Artificial Intelligence and Ethical Concerns in Contemporary Indian Society

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Abstract:

There have been significant changes brought about by the arrival of computers and their use in a variety of fields, such as communication, education, healthcare, and entertainment. The economy of this era is marked by a swift transition from traditional industries to information technology-based economies. This stage is therefore referred to as the information or digital era. This era is characterised by the digital revolution in ICT and the internet, and by the globalisation of the knowledge economy. Cybersecurity, privacy, and big data and analytics are some of the issues in social media and online communities. This paper aims to investigate how different applications and computers have influenced and transferred different facets of Indian society. It has promoted teamwork and creativity in the classroom and organizations wherever it is applied. Artificial intelligence is closely related to the information era and biased algorithms with certain moral implications. Automation is maintained in large part by the technology employed in artificial intelligence. Processes are streamlined and large amounts of data may now be processed and analysed quickly thanks to automation. Data-driven decision making has become a reality in a various corporate settings, including governments and other institutions. This is because machine learning and data analytics algorithms have made it possible for businesses to extract important insights from massive data sets. AI is also the main force behind a number of technological developments that people have been able to see, including smart devices, driverless cars, and improved medical diagnostics. E-commerce is another area that has advanced as a result of AI intervention. The AI algorithms have evaluated the conduct of users on this site and has contributed positively to the e-business. Artificial Intelligence (AI) has the capacity to further transform several industries. Despite all these advantages, AI is becoming more widely used, and there are privacy problems because of biased algorithms with serious ethical issues.

Any technological innovations have both merits and demerits. AI is not an exception to this. There are many paradoxes in Indian society, which is pluralistic. In spite of the fact that there is a significant digital divide, the public has access to a vast amount of data due to recent efforts towards a digital revolution that have enabled e-governance. This raises concerns about data security and the potential for stalkers to misuse the information. Human rights violations do occur occasionally as well. In order to give people in Indian society a more moral, just,

sustainable, successful future, and this proposed paper will aim to shed light on the necessity of developing more ethical and humane based applications.

KEYWORDS: AI, Indian Society, Digital Revolution, Ethics

1. Introduction

Information, Communication and Technology revolution that occurred in India has brought in tremendous structural and functional changes in several sectors. This industry is dynamic and continually evolving, so there are additional advancements since then. A major force behind national economic growth is the ICT revolution, which is being driven by the phenomenal progress of semiconductor innovation and the quickening pace of globalization (Jorgenson & Vu, 2016).The acquisition, recording, and processing of data which is finally retrieved as information via electronic signals for usage are the traits of Information, Communication and Technology. This revolution has changed the way people function and communicate. The business houses have benefited profoundly by applying ICT tools. ICT corresponds to the integration of computer networks, telecommunications networks, and multimedia networks. The technology is used for a variety of tasks, from processing data in organizations to managing and regulating robotic machines remotely (Mohammed & Sadiq, 2015). This revolution has also created opportunities for several other scientists and innovators to up-grade the existing knowledge for the future generation. Information technology resources are essential for encouraging innovation and enhancing performance in higher education institutions, especially in terms of product development, according to research findings based on responses from respondents working in higher education institutions in Garut, Indonesia (Maulani et al., 2021). It has promoted teamwork and creativity in the classroom and organizations wherever it is applied. The demands, attitudes, expectations, perceptions, and values around the use of technology in education are shaped by large firms that are involved in the field of educational technology. It is also essential to critically examine how these companies display and market their goods (Marone & Heinsfeld, 2023). AI (Artificial Intelligence) and ICT (Information and Communication Technology) are closely interconnected fields that often complement each other to enhance various aspects of technology, business, and society. ICT supporting AI development has been possible due to computational power with aids in development and training of sophisticated AI models. ICT systems play a crucial role in processing large volume of data which is essential for AI models and effective communication.

2. Literature Review

2.1 ICT, Mobile applications, Education and Research

Different types of mobile applications and computers have influenced and transformed different facets of Indian society. Learning and acquiring skills is instant due to these applications. The young generation of learners are referred as digital natives by Prensky. They are grown up by playing video games, surfing internet and they are multitasking. In the field of education, the Net generation is driving a shift in pedagogy from a teacher-focused, instruction-based model to a student-focused, collaboration-based paradigm, according to Tapscott (Tapscott D. 1998). This trend has set in the field of education. Students typically spend more time engaging in

entertainment than in academic pursuits according to a study conducted in Malaysia and the researchers have advocated to enrich learning process through the usage of new emerging technological tools (Yong & Gates, 2014). Introduction of ICT has enhanced the both teaching and learning experience specifically with slow learners, kids with special needs. The learners have got access to multi-media for quality learning. The outcomes of a study entitled, "Everyone pursuing their dreams Google's and Microsoft's discourse on educational technology" indicate that the narrative advanced by these businesses portrays technology as a revolutionary force capable of bringing life to an ailing institution of learning (Marone & Heinsfeld, 2023). The Speech-to-text (STT) Dragon study sheds light on how technology can assist children in overcoming literacy obstacles. It has successfully enhanced the children's handwritten text and generated remarkable results for screen-written text at the post-test, providing them with a lifelong independent communication skill (Kambouri et al., 2023). The findings of a study 'Exploring the relationship between educational ICT resources, student engagement, and academic performance' highlights that, curriculum-based, non-curricular, and cognitive-motivational engagement all have a good correlation with educational ICT tools. Governments are advised to use various measures in order to realise the potential benefits of educational ICT resources, in accordance with the research findings (Wang & Wang, 2023). A superior cost-performance ratio over old labor-intensive manual systems is one benefit of utilising IT in business processes (Abdel raheem et al., 2021). In the study conducted by Dierckx and others, have observed in an automobile disassembly enterprise that there is a relationship between information technology and innovation in SMEs because of standardised operations, expertise, distinction, and both horizontal and vertical integration created feasible development with IT applications (Dierckx & Stroeken, 1999). It opened up several job opportunities for people in many domains including the software field and also is responsible for huge shift for many middle-class software engineers in Indian society. Nations that are developing are obligated to provide all the resources wanted by youth to obtain ICT management training (Mohammed & Sadiq, 2015).

2.2 **Cloud Computing and Artificial Intelligence**

Some of the imperative traits of internet revolution are cloud computing, artificial intelligence, continuous integration and continuous deployment, open source software, block chain and distribute ledger technology, internet of things, low code or no code development cyber security, and remote collaboration tools. Alan Turing, one of the leading British mathematician and logician claimed that human brain by and large is like a computer machine and machines can think on their own in the nearby future in 1950. The term "artificial intelligence" was subsequently formally introduced approximately six years later, in 1956, when computer scientist John McCarthy and Stanford's Marvin Minsky sponsored the roughly eight-week-long Dartmouth Summer Research Programme (Haenlein & Kaplan, 2019). Artificial intelligence (AI) is the concept and technique for creating computer systems that can do functions like recognising words, making decisions, and pattern recognition that traditionally needed human intelligence. Natural language processing, machine learning, deep learning, and other technologies are all included under the broad term artificial intelligence. Therefore AI is all about engineering the intelligent machines that will perform all the human actions. Strong (or general) AI and weak (or

narrow) AI have been distinguished from one another. Weak AI is limited to doing activities in a manner similar to that of humans, while strong AI, also known as artificial general intelligence (AGI), is found in computers capable of executing any intellectual and cognitive tasks that a human can perform. Put differently, the question of "whether machines can be truly intelligent or simply able to act 'as if' they are intelligent" determines the distinction (Kaplan, 2016). Squibb claimed that intelligence is an abstraction derived from socially acceptable behavioural patterns from a sociological perspective (Squibb 1973). Russell and Norvig (2020) provide another attempt to characterise the behavioural traits that render a machine intelligent. The authors' point of reference was the bounded rationality of humans. They maintained that a computer must exhibit human-like, rational, or human-like behaviour to be classified as intelligent Russell and Norvig (2020). Assuming that artificial intelligence (AI) cannot replace human "knowledge workers" in their capacity to apply tacit knowledge to evaluate and solve problems. In the era of robots and artificial intelligence, McClure investigates how employees' agency impacts their job security. Because they are more willing to accept and adjust to the new AI-present workplace order, he contends that employees with a more favourable attitude towards AI typically have higher job stability and enhanced employability (McClure, 2018). It would be pointless to bring up the Kantian objection that the near-future AIs have no moral standing and are only being employed as means to an end (Fröding & Peterson, 2021). Artificial intelligence (AI) has the capability to create synthetic faces that can speak and express any desired language (Zakharov, Shysheya, Burkov, & Lempitsky, 2019). An AI system is ultimately a tool that will endeavour to do any task that it has been assigned. The issue arises from the fact that people, who are rarely as exact as they ought to be, provide those opinions. Therefore, in order for AI systems to properly read ambiguous commands, they need to be equipped with a knowledge of human values.

2.3 Artificial Intelligence and Ethics.

One of the major concerns is how far Artificial Intelligence can be ethical. Many of the researchers have raised their comments on to what extent ethical principles can be applied. Social values, moral and ethical issues, and the relative importance of values held should all be taken into account by AI thinking by many stakeholders in diverse ethnic settings; provide an explanation of its logic; and ensure transparency (Dignum, 2018). Ethics in artificial intelligence: introduction to the special issue. The nature of AI is such that a lot of AI creates epistemic weaknesses for the experts who build it. The development of machine learning introduces an epistemological "black box" vulnerability, meaning that its designers may know very little, if anything, about what is happening inside the black box (Liu, 2021).Towards a code of ethics In addition to governmental agents, commercial companies are also becoming more and more affected by this rise. Companies like Google, Microsoft, and Facebook, for example, have very total access to both individual and network data. Companies and people also exchange data from other sources with the police and other parties who are willing to pay for it (Kraemer et al., 2011). Even if AI is capable of amazing discoveries that humans are not capable of, including identifying third- or higher-order connections in complicated biological networks—where three or more variables must interact in order for an effect to occur—it lacks common sense and reasoning abilities. AI algorithms may take on social roles, requiring new design specifications like predictability and openness. It's possible that sufficiently general AI algorithms won't work

in predictable environments, necessitating the development of artificial ethical considerations and new forms of safety assurance (Kraemer et al., 2011). This research articles discusses the ethical defies of Artificial Intelligence aided surgery done by robots. It underscores the obligation of clear informed consent amongst reservations, bias controlling in AI, data privacy, and unequal access. The role of surgeons calls for usage of technology keeping the patient care and ethical safety as the utmost priority (Chappell & Teven, 2023). This research paper emphasizes the need for greater attention to ethical concerns in biomedicine at the global level. Progress in life sciences and Artificial Intelligence are reforming healthcare. A collective monitoring method is anticipated to poise innovation with individual rights. The authors have concluded that a trust-worthy AI driven health care system should be developed (Federico et al., 2024).

In the development of an AI-powered app for youth mental health, a consortium of developers, AI specialists, and young advisors were involved. It emphasized early youth involvement and addressed diverse user needs, including neurodiversity. This study discusses the relationship between genetic, environmental, and neurobiological factors in mental health, leveraging advanced AI techniques for better understanding (Horstkötter et al., 2025)

2.4 Artificial Intelligence in India

The process of globalization has opened up the opportunities in the trade and technological knowledge across the globe for India. In India the information technology services and outsourcing company such as TCS Infosys and Wipro have played a crucial role in providing software solutions and services to the clients across the world. Some of the Indian industries have started using artificial intelligence including banking and finance, supply chain management. Indian IT firms, such as TCS and Infosys, are working on creating a range of AI-based fixes for their issues. For instance the "National Programme on Perception Engineering" is an Indian government funding research program towards the development of AI. The establishment of software companies gave a facelift to the cities and it has given the global recognition for these cities. The development of these cities have far reaching consequences including the expansion of the cities and amenities of international standard. It has also contributed towards the start-up ecosystem and cities like Bengaluru Hyderabad and Pune are recognised as the cities of start-ups the start-ups include synthetic and agri-tech contributing to innovation and technology. A report by Zinnov Global Management Consulting states that over US$36 million has been invested in about 170 businesses (Srivastava, 2018). It has also transformed the country into a digital empowered society. AI research for both military and commercial use has been funded by DRDO at the Centre for Artificial Intelligence and Robotics (CAIR) (Srivastava, 2018). Online shopping is one of the recent developments in the field of trade and commerce, it has changed the whole dimension of purchasing and selling of the commodities. People who are busy and don’t find sufficient time for shopping end by buying products through online applications. Retailers have adopted a range of technologies to interact with their customers during their online buying experience in response to the growing popularity of online shopping. One field that definitely makes this easier is artificial intelligence. The Concepts of machine learning, neural networks, big data and artificial intelligence (AI) are shaping new digital consumer worldwide. India is also one of the newest and largest growing

markets for Digital Marketing (Umesh and IJARSCT, September 2020). The innumerable projects and programs focus on a government digital infrastructure and the adoption of technology across sectors have contributed towards the digitalisation of many sectors. A study on Artificial intelligence for governance in India was conducted and the findings suggest that deploying AI assisted governance is hampered by issues with data protection, acquisition, and storage. Concerns about the improper use of data and a lack of trust are further ethical issues that could prevent AI from being widely used in governance (Gupta, 2019).

3. Methodology:

This study was carried out by collecting data through google forms by applying convenience and snowball sampling method in the Bangalore Urban area. The respondents are diversified on the lines of language and region. 71 people have responded to the schedule. The modern day education and job sector presses the need for digital skills and knowledge of ICT tools. Hence the usage of smart phones, laptops, gadgets are very common amongst the youngsters. In this study an attempt is made to explore the popular AI applications that are currently used by the students, teachers and other professionals. One of the major observations done though the link was shared to people belonging to various age groups, professional groups including students, findings reveal that it is the youngsters and students who have responded to the survey are more in number in comparison to the others.

3.1 Measures

The Independent variables of this study are Age, Occupation, and Education. Artificial Intelligence, and AI applications are the dependent variables. Usage of AI applications are mediating variables

3.2 The Objectives of this study are:

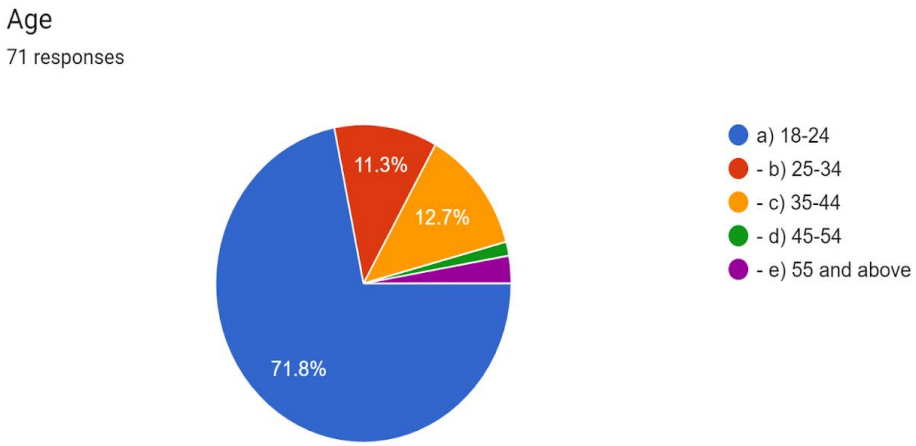
1. To explore the most popular AI applications amongst the youngsters
2. To know the reasons for dependence on AI
3. To find out the consequences of usage of AI applications
4. To analyse the bias and ethical issues in AI applications

The available literature strongly presses the fact that it is the youth, referred as digital natives are using the AI based application and from the literature review it is proved that the digital natives have a positive attitude towards AI applications. They are also eager to try out all the new applications without any hesitations. Given this the study proposes following hypothesis:

H1: Youngsters reliance is higher on AI applications
H2: The AI applications are used as shortcut method to finish the work soon
H3: There is scope for ethical violation in current AI applications
H4: The users are aware of the misuse of AI applications

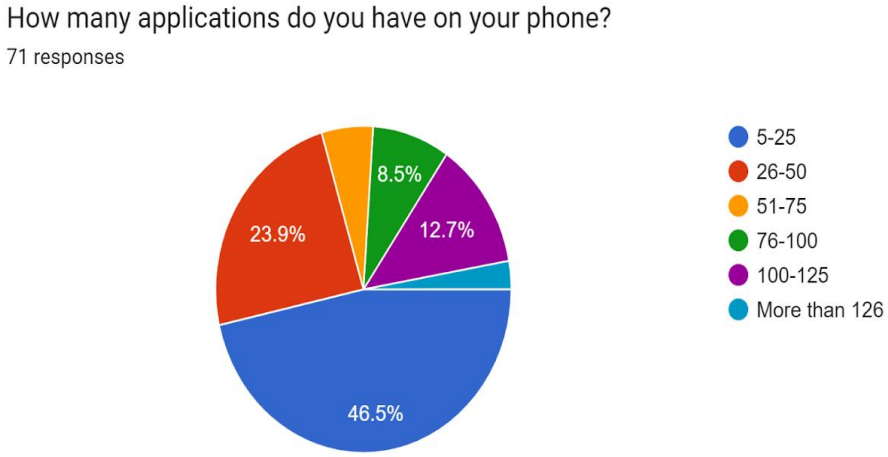
3.3 Data Analysis

CHART 1



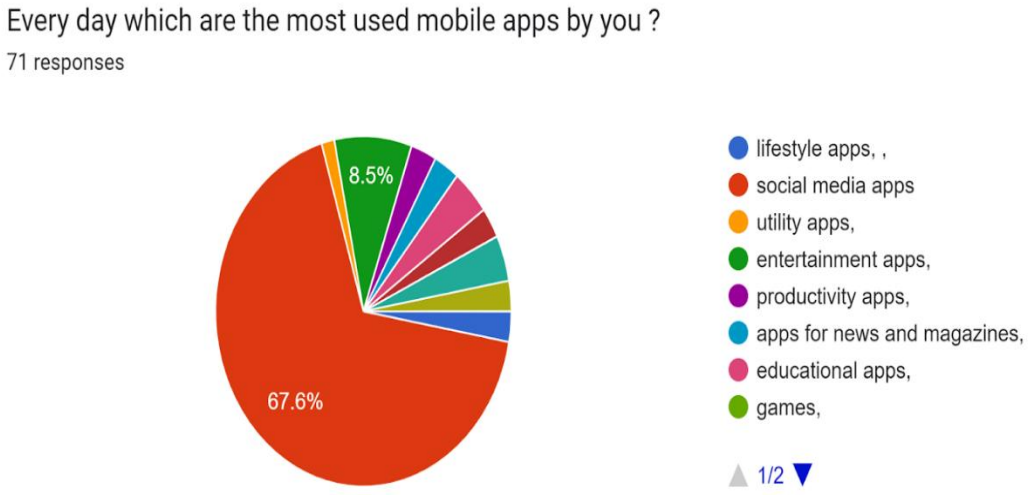
Majority of the respondents that is 71.8% of them fall under the age category of 18 to 24.

CHART 2



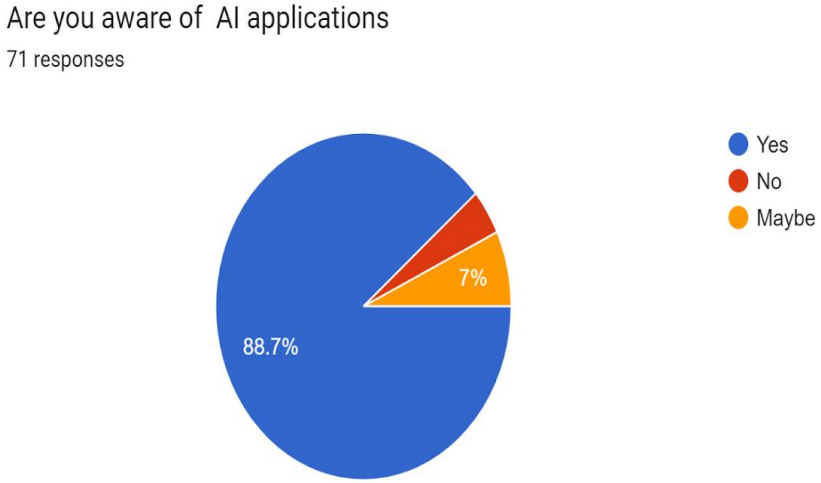
Smart phones are highly compatible for various applications including AI applications. While 48.5% of them have answered that they 5 to 25 mobile application on their cell phones, 12.7% of them have responded they have nearly 100-125 applications. These include payment gateways, photo gallery, AI based apps, social media apps and games.

CHART 3



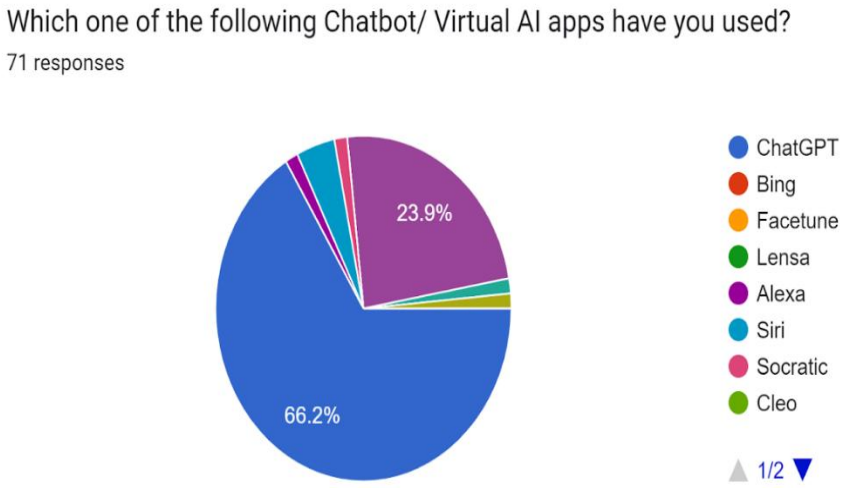
From the above chart it can be understood that 67.6% have responded that they use social media apps. Social media platforms use AI to understand the choices of their users. Only 4.2% of the respondents are using educational apps.

CHART 4



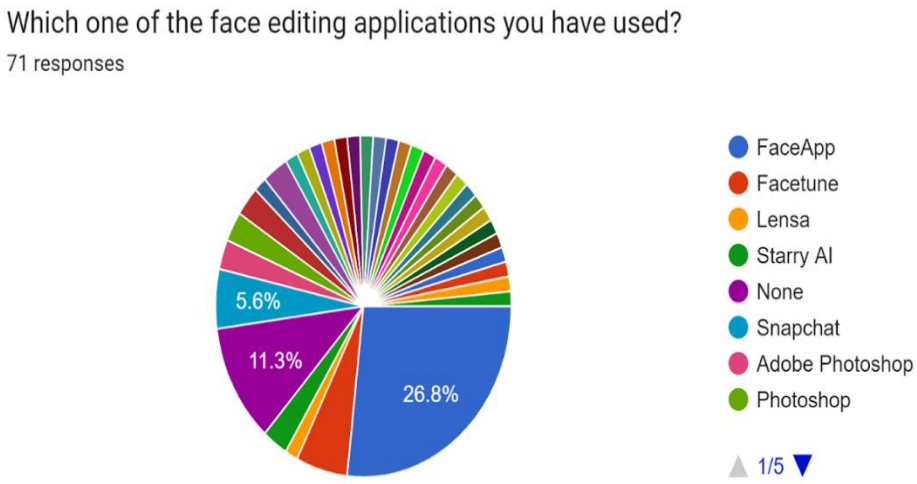
The majority of the respondents have answered that they are aware of AI application and 7% of them are unsure about it.

CHART 5



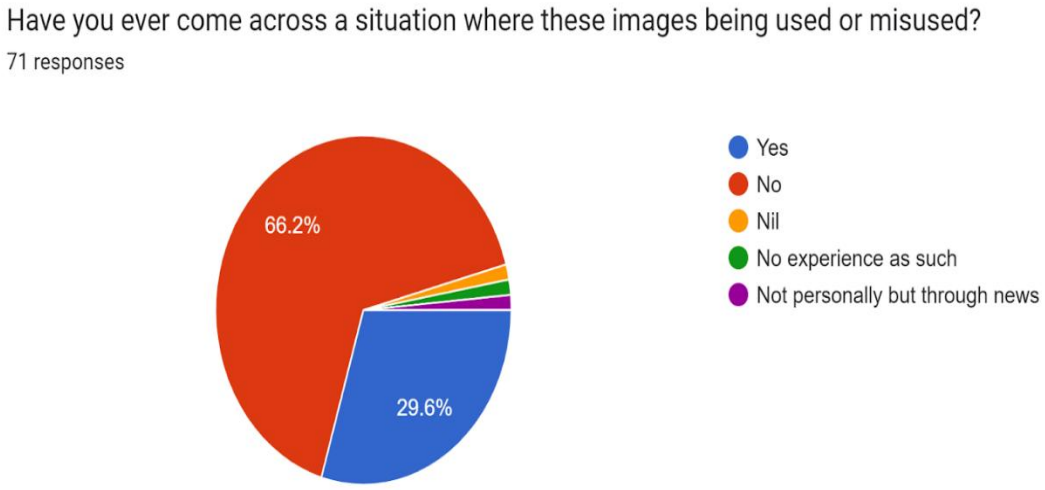
From the above chart it can be understood that Chat GPT and Alexa are the most widely used AI applications.

CHART 6



This particular chart depicts the peoples; curiosity in bringing alterations, beautifying, their face and by perplexing their followers, they want to catch the attention of the viewers or followers. People might prefer to view unprocessed, natural beauty on Instagram rather than altered photos of themselves (Kaplan & Haenlein, 2019a).

CHART 7



29.6% have responded that they have come across the instances of these images being misused. Software designers should, in general, try to leave users to make moral decisions. Additionally, in situations where this isn't feasible, the algorithm's ethical presumptions have to be clear to users and simple to recognise (Wang & Wang, 2023). Although there have been significant advancements in data privacy and algorithmic fairness, it is evident that ethical considerations should be given due importance (Docters & Gieskes, 2023). Data scientists should have in-depth dialogues about the social implications of AI. The researchers have conducted studies in low- and middle-income countries. Interpersonal violence is a noteworthy worldwide community health issue, specifically children and youth. One billion children are experiencing violence annually. Adolescents aged twelve and thirty four are at high risk. The authors have recommended for developing targeted apps, and companion apps for peers, to save the youth at risk with efficient interventions (Bowen-Forbes et al., 2024)

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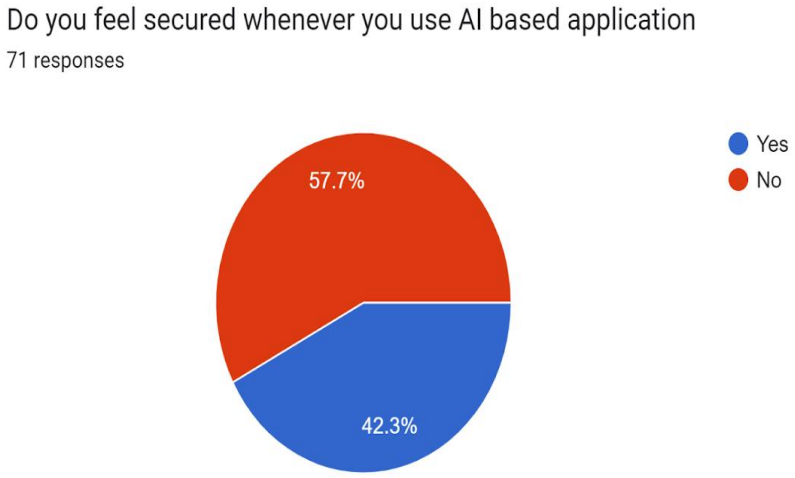
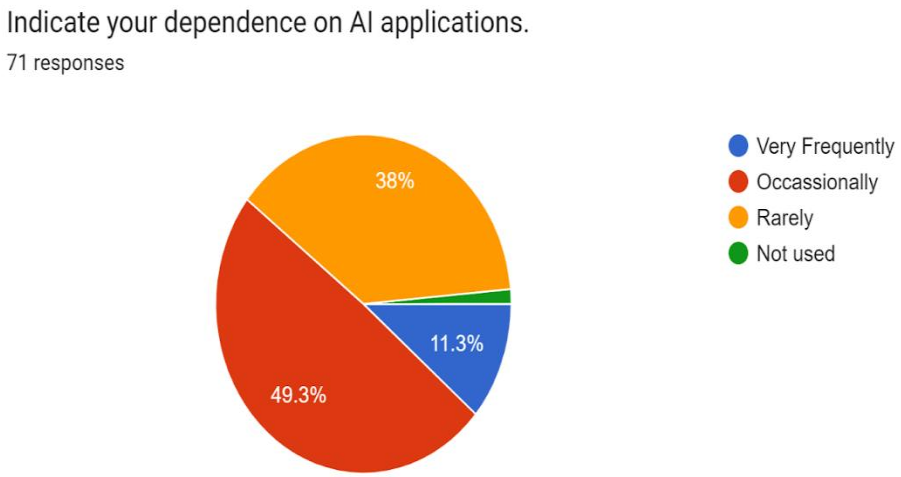
CHART 8



Majority of them feel secured and they would like to use AI applications when they are not aware about a topic, to get some ideas, to enhance the quality of the work and so forth.

CHART 9



In the present scenario the users have admitted they use it occasionally. When AI gets incorporated to the work then users will be forced to use it very often. Artificial intelligence (AI) can evaluate and compile enormous amounts of data that are occasionally too big for a human to evaluate on their own. This allows AI to recommend employment decisions, quickly assess a loan applicant's trustworthiness (Boddington, 2017).

4. Conclusion

Digital technologies have enabled sociologists to better understand the relationship between them and society, but pose challenges related to ethics, privacy, power asymmetries, and inequalities. Today, we are living in a society where Information is shared for free. This free access to information has enabled people to get into various types of networking platforms, and also has been advantageous and, in some instances, risky due to stalkers. Any technological innovations have both merits and demerits. AI is not an exception to this. There are many paradoxes in Indian society, which is pluralistic. In spite of the fact that there is a significant digital divide, the public has access to a vast amount of data due to recent efforts towards a digital revolution that have enabled e-governance. AI has a great deal of potential in the Indian market since it can leverage domestic talent and create a thriving IT sector there. AI can support key government initiatives in India, such as Made in India, Digital India, and Skill India. India Development must apply AI in applications and infrastructure, policy and regulations, research and development, and human resource development if it is to become a formidable force in the field (Srivastava, 2018). This raises concerns about data security and the potential for stalkers to misuse the information. India can no longer afford to fall behind. For political reasons, it did not reap the gains of the first and second industrial revolutions. But by using the talent that exists in the nation, information technology may help it reap the rewards of the transformation. In addition to making money from software exports, it has the potential to employ millions of educated individuals. Most of the companies are automating the processes using AI technology,

India might loose on it (Srivastava, 2018).Human rights violations do occur occasionally as well. As much as possible, authors suggest that, algorithm designers to leave ethical decisions to users; if this isn't feasible, then the ethical presumptions made by the algorithm should at the very least be clear and simple for users to understand (Wang & Wang, 2023). For developers to get access to government-owned data, policies are required. Similar to other nations, the government must fund basic research as well as long-term research projects in the area of AI and technological interventions. If India involves in taking up initiatives to look into ethical violations and constant checks on the replacement of Human workforce due to AI, it can definitely champion the fourth phase of Industrial revolution in the same manner how it was possible through IT revolution. In order to give people in Indian society a more moral, just, sustainable, and successful future, there is a dire need for developing more ethical and humane based applications.

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