Impact of Artificial Intelligence on Humans: A Survey

Dr. Varsha Agarwal

Assistant Professor & Research Coordinator, Department of Management, Center for Management Studies

JAIN (Deemed-to-be University), Bangalore, India

Email: varsha_a@cms.ac.in

ABSTRACT: *In the contemporary world artificial intelligence is spurring with highly innovative advancements. From advancing small handheld devices for performing small tasks such as facial recognition to advancing difficult and rigid skills such as car driving. There was a time when hardship is involved in doing typical tasks and muscle power tasks that motivated people to develop new technologies and create new inventions, then the development of Artificial Intelligence i.e. AI takes place with the ambitious goal of creating a human like intelligence in the machines. AI's major objective is to create expert systems and to implement human intelligence in the machines. This review paper covers the concepts, trends, applications and enhancements that vasts our knowledge about making intelligent computers which work and think in a humanely manner. This survey paper showcases behavioral as well as physical impact of artificial intelligence over humans.*

KEYWORDS: *Artificial intelligence, Automation, Machine Learning, Natural Language.*

1. INTRODUCTION

Artificial Intelligence was first termed by John McCarthy in 1956. John said that "AI is the combination of science and engineering to make intelligent devices for human welfare". AI is better version of the smartest guy in every field in order to achieve more efficiency and effectivene. AI is an intellect i.e. something which wholly and solely originated from the human brain. In terms of the digital era it will do our muscle work so that the human-efforts are reduced. AI solves the complex questions in a new way each time it is given to it. AI is related to all the major aspects of life i.e. sociology, mathematics, biology, chemistry, philosophy etc. It has been several decades since AI has come into being. In the current scenario the AI has spread its wings to all the daily life activities of the user[1]. The AI has not only affected the personal or professional lives of the users but it has made a huge socio-economic impact on the country by boosting the growth and development exponentially. AI has captured almost more than half of the market these days as the most important component in AI is the hardware associated with it, as software and hardware both work hand in hand just to work more precisely and harder than the best human in the field[2].

Artificial Intelligence is a system in which even the machines behave intellectually as humans do. A wider horizon of artificial intelligence is the aggregation of learning, problem solving, perception, adapting new solutions and many more can be there as shown in Figure 1. Humans are fond of watching sci-fi movies like marvels series, x-men, terminator etc. in which the robots are the super villains of the humans and the superheroes of those movies try to save the human kind from them. Even the launches of satellites, rockets require a lot of effort. There is no doubt that the most trending two technologies these days are Artificial intelligence and machine learning, which are both interdependent and dependent on each other. AI does each thing in order to be termed as an intelligent device, it learns , it performs, it creates and even it gives advice to its users[3].
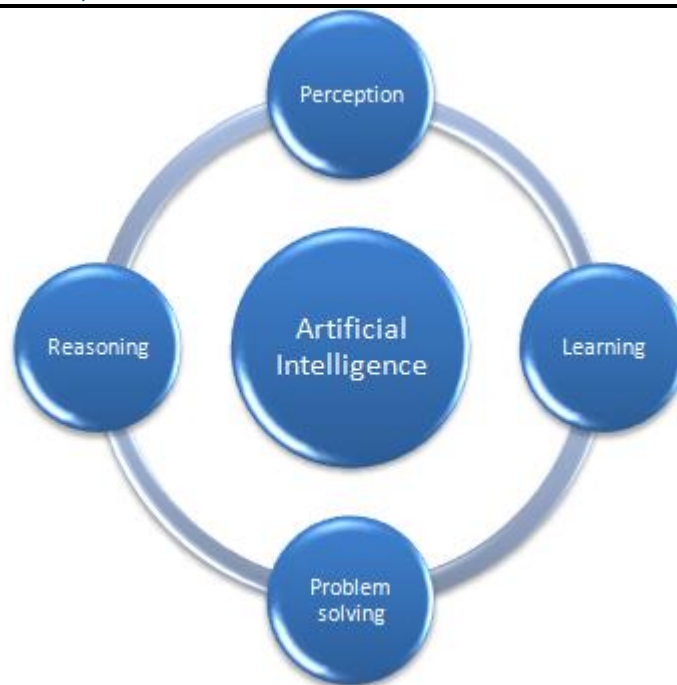
Figure 1: Conceptual framework of AI. A science and technology breakthrough whose major outlook and requirement is to develop computer functions associated with the major feature of humans like reasoning, learning, problem solving and perception.

1.1 Classification of AI

Artificial intelligence (AI) is classified in two fields: Weak AI and Strong AI

1.1.1 Weak AI:

The major setback of weak AI is that the machines behave according to the programmed manner and behaves as if they are intelligent. In weak AI the machine showcases that all the human-like activities like talking, thinking, singing, moving etc. could be performed, not which it learnt itself but first programmed and then performed according to the developer. For example: The game of chess all the plates are pre-programmed, hence it will never take a wrong move and proves itself to be an example of weak AI.

1.1.2 Strong AI:

Strong AI fulfils all the shortcomings of the weak AI as it is the intelligent system, it thinks on its own, it trains itself from its mistakes, it does complex calculations and the most important it will provide a future forecast. For example: WATSON, invented by IBM which is basically a question-answering computer system which facilitates answering multiple questions by utilizing a natural language.

In reality knowledge or information comes with various unwelcomed properties such as the real time information keeps changing continuously, the unstructured data does not have any formats and the volume is voluminous, huge and next to impossible to handle. The techniques of AI use the knowledge extracted from unstructured data in such an organized way that it should provide easy modifications to correct the errors, it would be useful in typical situations as it was raw when provided, so various inaccuracies and incompetency can be shown and it should be able to bear the users data from which it had taken it[4].

1.2 Blooming Artificial Intelligence Technologies

1.2.1 Natural Language Generation:

Natural language is the subset of AI. It is but obvious that the machines process, behave and communicate unlikely from humans. Natural language generation is majorly used today for getting a linguistic language from structured data. The machines that do this conversion already work on the algorithms and programs which are set to give results according to the user's desirability. It also is a god's blessing for the content

writers as it helps in getting the results of their searches in the desired formats, they can use that converted text to promote their campaign on social media sites and various other sites so that they could convert the appropriate leads and crack the targeted audience. The interference from humans will be reduced to nothing for this conversion of the desirable format. There are numerous ways in which we can visualize the data that isnot limited to only form of charts, graphs etc.

1.2.2 Speech recognition:

Speech recognition acts as an overlapping bridge between the humans and the computing machines. The second major subset of Artificial Intelligence is speech recognition which is useful for machines, as it helps the computing system for understanding the human voice and transform in the format in which the machines can understand what the user wants him to do. This sunset of AI recognizes and converts numerous languages in no time as compared to the human being. Example: Siri of Iphone and Cortana of Microsoft.

1.2.3 Virtual Agents:

It is the major breakthrough of advancements as it is an application that interacts with humans without any assistance from any human interaction. Instructional designers are mostly the ones which makes them their priceless equipment. Numerous applications and websites are nowadays providing chatbox services in coordination with the virtual agents to interact with the users and to provide a solution to their query. Virtual assistants also act as a software-as-a-service as they behave, learn and feed your information and preferences like a personal assistant. Example- Google Assistant and Alexa.

1.2.4 Management of Decisions:

Decision management majorly functions for managing the decisions in a quick way while avoiding risks and automation in the processing of information. Several organizations of the current digitized era use this decision management system just to predict and interpret their organizational models by analyzing the previous customer behaviours and mainly these are used in the financial sector, e-commerce and health care units, etc.

1.2.5 Deep Learning:

In deep learning the term "deep" is illustrated because it has layers hidden in its neural network. From the range of 2-150 layers can be hidden in the neural networks. Deep learning is effective when we have vast variety of data to train the model in order to do a human interaction and a graphic processing unit. It is majorly based on a graphic processing unit. Deep learning has spread it reach distinctly in various fields like medical, aerospace, cyber security, predictive analysis and military. All the algorithms work in a hierarchy here[5].

1.2.6 Machine Learning:

They give power to the system to train the model in such a way that it could create a sense from vast datasets without being programmed at all. It allows enterprises to take a predictive decision using statistical models and various other algorithms. Every enterprise in this current scenario is investing in machine learning so as to get a deadly far growth in vivid domains like healthcare and medical units, financial sectors and commercial enterprises. The commercial enterprises can use it to track the behaviour and preferences of their customers, medical units used to predict the risk and treatment for their patients.

1.2.7 Robotic process automation:

Here a robot will interact with the human in order to predict, interpret, communicate and analyze the data. This subset of AI helps us fully automatic or sometimes partially automatic as many of the operations performed by them are iterative and full of rules and regulations.

1.2.8 Peer-to-peer networks:

This technology is used in crypto-currencies as it is able to solve even the complex problems in just a few seconds. In this network no data is transmitted by servers, all the data is directly shared from system to system as they are connected with the help of the network. The cost for implementing it is reduced as they are connected directly and no need to install the servers.

1.2.9   AI optimized hardware:

Not only AI software is in demand but also the hardware in this cooperative world. It is obvious that if you have to use any software you must have the hardware also that enables that software, hence hardware for that is equally important. As with the advancements of the software the hardware also needs the same attention for advancements, as the traditional chip cannot support AI models. AI hardware includes CPUs for scalable activity, neuromorphic chips and embedded silicon based chips. Many industries would benefit from these kinds of chips. The present study is based on understanding effect of AI (artificial intelligence) on people corresponding to different age groups.

Research Questions

How artificial intelligence is affecting the lives of the individual people in accordance with their age?

2.   LITERATURE REVIEW

There are various researches and reviews on artificial intelligence and its impact on the different age groups of the people. The applications of Artificial Intelligence in Machine Learning: Review and Prospect proposed by the Sumit Das, AritraDey, Akash Pal, Nabamita Roy. Their paper majorly showcases the review of artificial intelligence and its future prospects. But this paper lacks in stating the impact of artificial intelligence over humans[3].

The paper titled "How Artificial Intelligence in Impacting Real Life Every day" proposed by IndrasenPoola states that the development of a super AI will mark the greatest invention in human history. Consequently, the invention of more advanced technologies has significantly helped in war eradication, proper means of fighting diseases and developing appropriate prevention measures. They also state that the advanced technology of artificial intelligence would help the user in fighting against poverty[2].

In the paper titled "Artificial Intelligence and Machine Learning Applications in Smart Production: Progress, Trends, and Directions" proposed by Ra aeleCio, Marta Travaglioni, GiuseppinaPiscitelli, AntonellaPetrillo,* and Fabio De Felice. The concurrent paper showcases the progression of the artificial intelligence based innovations in regard to the current trends which people live in. However, this research does not show the cumulative data regarding the usage and application of artificial intelligence. Therefore, there is a need to understand preferential usage of AI and its effect of lives of different age groups.

3.   METHODOLOGY

This section shows the complete procedure of how artificial intelligence is affecting each and every age group of a person in accordance with their selection of survey question sets into the finalized output.

3.1 Design

The flowchart as shown in Figure 2 shows the complete procedure of the survey from starting to the end. The flowchart showcases that the survey initiates by preparing different question sets from different ages of people. After preparing question sets the author initiates collecting information about the people of different age groups from some of the common platforms such as social media. Then after receiving the information regarding the establishment of the connection, the author sends the survey questionnaire to all the people who soever data has been collected through social media platforms. Then the people start responding to the questionnaire provided to them in accordance with their age and then store them in the cloud server. Then within the cloud server, the data is analyzed and classified into a specific dataset in accordance with the user's age.
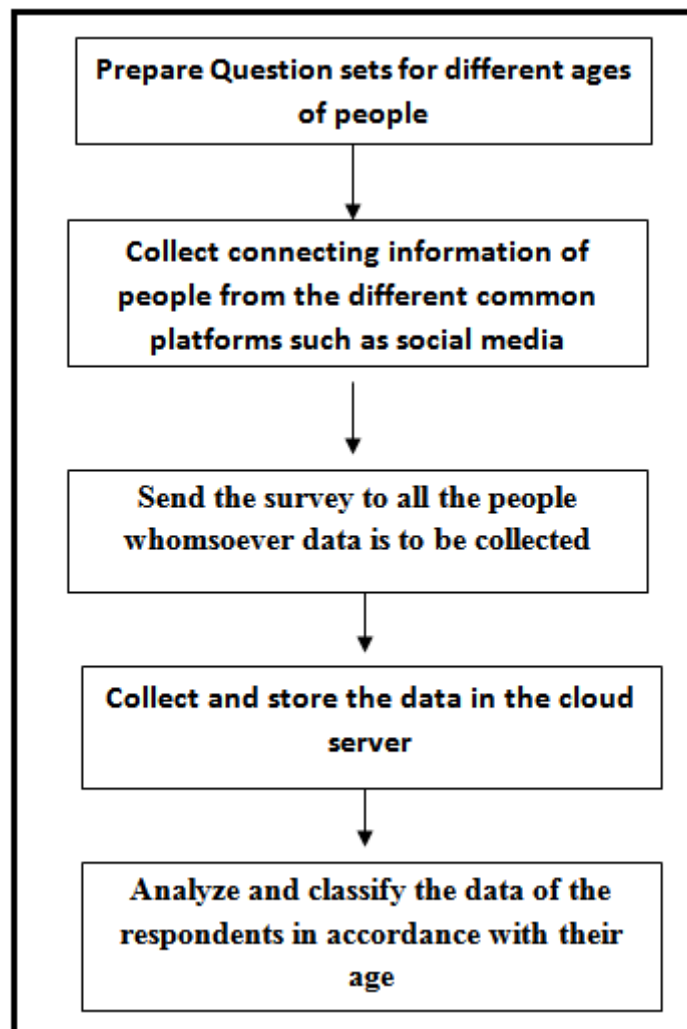
Figure 2: The above figure depicts a flowchart of the concurrent research in which each and every procedure in the survey paper is demonstrated.

3.2 Sample

The number of respondents are mentioned in numeric figures in accordance with their age group such as the 10-15 age group of people, 16-20 age group of people, 21-30 age group of people, 31-45 age group of people and 45-above age group of people. Total of 250 respondents, 50 respondents from each group were required for data collection.

Table 1: Number of respondents of different age groups involved in seeking responses.

S.No.	Age Group of Respondents	Number of Respondents
1	10-15 year group	50
2	16-20 year group	50
3	21-30 year group	50
4	31-45 year group	50
5	46-60 year group	50

The datasets of a total 250 respondents was collected. The datasets of the respondents was stored in a segregated manner i.e. classified in accordance with their age as shown in Table 1. These datasets are collected from different sources such as social media, magazines and some common platforms such as malls, offices etc.

3.3 Instrument

Software Components utilized in the present study include

3.3.1　Cloud server and Gmail:

Cloud server has been used by the survey authority where data obtained from the respondents was kept. Gmail was used by the survey authority from where all the data is sent to the people who are mainly the marketers and consumers.

3.3.2　Microsoft Excel:

This software is used to develop various tables in the above procedure. In this research there are three forms, such as:

The first form appears to the user as an empty column he/she has to fill the complete form by mentioning their personal details such as name, their age and type of device they used is based on artificial intelligence. The age portion takes the input regarding the categorization of the consumer as well as marketer. Once the respondent fills the complete form by mentioning name, age and type of innovation used. Then the respondent gets a survey form which he/she has to fill. Once the respondent selects age the respondent gets a form 2 followed by form 3 in order to get stored in separate sheets in accordance with their age for better classification. The form 2 is sent to respondents individually; they just have to respond with yes or no within the empty columns. The form 2 as shown in Table 2 depicts various parameters such as work satisfaction, happy index, product satisfaction, variety of products, able to bargain and offers provided. The respondent has to reply with yes and no in regard to their selection of service.

Table 2: The form based on respondents' choices or dislikes about the presence of artificial intelligence in our lives.

S.No.	Artificial Intelligence	Yes	No
1	Work satisfaction		
2	Less Manual Intervention		
3	Work done innovatively		
4	Increment in factual knowledge		
5	Building technical ground		
6	Provides better accuracy		
7	Takes less time		
8	More opportunity to learn		
9	Enjoyment		
10	Understand difficult tasks		
11	which Environment you prefer		

3.4 Data Collection

Once the 250 respondents in accordance with the survey have replied to the survey forms, all the data is stored in a cloud server. The cloud server is used to classify and securely save the datasets in accordance with the different fields. Then the data is analyzed and classified by the cloud server with the help of various machine learning protocols. All the responses are clubbed together and the average percentage of their real value is depicted in Table 3.

Table 3: The form based on respondents' choices or dislikes about the presence of artificial intelligence in our lives.

| S.No.	Artificial Intelligence	Age 10-15 group	Age 15-20 group	Age 21-30 group	Age 31-45 group	Age 45-above group
1	Work satisfaction	90%	90%	60%	70%	60%
2	Less Manual Intervention	80%	60%	70%	80%	50%
3	Work done innovatively	70%	90%	70%	90%	70%
4	Increment in factual knowledge	80%	50%	60%	80%	50%
5	Building technical ground	90%	90%	80%	90%	80%
6	Provides better accuracy	70%	80%	90%	100%	90%
7	Takes less time	60%	90%	70%	60%	80%
8	More opportunity to learn	90%	40%	40%	90%	60%
9	Enjoyment	100%	90%	80%	60%	50%
10	Understand difficult tasks	80%	80%	80%	80%	60%
11	which Environment you prefer	AI based	AI based	AI based	AI based	AI based

RESULTS & DISCUSSIONS
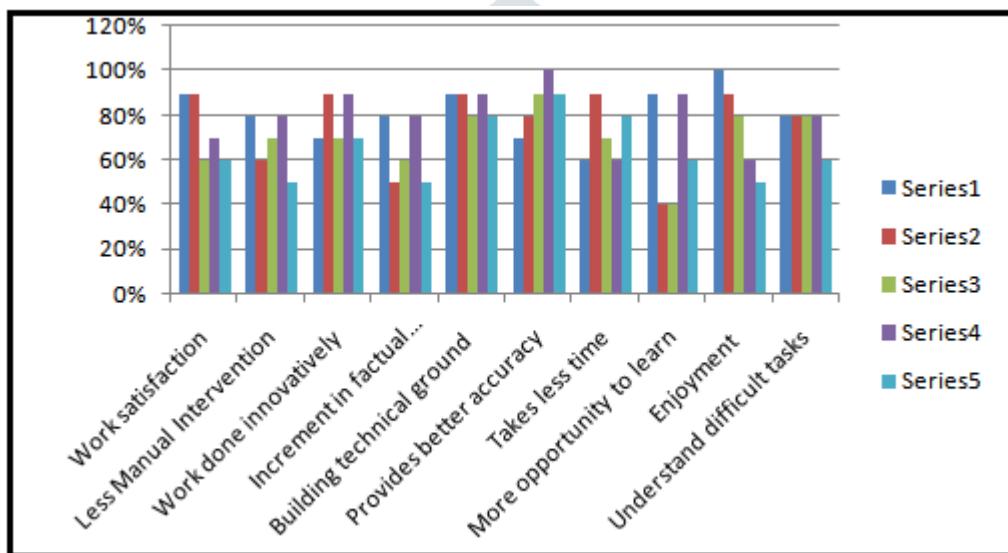
Figure 3: Data collected from various respondents within the concurrent research regarding impact of artificial intelligence.

It is quite obvious that AI has been impacting over every age group of people by analyzing responds from the respondents in detail. The graph (Figure 3) representing the excerpt of the Table 3 wherein series 1 denotes Age 10-15 group of people, series 2 denotes Age 15-20 group, series 3 showcases Age 21-30 group, series 4 demonstrates age 31-45 group of people and series 5 denotes the group of above 45 age people. All the impacts of artificial intelligence are scaled in accordance with the series.

As observed in Figure 3, in the field of work satisfaction both series 1 and series 2 are equally satisfied by 90% , in field of less manual intervention series 1 and series 4 are most likely to respond positively, whereas in the field of work done innovatively series 2 and series 4 are equally satisfied by 90%, moving to field named increment in factual knowledge series 1 and series 4 excel in responding, then comes the field in which respondents were asked about building technical ground and series 1,2 and 4 highly agrees, then series 4 shows 100% support in favoring the field that artificial intelligence provides better accuracy, then series 2 highly agrees by 90% that artificial intelligence takes less time in performing any task, series 1 and series 4 showcases that AI provides more opportunity to learn, early teenagers or the series 1 of respondents see artificial intelligent impact as an enjoyment with 100%, one-fourth of the respondents in the series think that artificial intelligence understands difficult tasks by 80%.

CONCLUSION

This study identifies a complete knowledge about the excerpts of impact of artificial intelligence. Online platforms and social networking plays a major role in collecting and seeking attention of the targeted audience. The social platforms such as facebook, instagram and twitter assists users to use new innovations based on artificial intelligence. The paper indicates that artificial intelligence has changed the total point of view of the user at each and every person towards the target audience. In this survey paper the author concluded that artificial intelligence has continuously affected the lives of users of each and every age with its own pros and cons. The paper showcases the cumulative information regarding various social and personal factors.

REFERENCES

[1]   S. Finlay, "Artificial Intelligence and Machine Learning for Business. A No-Nonsense Guide to Data Driven Technologies," no. May, p. 15, 2017.

[2]   Indrasen Poola, "How Artificial Intelligence in Impacting Real Life Every day," *Int. J. Adv. Res. Dev.*, vol. 2, no. 10, pp. 96–100, 2017.

[3]   S. Das, A. Dey, A. Pal, and N. Roy, "Applications of Artificial Intelligence in Machine Learning: Review and Prospect," *Int. J. Comput. Appl.*, vol. 115, no. 9, pp. 31–41, 2015, doi: 10.5120/20182-2402.

[4]   S. V. Chesnokov, "The effect of semantic freedom in the logic of natural language," *Fuzzy Sets Syst.*, 1987, doi: 10.1016/0165-0114(87)90012-1.

[5]   N. G. Polson and V. O. Sokolov, "Deep learning," *arXiv*. 2018, doi: 10.4018/ijmbl.2018010105.