one another over the internet. The Internet of Things has made a significant contribution to increasing people's quality of life. Smart healthcare, smart cities, automation in industries, agriculture, and transportation are just a few of the transdisciplinary applications of the internet of things. Making is a difficult task. In the Internet of Things, sensing devices and objects are used. Recognize and gather pertinent data that will be used later can be processed and analyzed to help you make better decisions. As a result, physical items in the real world can interact with each other.

The internet of things is used to provide smart healthcare in this article. Machineto-machine, sensor-to-device, patient-to-device, and patient-to-doctor and deviceto-doctor communications are all possible with the Internet of Things. Remote monitoring, early prevention, chronic illness management, geriatric care, medical treatment for institutionalized patients, and other uses of the healthcare IoT are just a few. It enables us to create intelligent linkages that ensure an efficient healthcare system.

However, even with the benefits, there are some flaws in terms of security and privacy, which are the main concerns for IoT applications. The sensing devices can be worn, implanted, or sensors in the surrounding environment can be connected to the internet, allowing doctors and caregivers to supply patients with effective and timely medication. (Cheena Sharma, 2017)

The manufacturing business places a high value on adaptability and innovation. This progress should pave the way for new technologies to enable sustainable production. Smart manufacturing necessitates a worldwide view of smart production application technologies in order to enhance sustainability. Several AI-based techniques, such as machine learning, have already been established in the industry to achieve sustainable production, thanks to significant research efforts in the field of artificial intelligence (AI). As a result, the goal of this study was to conduct a thorough review of the scientific literature on artificial intelligence and machine learning (ML) applications in industry. Artificial intelligence and machine learning are now widely regarded as the driving forces behind the smart manufacturing revolution, thanks to the introduction of Industry 4.0. The goal of this study was to categorize the literature by publication year, authors, scientific sector, nation, institution, and keywords. Web of Science and SCOPUS databases were used for the research. (Raffaele Cioffi, 2019)

It is difficult for health-care institutions around the world to improve the quality of care andconvenience of access to health information while keeping prices low. The problem is compounded by the world's fast growing population, particularly the rate of increase in older citizens (65 years old and higher). According to the report, of the World Health Organization, the population of older citizens will rise to almost 1.3 billion by 2050.By 2050, there will be 1.5 billion people on the planet. An ageing population means a rise in chronic diseases that necessitate treatment. Increased hospitalization demands, as well as frequent visits to health-care providers. Ascension The number of patients requiring round-the-clock care skyrockets, necessitating more medical attention. (SheraliZeadally, 2019)

Artificial intelligence (AI) is becoming more widely used in healthcare. Health-care organizations of all sizes, types, and specializations are increasingly interested in how artificial intelligence has progressed and is assisting patient requirements and care while also lowering costs and enhancing efficiency. The implications of AI on healthcare management, as well as the limitations of applying AI in healthcare, are explored in this study, which includes a review of many research publications that used AI models in various areas of healthcare, such as

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dermatology, radiology, and drug creation. (Ravi Manne, 2021)Smart cities make use of information and communication technologies (ICT) to scale services such as utilities and transportation to meet the demands of an expanding population. In this essay, we'll look at how smart city ICT can help citizens of smart cities get better healthcare at a cheaper cost. We review the current literature and present new research to provide an overview of how smart city infrastructure can support strategic healthcare by combining mobile and ambient sensors with machine learning. Finally, we look at the hurdles that healthcare providers will confront as they take use of these opportunities.Temperature, humidity, allergens, pollution, traffic conditions, and power grid status are all monitored using sensors in smart cities. The values of these parameters provide context, which allows a system to understand a citizen's current condition. Health care can be smarter by strategically responding to sensed data. City services will be able to respond quickly to critical health requirements and make judgments to avoid unhealthy conditions if they have real-time access to this data.Computing technology's maturity and use have drastically altered the face of healthcare.

These alterations are depicted in Figure 1. Three features can be used to describe each of these healthcare approaches: the size of the group being studied, the use of ICT, and the type of the data. (Diane J. Cook)

Artificial intelligence (AI) has the potential to completely change health care. AI is made powerful by combining AI algorithms with machine learning and deep learning algorithms, as well as high-speed processors. According to studies, digitization will enable health care workers to make judgments and discoveries much more quickly than before. The purpose of this study is to discuss how AI algorithms work. It also looks into the effects of AI in the field of health care, such as virtual medical assistants, automated image diagnostics, personal health companions, cancer, cardiology, radiology, and AI-powered
catboats.

New technologies are developing at a rapid pace. Artificial Intelligence (AI) is a hotly debated topic in academia.

In healthcare and medicine, AI is undeniably playing a growing role. It's due to advancements in learning algorithms, which are growing more exact and accurate every day.

Second, AI has become even more powerful as computer power and parallel processing technologies have rapidly increased. Finally, the capacity to store an enormous amount of data in the cloud and access it at any time is a significant benefit that aids the development of many AI applications. This information is utilized to improve the accuracy of learning algorithms. The algorithms interact with the training data to provide new diagnostic and treatment insights. As a result, patient outcomes are improved. According to Frost and Sullivan, AI will improve patient outcomes by 30-40% while lowering treatment costs by
50%. According to studies, the AI health sector is expected to increase. (Ragavi V, 2020)

Research methodology

RESEARCH DESIGN The research design applied was descriptive design. This design Help to provide a comprehensive and detailed explanation of phenomena under study. This design helps to describe the characteristics of objects, people, group, organizations or environment or behavior of subject phenomena.

RESEARCH METHOD The Survey method of Quantitative research methods is used to collect data. A structured Questionnaire is prepared to address masses and collect data. The internet under electronic mode is used to conduct this survey.

Variables

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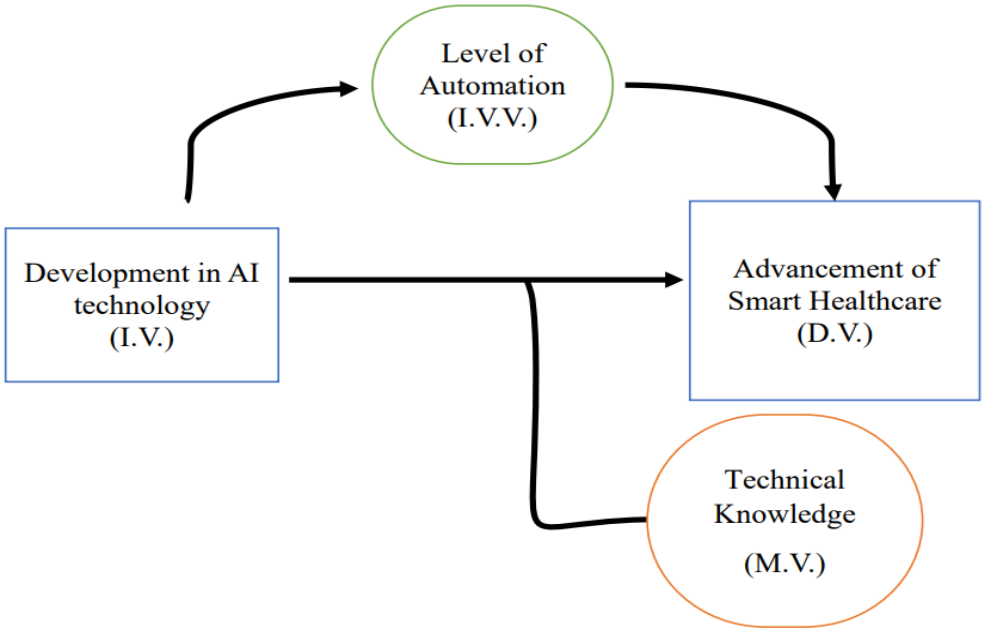

PRIMARY DATA 1. Questionnaire
SECONDARY DATA 1. Published Research paper
SAMPLING DESIGN Sampling Procedure The target population here involves the people reachable through the internet and willing to participate in the survey. The parameter of interest is to Calculate the number of people who understand Smart healthcare sector and ready to accept Artificial Intelligence (AI) in it. Level of Automation (I.V.V.) Development in AI technology (I.V.) Advancement of Smart Healthcare (D.V.) Technical Knowledge (M.V.)
The sample frame consists of relatives and friends who have a basic level of awareness regarding the Smart healthcare sector. We have also helped to increase the awareness level regarding the Smart healthcare sector among the participants.

Sampling Methods
A non – probability sampling method is adopted to select the sample size for this survey. With a subjective approach like non - probability sampling, the probability of selecting population elements is unknown. We are using non – probability sampling procedures because they can satisfactorily meet the sampling objectives. There is no desire or need to generalize to a population parameter, then there is much less concern about whether the sample fully reflects the population. We are adopting Convenience Sampling Method for calculating sample size. Non – Probability samples that are unrestricted are called convenience samples.

Data Analysis
Data Collection & Analysis Question 2: Gender. Number of responses: 42 responses

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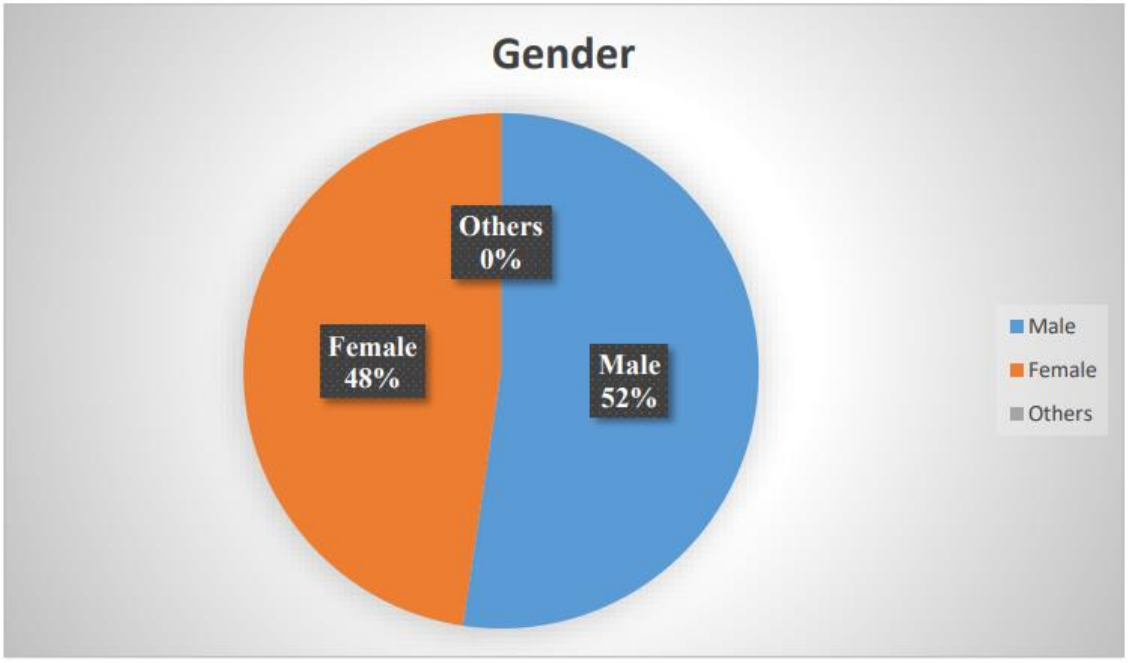
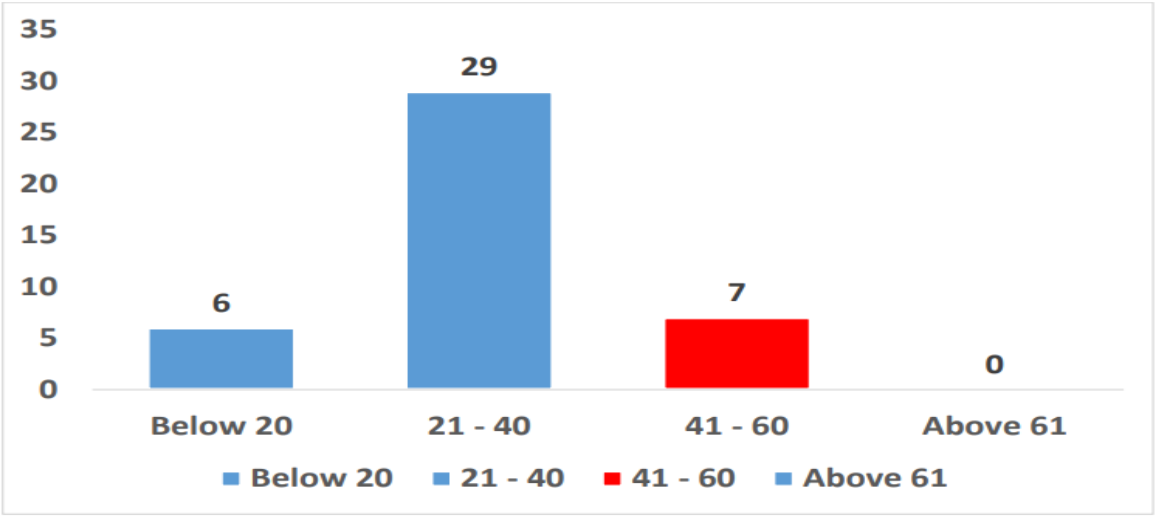
	Participants
Male	22
Female	20
Others	0



Interpretation: More male population participated in survey Question 3: Age. Number of responses: 42 responses

	Age
Below 20	6
21 - 40	29
41 - 60	7
Above 61	0



Interpretation: According to our survey 29 people's age range between (21-40),which is relatively more

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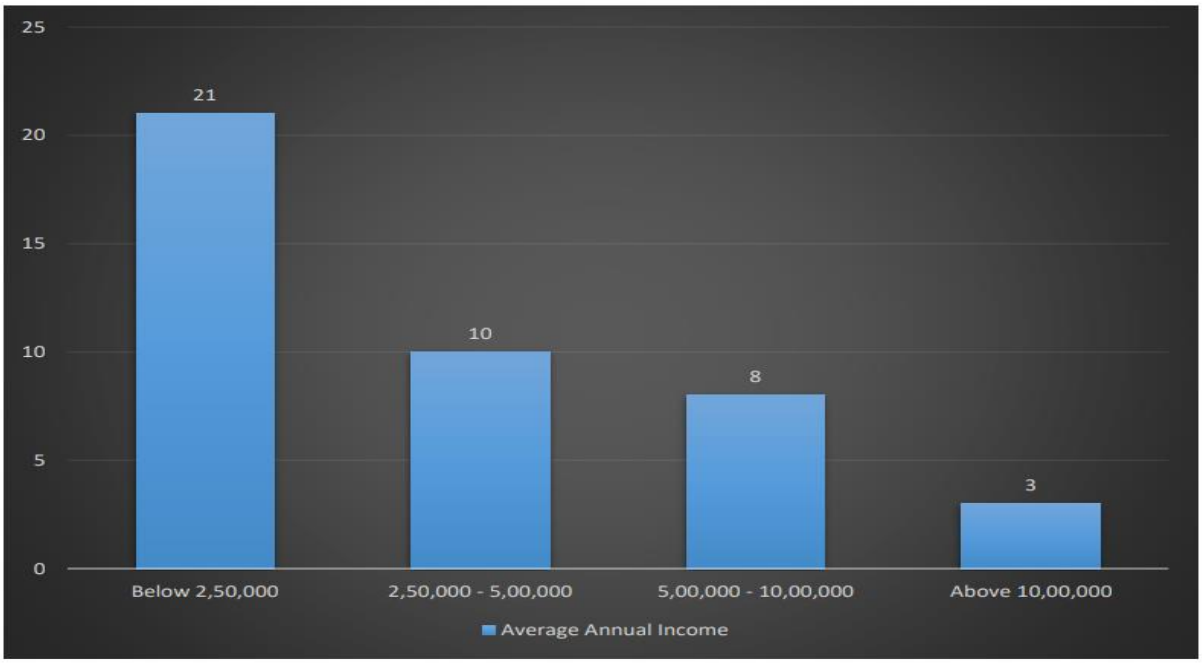
Question 4: Average Annual Income. Number of responses: 42 responses.

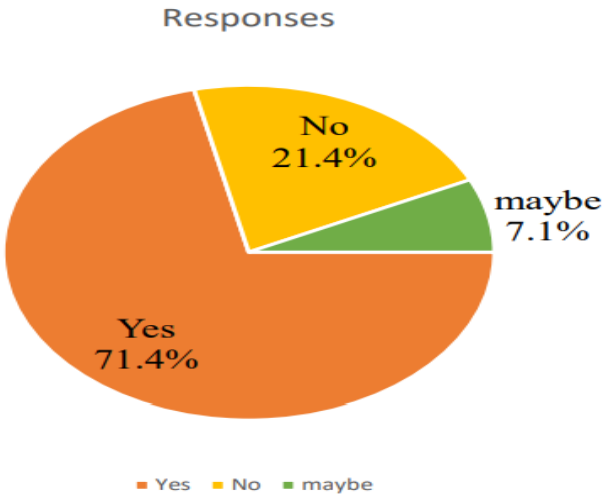
	Average Annual Income
Below 2,50,000	21
2,50,000 - 5,00,000	10
5,00,000 - 10,00,000	8
Above 10,00,000	3



Interpretation: Number of people belongs below 2 Lakh 50 thousand is 21 ,which is more than another category.

	Responses
Yes	30
No	9
maybe	3

Question 5: Are you aware about Smart Healthcare? Number of responses: 42 responses



Following is table showing factors that may affect your acceptance towards AI. Please

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tick level of your requirement toward these factors. Number of responses: 42

	Absolutely required	Good to have this factor	Availability or non – availability don't matter	Not necessary	Absolutely not required
Privacy	35	4	2	1	0
Security	30	8	2	2	0
Automation	14	22	5	1	0
Ease to use	18	13	9	2	0
Internet of things	17	19	3	3	0
Fast process	25	12	3	1	1
Adaptability	20	14	5	2	1
Friendly Interface	23	14	3	1	1
Affordable	20	14	6	1	1
Self-maintenance	18	15	4	4	1
Appropriate level of emotional intelligence	15	13	8	3	3
Personalization	20	15	4	2	1

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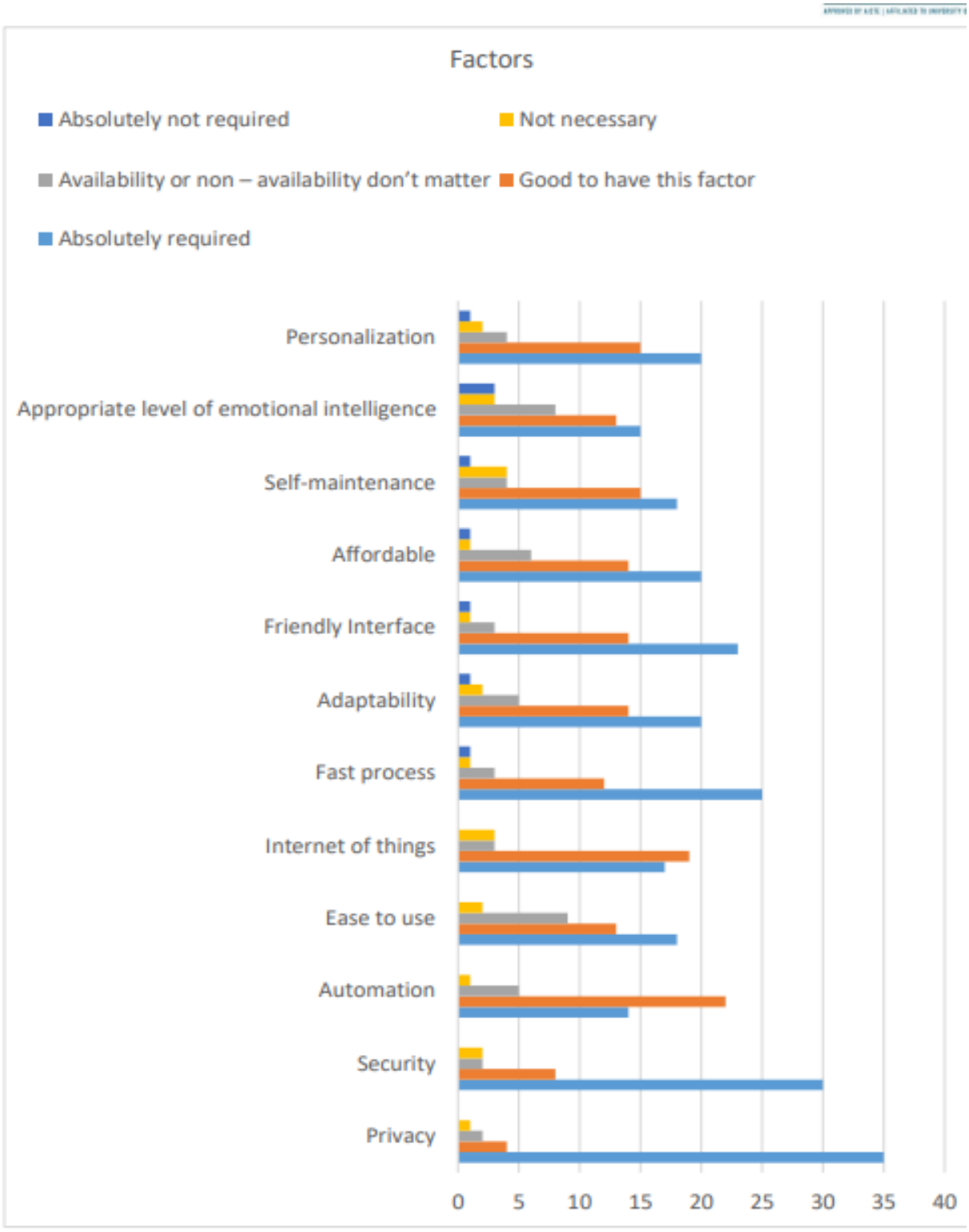

Final result

Researcher had applied chi – square test here, because we need to know is there really an association between the development of AI and improvement in healthcare services. Hence, the result followsPositive Ai expectations in terms of healthcare * ease of disease diagnosis

Crosstab

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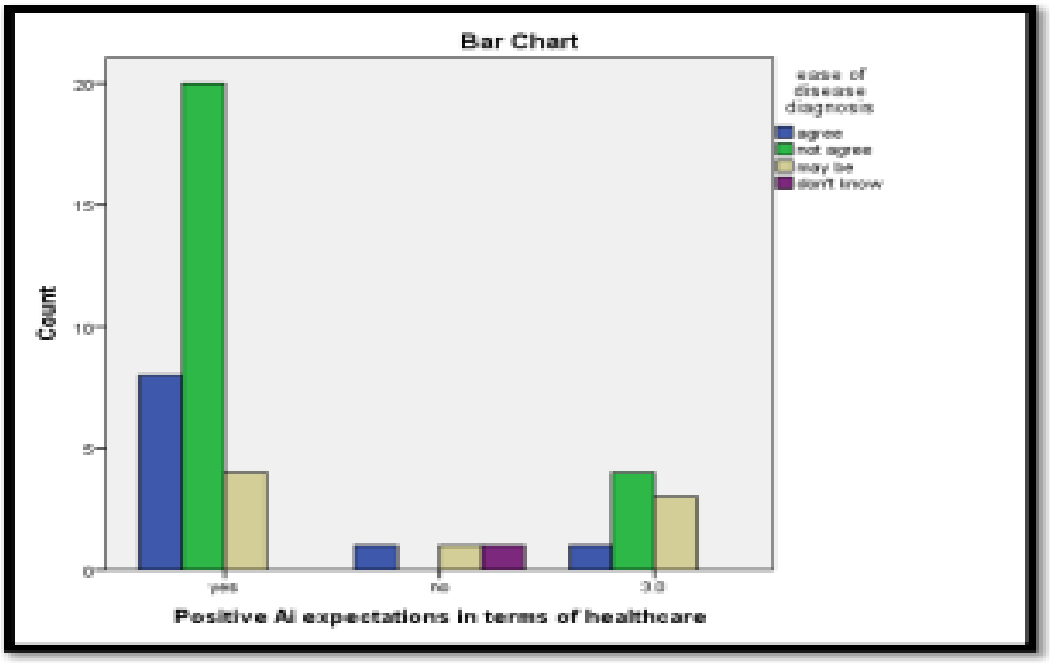
Count

		ease of disease diagnosis				Total
		agree	not agree	may be	don't know	
Positive Ai expectations in terms of healthcare	yes	8	20	4	0	32
	no	1	0	1	1	3
	3.0	1	4	3	0	8
Total		10	24	8	1	43

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.409[a]	6	.005
Likelihood Ratio	11.797	6	.067
Linear-by-Linear Association	2.583	1	.108
N of Valid Cases	43		

a. 9 cells (75.0%) have expected count less than 5. The minimum expected count is .07.



Interpretation: In the chi square test table, we can observe that at that value appeared at pearson chi – square in collaboration with asymp. Sig value is 0.05. Which is equal to the designated alpha level. Hence we can say that there - There is an association between the development of AI and improvement in healthcare services.

FINDINGS

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Artificial intelligence (AI) is progressively being used to healthcare, as it becomes more prevalent in modern business and everyday life. Artificial intelligence has the potential to help healthcare providers in a variety of ways, including patient care and administrative tasks. The majority of AI and healthcare technologies are useful in the healthcare industry, but the strategies they assist can be rather different. While some publications on artificial intelligence in healthcare claim that AI can perform just as well as or better than humans at specific processes, such as diagnosing sickness, it will be a long time before AI in healthcare replaces people for a wide range of medical jobs. The major goal of health-related AI applications is to investigate the links between preventative or treatment methods and patient outcomes. AI programmes are used in diagnosis, treatment protocol formulation, drug discovery, personalised medicine, and patientmonitoring and care, among other things. For disease prevention and diagnosis, AI algorithms can be used to examine massive amounts of data from electronic health records. Misdiagnosis of sickness and medical errors accounted for 10% of all deaths in the United States in 2015. As a result, one of AI's most promising healthcare applications is the potential of enhancing the diagnosis process. Large caseloads and incomplete medical histories can lead to fatal human errors. AI can detect and diagnose disease at a faster pace than most medical professionals because it is immune to those influences. In one study, an AI model that used algorithms and deep learning correctly identified breast cancer at a rate that was greater than 11 pathologists.

We're still a long way from realising this objective in 2020. In the clinical sectors where they are employed to assist diagnose, treat, monitor, and hopefully prevent and cure diseases, unfathomably complicated technology, IT, and data systems continue to obstruct staff workflows and jeopardise the continuity of care. Nonetheless, I believe that all three of these concepts have a good chance of becoming a reality. Intelligent systems are already capable of assisting humans and performing expert tasks.

RECOMMENDATION

Suggestion for the use of Artificial Intelligence(AI) & Machine Learning (ML) on Health-care sector Some recommended suggestion or remarks of use of artificial intelligence are following:

- The use of AI & Machine Learning in Healthcare to diagnosis and detection of disease is mainly limited in Smart cities but increase of using AI is needed in rural areas also.
- Inaccuracies are still possible in AI. Because maximum algorithm is based on previous data and the algorithms are mostly in basic level. So, more modifications are required for this time.
- Needs more human surveillance, although AI has come a long way in the medical world, human surveillance is still essential. For example, surgery robots operate logically, as opposed to empathetically. Health practitioners may notice vital behavioural observations that can help diagnose or prevent medical complications.

“AI has been around for a few decades and continues to mature. As this area advances, there
is more interaction between healthcare professionals and tech experts,” Yang explains. AI requires human input and review to be leveraged effectively.

As AI develops, the tech and medical fields are increasingly communicating to improve the technology. Yang adds, “Years of education are required for medical professionals to operate in their fields. Essential information gathered from Subject Matter Experts (SMEs) enriches the data available and improves explainable AI (XAI) to provide healthcare workers with trusted and valuable insights.

- Susceptible to security risk is major problem of AI, As AI is generally dependent on data networks, and AI systems are susceptible to security risks.

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The onset of Offensive AI, improved cyber security will be required to ensure the technology is sustainable. According to Forrester Consulting, 88% of decision-makers in the security industry are convinced offensive AI is an emerging threat. As AI uses data to make systems smarter and more accurate, cyberattacks will incorporate AI to become smarter with each success and failure, making them more difficult to predict and prevent. Once damaging threats out- manoeuvre security defences, the attacks will be much more challenging to address.

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