STUDY ON THE EFFECT OF AI IN TODAY'S GENERATION WITH SPECIAL REFERENCE TO ERNAKULAM CITY.

Dissertation

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Under the guidance of

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ST. TERESA'S COLLEGE, ERNAKULAM (AUTONOMOUS)

COLLEGE WITH POTENTIAL FOR EXCELLENCE

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CERTIFICATE

This is to certify that the project titled "Study on the Effect of AI in Today's Generation with special reference to Ernakulam City" submitted to Mahatma Gandhi University in partial fulfillment of the requirement for the award of Degree of Bachelor of Commerce is a record of the original work done by Ms. Liya Mary Elizabeth George, Ms. Leenat Santhra Mol C P and Ms. Riya Elza George under my supervision and guidance during the academic year 2023-24.

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DECLARATION

We, Liya Mary Elizabeth George, Leenat Santhra Mol C P and Riya Elza George, final year B.Com Capital Market students, Department of Commerce (SF), St. Teresa's College (Autonomous) do hereby declare that the project report entitled "Study on the Effect of AI in Today's Generation with special reference to Ernakulam City" submitted to Mahatma Gandhi University is a bonafide record of the work done under the supervision and guidance of Smt. Annie Merlyn Rodrigues, Assistant Professor of Department of Commerce (SF), St. Teresa's College (Autonomous) and this work has not previously formed the basis for the award of any academic qualification, fellowship, or other similar title of any other university or board.

PLACE: ERNAKULAM

DATE: 24.04.2024

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CHAPTER-1

INTRODUCTION

1.1 INRODUCTION

In the rapidly evolving landscape of technology, one phenomenon has stood out as a transformative force, reshaping the way we live, work, and interact with the world - **Artificial Intelligence** (AI). As we stand on the edge of a new era, the influence of AI on today's generation is undeniable, permeating through practically all areas of our daily lives.In this study, we're diving into the effects of AI on today's generation—how it's changing the game in our jobs, schools, and the way we connect with the world around us.

AI, simply put, is when machines learn to do things that usually need human smarts. Think of your voice-activated assistants, cool suggestions on your favorite apps, or even self-driving cars—those are all part of the AI revolution happening right now. From sophisticated algorithms enhancing user experience to the automation of complex tasks, AI has ingrained itself in the fabric of our modern existence. The purpose of this study is to unravel the dynamic interplay between AI and the current generation, investigating how this symbiotic relationship shapes our societal structures and individual experiences.

The study on "***the Effect of AI in Today's Generation***" aims to dissect the opportunities and challenges presented by AI, addressing the potential for job displacement, ethical considerations, and the democratization of information. It explores the educational landscape, probing the role of AI in fostering innovation, personalization, and accessibility. Our mission here is to figure out the good and the not-so-good sides of Artificial Intelligence in our day-to-day lives. The study explores how it might create new jobs but also change the ones we have. Beyond other economic considerations, this study will investigate the transformative role of AI in the educational sector by analyzing how AI contributes to personalized learning experiences, accessibility, and innovation in education, we aim to provide insights into the evolving nature of knowledge dissemination.

1.2 STATEMENT OF THE PROBLEM

As we witness Artificial Intelligence (AI) becoming a part of our daily lives, it's crucial to understand the challenges it brings for today's generation. One major concern is the impact on jobs. With AI transforming industries, there's a worry about job changes and even job losses. Another important issue is ethics – we need to figure out the right way to use AI without compromising privacy, introducing biases, or avoiding accountability.

Education is also in the spotlight. AI is changing how we learn with personalized education, but we need to explore if it's making education better and more accessible for everyone. The broader effects on society, especially in decision-making areas like credit scores and law enforcement, raise questions about fairness and fairness for all. Lastly, as AI gets smarter, we need to understand how people feel about and interact with these technologies. This study aims to untangle these issues, offering a clear picture of how AI affects today's generation and guiding us to make informed decisions for the future.

1.3 SIGNIFICANCE OF THE STUDY

AI has the potential to bring about numerous positive changes in society, including enhanced productivity, improved healthcare, and increased access to education. AI-powered technologies can also help solve complex problems and make our daily lives easier and more convenient. By considering all these, this study aims to address the following key issues:

1. **Employment Disruption:** The accelerated adoption of AI in industries and workplaces raises concerns about potential job displacement and the reshaping of traditional employment structures. This research seeks to explore the extent to which AI technologies contribute to shifts in employment patterns and the subsequent impact on the workforce.
2. **Ethical Considerations:** The deployment of AI introduces ethical dilemmas concerning privacy, bias, and accountability. This study aims to examine the ethical dimensions associated with AI technologies, shedding light on the potential risks and safeguards necessary to ensure responsible AI development and implementation.
3. **Educational Paradigm Shift:** The integration of AI in educational settings has ushered in a new era of personalized learning and accessibility. However, it is essential to investigate how these advancements affect the quality of education, student engagement, and the broader implications for the future workforce.
4. **Societal Implications:** The widespread use of AI-powered systems in decision-making processes, such as credit scoring, law enforcement, and healthcare, raises concerns about fairness, transparency, and social equity. This research seeks to explore the societal implications of AI, with a focus on understanding its impact on diverse demographic groups.

5. **Human-Machine Interaction:** As AI technologies become more sophisticated, exploring the dynamics of human-machine interaction becomes imperative. This study aims to investigate how individuals perceive and interact with AI systems, examining the potential consequences for social relationships, mental well-being, and overall quality of life.

   Therefore, the significance of this study lies in looking at how AI affects our everyday lives and relationships. From social dynamics to mental well-being, this study aims to uncover how AI influences society at large. By exploring these aspects, the research can guide decisions that ensure AI is a positive force, aligning with our values and making our lives better.

1.4 OBJECTIVES OF THE STUDY

The main objective is "Effect of Artificial Intelligence (AI) in Today's Generation". This includes the following secondary objectives:

A. **Examining the Impact on Employment:** Investigate how the widespread adoption of Artificial Intelligence (AI) is influencing the job market and analyze the potential for job displacement, job creation, and changes in skill requirements due to AI integration.

B. **Exploring Ethical Considerations:** Evaluate the ethical implications of AI in decision-making processes, such as credit scoring, law enforcement, and healthcare and identify potential biases, privacy concerns, and accountability issues associated with the use of AI technologies.

C. **Assess Educational Transformations:** Investigate the effects of AI on education, focusing on personalized learning, accessibility, and innovative teaching methods and examine the impact of AI on student engagement, academic performance, and the overall quality of education.

D. **Examine Societal Implications:** Explore the broader societal effects of AI on social relationships, mental well-being, and overall community dynamics and Investigate disparities and challenges that may arise from AI adoption and propose strategies to promote fairness, transparency, and social equity.

E. **Understand Human-Machine Interaction:** Investigate how individuals perceive and interact with AI technologies in various contexts and explore the

psychological and social implications of the evolving relationship between humans and intelligent machines.

F. **Provide Informed Insights for Decision-Making:** Synthesize findings to offer comprehensive insights for industry leaders, educators, and the broader community and develop recommendations and guidelines to foster responsible AI integration, ensuring a positive impact on today's generation.

By addressing these objectives, the study aims to contribute valuable knowledge that not only enhances our understanding of the effects of AI in today's generation but also guides strategic decision-making for a future where AI aligns with societal values and aspirations.

1.5 RESEARCH METHODOLOGY

This research involves systematic collection, analysis, and interpretation of data to answer a certain question or to solve a problem. This study has been conducted through collecting primary as well as secondary data. The primary data was collected through questionnaires as a research instrument. The sample size taken for the study is 54 from the faculties and students of St. Teresa's College as well as other youngsters. The questions are made in such a way that help us to understand the knowledge, ways of interaction, use, challenges faced, and feedback of the users of AI tools.

a) Primary Data: The primary data was collected through the distribution of questionnaires to various students and faculties in St. Teresa's College, Ernakulam as well as other youngsters from the Ernakulam city.
b) Secondary Data: The secondary data was collected from magazines, news and other websites.

SAMPLE DESIGN

Sample design refers to the process of selecting a representative group of individuals or elements from a larger population for the purpose of conducting a research study. The population of the study covers the STUDENTS AND FACULTIES OF St. Teresa's College, Ernakulam as well as other youngsters in the district. The method of sampling adopted was convenient and systematic sampling. The total number of samples taken for this study is 54.

TOOLS TAKEN FOR DATA COLLECTION

The main tool used for data collection is a structured questionnaire through Google Forms, which has been distributed among the respondents.

REPRESENTATION OF DATA

Representation of data were through tables, charts, diagrams & graphs.

TOOL TAKEN FOR ANALYSIS OF DATA

The processed data is analyzed by using a simple mathematical tool percentage. Google Documents is mainly used for entering and analyzing data. M S Word 2010 is used for analyzing the data and preparing charts and graphs.

METHOD OF THE STUDY

The method of the study is descriptive.

TYPE OF SAMPLING TECHNIQUE

The type of sampling technique is a mix of convenient and systematic sampling techniques.

1.6 SCOPE OF THE STUDY

This project aims to investigate the flexible effect of Artificial Intelligence (AI) on today's generation, encompassing various dimensions such as:

- Socioeconomic Impact
- Ethical Considerations
- Educational Transformations
- Societal Dynamics
- Human-AI Interaction

The scope of this study is not limited to a specific industry or demographic but aims to provide a broad understanding of the effects of AI on diverse aspects of everyday life.

1.7 LIMITATIONS

- **Human Perception Bias:** The study relies on self-reported perceptions and opinions, which may be subject to individual biases and may not fully represent objective realities.
- **Limited Predictive Capability:** While the study aims to understand the current impact of AI, predicting future developments or anticipating the long-term consequences remains inherently challenging.
- **Rapid Technological Advancements:** The field of AI is evolving rapidly, and new developments may have occurred since the commencement of the study. The research may not fully capture the latest technological advancements and their subsequent impact.
- **Geographical Variation:** The effects of AI may vary across different regions and countries due to variations in technological infrastructure, regulatory frameworks, and cultural contexts. The study may not capture the full spectrum of these regional nuances.
- **Data Availability and Reliability:** The study relies on the availability and reliability of data pertaining to AI adoption, socioeconomic indicators, and societal dynamics. Limitations in data accessibility may impact the comprehensiveness of the findings.

CHAPTER-2

REVIEW OF LITERATURE

(17 MARCH 2020) 'AI-based chatbots in customer service and their effects on user compliance' by MARTIN ADAM, MICHAEL WESSEL & ALEXANDER BENLIAN: The narrative explores the rise of AI-based chatbots in e-commerce for real-time customer service. Despite their widespread adoption, chatbots often fail to meet customer expectations, potentially impacting user compliance. A randomized online experiment, drawing on social response and commitment-consistency theories, reveals that anthropomorphic design cues and the foot-in-the-door technique significantly increase user compliance with chatbot requests. Social presence is identified as a mediator, shedding light on how design cues influence user behavior. The study offers valuable insights into improving the effectiveness of AI-based chatbots in customer interactions.

(02 APRIL 2020) 'An Empirical Study of Artificial Intelligence and its Impact on Human Resource Functions' by GARIMA BHARDWAJ, S. VIKRAM SINGH & VINAY KUMAR: This paper investigates the profound influence of artificial intelligence (AI) on Human Resource Management (HRM) within the dynamic IT landscape of Delhi/NCR. Encompassing aspects from recruitment to performance appraisal, the study engages 115 HR professionals, unveiling a robust positive correlation between AI integration and enhanced HR functional performance. The research underscores that the impact of AI on HR functions is shaped by the interplay of factors such as innovativeness and the ease of use in HR operations. Ultimately, the findings portray AI as a transformative catalyst, heralding the advent of Industry 4.0 in the IT industry.

(15 APRIL 2020) 'The Dark Sides of Artificial Intelligence: An Integrated AI Governance Framework for Public Administration' by BERND W. WIRTZ, JAN C. WEYERER, & BENJAMIN J. STURM: The abstract highlights the discrepancy between the rapid development of artificial intelligence (AI) and the lagging efforts of government and public administration in providing effective governance. The existing literature offers limited guidance on how these entities should address the significant challenges posed by AI and employ regulation to mitigate potential harm. In response to this gap, the study conducts an analysis of AI challenges and past regulatory approaches. Drawing on regulation theory, the research proposes an integrated AI governance framework that consolidates crucial aspects of AI governance, serving as a roadmap for regulating the use of AI. The article concludes by discussing theoretical implications and offering recommendations

for public officers dealing with AI regulation. The key focus areas include artificial intelligence, governance, regulation, framework, public administration, regulation theory, and AI challenges.

(26 JUNE 2020) 'The rise of artificial intelligence in healthcare applications' by ADAM BOHR & KAVEH MEMARZADEH: The abstract highlights the pervasive influence of big data and machine learning on various aspects of modern life, including entertainment, commerce, and healthcare. It illustrates how companies like Netflix, Amazon, and Google utilize vast amounts of data for personalized profiling, enabling behavioural understanding and targeted services. The focus shifts to the optimistic outlook on artificial intelligence's (AI) potential to significantly improve healthcare across diagnostics, treatment, and various support functions. While emphasizing that AI is expected to enhance rather than replace human efforts, the chapter discusses its applications in healthcare, ranging from administrative tasks to clinical documentation, patient outreach, image analysis, medical device automation, and patient monitoring. Additionally, the narrative extends beyond direct healthcare applications to explore AI's role in the healthcare value chain, encompassing areas such as drug development and ambient assisted living.

(4 SEPTEMBER 2020) 'The Influence of Artificial Intelligence on the Banking Industry & How AI Is Changing the Face of Modern Day Banks' by SUPRIYA LAMBA SAHDEV, DR. NAVLEEN KAUR, DR. MONIKA SHARMA, LARAIBE SIDDIQUI: The abstract discusses the rapid progress of Artificial Intelligence (AI) in the banking sector, highlighting its impact on traditional practices. It emphasizes two key aspects of AI: studying human brain processes and representing them through machine learning. The research explores how AI has revolutionized banking, replacing manual tasks with automation. The study aims to reveal the current applications of AI in Indian banking and its transformative effects on the industry, addressing challenges related to the evolving landscape of automation and the need for skilled talent.

(16 OCTOBER 2020) 'Can AI artifacts influence human cognition? The effects of artificial autonomy in intelligent personal assistants' by QIAN HU, YAOBIN LU, ZHAO PAN, YEMING GONG, ZHILIN YANG: In the era of the Internet of Things (IoT), emerging artificial intelligence (AI) technologies provide various artificial autonomy features that allow intelligent personal assistants (IPAs) to assist users in

managing the dynamically expanding applications, devices, and services in their daily lives. However, limited academic research has been done to validate empirically artificial autonomy and its downstream consequences on human behavior. This study investigates the role of artificial autonomy by dividing it into three types of autonomy in terms of task primitives, namely, sensing, thought, and action autonomy. Drawing on mind perception theory, the authors hypothesize that the two fundamental dimensions of humanlike perceptions—competence and warmth—of non-human entities could explain the mechanism between artificial autonomy and IPA usage. Our results reveal that the comparative effects of competence and warmth perception exist when artificial autonomy contributes to users' continuance usage intention. Theoretically, this study increases our understanding of AI-enabled artificial autonomy in information systems research. These findings also provide insightful suggestions for practitioners regarding AI artifacts design.

(21 OCTOBER 2020) 'Artificial intelligence in drug discovery and development' by DEBLEENA PAUL, GAURAV SANAP, SNEHAL SHENOY, DNYANESHWAR KALYANE, RAKESH K. TEKADE: The author highlights that Artificial Intelligence (AI) has revolutionized many aspects of the pharmaceuticals, AI assistance to pharma industries helps to improve the overall life cycle of products, and AI can be implemented in pharma ranging from drug discovery to product management, Future challenges related to AI and their respective solutions have been expounded. Artificial Intelligence (AI) has recently started to gear up its application in various sectors of the society with the pharmaceutical industry as a front-runner beneficiary. This review highlights the impactful use of AI in diverse areas of the pharmaceutical sectors viz., drug discovery and development, drug repurposing, improving pharmaceutical productivity, clinical trials, etc. to name a few, thus reducing the human workload as well as achieving targets in a short period. Crosstalk on the tools and techniques utilized in enforcing AI, ongoing challenges, and ways to overcome them, along with the future of AI in the pharmaceutical industry, is also discussed.

(26 DECEMBER 2020) 'Artificial intelligence in oil and gas upstream: Trends, challenges, and scenarios for the future' by DMITRY KOROTEEV, & ZELJKO TEKIC: The abstract delves into the transformative impact of artificial intelligence (AI) on the energy sector, specifically focusing on the upstream segment of the oil and gas industry. Recognizing this segment as both capital-intensive and fraught with

uncertainties, the analysis explores AI applications and their potential to accelerate and de-risk processes within the industry. The study highlights recent trends in the development of AI-based tools, examining approaches, algorithms, and the crucial role of data in the upstream segment. Non-technical challenges, such as issues related to data, human resources, and collaborative practices, are also discussed as hindrances to widespread AI adoption in the industry. The abstract concludes by outlining three potential scenarios for the future of AI in the oil and gas sector, projecting its evolution and transformative effects over the next 5, 10, and 20 years.

(05 JANUARY 2021) 'The global economy in technological transformation conditions: A review of modern trends' by VLADIMIR MATYUSHOKA, VERA KRASAVINAB, ANDREY BEREZINA AND JAVIER SENDRA GARCIA: In the midst of the neo-industrial developments in developed nations, this study asserts that the economic trajectory of the 21st century will be chiefly influenced by emerging economies like Russia, China, and India. The research examines key global economic trends, emphasizing the significance of fifth-generation networks and the impact of artificial intelligence in the ongoing technological revolution. Employing system analysis and statistical methods, the study unveils how these trends shape the economic strategies of nations, particularly underscoring Russia's vulnerability to external influences.

(18 FEBRUARY 2021) 'Artificial Intelligence: A Threat to Strategic Stability' by JAMES S. JOHNSON: This abstract explores the potential impact of AI-enhanced conventional capabilities on the strategic stability between major military powers. It suggests that the intricate interplay between emerging AI technology and advanced conventional weapons may pose a threat to the stability of nuclear capabilities. The article argues that the integration of a new generation of artificial intelligence into conventional capabilities could heighten the risk of inadvertent escalation, particularly due to the blending of nuclear and nonnuclear weapons. Additionally, it highlights concerns about the accelerating pace of warfare, asserting that this increased speed may undermine strategic stability and elevate the risk of nuclear confrontation. In essence, the narrative underscores the complex and potentially destabilizing implications of AI advancements in the realm of military capabilities.

(11 APRIL 2021) 'Paradoxes of artificial intelligence in consumer markets: Ethical challenges and opportunities' by SHUILI DU, CHUNYAN XIE: The abstract highlights the widespread integration of artificial intelligence (AI) in products and services, but acknowledges consumer concerns about associated ethical challenges. The paper outlines three key dimensions of AI-enabled products and conducts a socio-technical ethical analysis covering product, consumer, and societal levels. Identified ethical issues include AI biases, design ethics, privacy, cybersecurity, autonomy, well-being, and unemployment. The authors argue for corporate social responsibility (CSR) to shape ethical AI practices, presenting a conceptual CSR framework based on stakeholder and institutional theories. The abstract concludes with a call for future research on AI ethics and firm CSR in this critical domain.

(14 MAY 2021) 'Productive employment and decent work: The impact of AI adoption on psychological contracts, job engagement and employee trust' by ASHLEY BRAGANZA, WEIFENG CHEN, ANA CANHOTO, SERAP SAP: This research explores the conflict between the United Nations' Sustainable Development Goal 8 (SDG 8) — promoting decent work — and the widespread adoption of Artificial Intelligence (AI). Analyzing 232 survey responses, the study finds that while psychological contracts positively impact job engagement and trust, AI adoption weakens this effect. The authors suggest the emergence of a new "Alienational" psychological contract with AI adoption, counter to the relational contracts SDG 8 aims to strengthen. This reveals a tension between the SDG's goals and the impact of AI on the nature of decent work.

(11 JUNE 2021) 'Artificial intelligence on economic evaluation of energy efficiency and renewable energy technologies' by CHENG CHEN, YUHAN HU, MARIMUTHU KARUPPIAH, PRIYAN MALARVIZHI KUMAR: It delves into the current complexities confronting the energy sector, encompassing heightened demand, efficiency dilemmas, and shifting supply-demand dynamics. It unveils the Artificial Intelligence-based Useful Evaluation Model (AIEM), meticulously crafted for prognosticating the intricate economic impacts of renewable energy and energy efficiency. The model addresses multifaceted challenges, from discerning optimal consumers to refining competitive pricing, intricate scheduling, and incentivizing demand response. Anticipating a noteworthy surge to 97.32% in energy efficiency, the AIEM emerges as a promising catalyst for substantially elevating the harnessing of renewable energy resources.

(15 JULY 2021) 'The Role of Artificial Intelligence and Data Network Effects for Creating User Value' by ROBERT WAYNE GREGORY, OLA HENFRIDSSON, EVGENY KAGANER , AND HARRIS KYRIAKOU: The abstract delves into the dynamics of profitable firms that own platforms showcasing network effects, wherein the platform's value increases with user engagement. Traditionally, the focus of theorization has been on direct and indirect network effects. However, this paper introduces a novel concept—data network effects—arising from advancements in artificial intelligence and increased data availability. Data network effects occur when a platform's value to users grows with its ability to learn from the collected user data. The paper posits a positive direct relationship between a platform's artificial intelligence capability and the perceived value by users. This relationship is further nuanced by factors such as platform legitimation, data stewardship, and user-centric design, emphasizing their moderating influence on the interplay between AI capability and perceived value in the platform.

(10 AUGUST 2021) 'Green Artificial Intelligence: Towards an Efficient, Sustainable and Equitable Technology for Smart Cities and Futures' by TAN YIGITCANLAR, RASHID MEHMOOD, JUAN M. CORCHADO: It highlights that in recent years, artificial intelligence (AI) has seamlessly integrated itself into various facets of our daily lives, often without our conscious awareness of its presence and influence. This pervasive nature has made it a cornerstone of our routines, shaping our decision-making, planning, and information-seeking processes from the moment we wake up to the end of our day. The reliance on AI is particularly evident in our habitual use of mobile phones and laptops as indispensable tools for navigating our personal and professional lives. This ubiquity extends beyond individual experiences to encompass global communication and interconnectivity in the business realm. Recognizing the significance of capitalizing on artificial intelligence and data science has become imperative, as it continues to play a central role in driving innovation and growth. The abstract emphasizes the limitless potential trajectory of AI, highlighting its transformative impact on both personal and professional aspects of our increasingly interconnected world.

(21 MARCH 2022) 'Artificial intelligence and its impact on everyday life' by RUTH BROOKS: The author highlights the pervasive influence of artificial intelligence (AI) in contemporary society, emphasizing its seamless integration into daily routines. Despite

its ubiquitous presence, many individuals remain oblivious to the profound impact and extent of their reliance on AI. The narrative describes the start of the day when the use of mobile phones or laptops has become an automatic and integral part of decision-making, planning, and information-seeking. The narrative underscores the all-encompassing reach of AI in both personal and professional online lives, emphasizing its role in global communication and business interconnectivity. It concludes by asserting the indispensability of leveraging AI and data science for capitalizing on their potential growth trajectory, which is described as limitless.

(22 MARCH 2022) 'The effect of implementing chatbot customer service on stock returns: an event study analysis' by DARIMA FOTHERINGHAM & MICHAEL A. WILES: The abstract discusses the increased use of AI chatbots in customer service and the need to understand their impact on shareholder wealth. Analyzing 153 AI chatbot announcements, the study finds a positive 0.22% abnormal stock return, indicating investor approval. B2B firms benefit more than B2C firms from AI chatbots. Interestingly, investors respond less favourably to anthropomorphized chatbots in B2B roles and more favourably in B2C roles, highlighting the nuanced impact of chatbot design on investor perception. The research emphasizes the importance of considering both firm type and anthropomorphism in assessing the effects of AI chatbots on shareholder value.

(24 MAY 2022) 'A study of artificial intelligence on employee performance and work engagement: the moderating role of change leadership' by DEWIE TRI WIJAYATI, ZAINUR RAHMAN, A'RASY FAHRULLAH, MUHAMMAD FAJAR WAHYUDI RAHMAN, IKA DIYAH CANDRA ARIFAH, ACHMAD KAUTSAR (24 MAY 2022): It explore employee perceptions of companies engaged in services and banking of the role of change leadership on the application of artificial intelligence (AI) that will impact the performance and work engagement in conditions that are experiencing rapid changes. They used a quantitative research approach for the research. A total of 357 respondents were involved in this study, but only 254 were qualified. In this study, the respondent is an employee of companies engaged in the services and banking sector in the East Java, Indonesia region. The results reveal that AI has a significant positive effect on employee performance and work engagement. The crucial link between employee performance and organizational success, emphasizing leaders' key role in managing AI disruptions for successful employee engagement.

(24 JULY 2022) 'A Review of Artificial Intelligence (AI) in Education during the Digital Era' by PONGSAKORN LIMNA, SOMPORCH JAKWATANATHAM, SUTITHEP SIRIPIPATTANAKUL, PICHART KAEWPUANG & PATCHARAVADEE SRIBOONRUANG: It emphasizes the pivotal role of artificial intelligence (AI) in the field of education, highlighting its current integration and its significance in educational development. It underscores the strategic importance of implementing AI as a critical factor in shaping the educational landscape. The narrative further explores the practical applications of AI, portraying it as a digital assistant that supports both teachers and students in diverse ways. Specifically, AI aids in providing students with tailored access to a broad spectrum of learning materials based on their individual needs and subjects of study. However, the abstract also acknowledges the existence of associated risks, including concerns related to safety, security, and privacy in the context of AI advancements. The narrative concludes by recognizing the dual impact of AI technologies on the education sector, acknowledging both positive contributions and potential drawbacks.

(12 JULY 2023) 'Transformative effects of ChatGPT on modern education: Emerging Era of AI Chatbots' by SUKHPAL SINGH GILL, MINXIAN XU, PANOS PATROS & AJITH ABRAHAM: The article explores the impact of ChatGPT, an AI chatbot, on education. It emphasizes its coherent and useful responses based on extensive data analysis. While ChatGPT can aid educators by generating instructional content and answering questions, it presents challenges such as the potential for inaccurate data and circumventing plagiarism detectors. The narrative also notes the lack of a stochastic measure for sensitive communication. The article advocates for updating academic regulations and educating teachers and students about ChatGPT's capabilities and limitations to effectively integrate it into education.

CHAPTER 3

THEORETICAL FRAMEWORK

3.1 INTRODUCTION

AI, also called Artificial Intelligence, is something super cool that can do things like humans do. It is a powerful computer technology that can perform tasks like humans, like understanding human speech, recognizing pictures, and even learning from their experiences. These smart things can be done by computers in different ways. In some cases, they use rules and logic taught to them by others, kind of like super-smart rulebooks.

In the same way as you practice riding your bike until you become an expert, others learn by observing many examples. There is a special type of learning known as "deep learning" that uses what are known as neural networks, which function like super-duper brains on computers. It is amazing how well they can recognize patterns in things like pictures and sounds.

There are many ways AI helps, including making videos games cooler, assisting doctors in better treating patients, and even driving cars without a driver! Think of your smart speakers like Siri or Alexa - they're AI assistants that answer your questions and play your favorite songs. Isn’t that neat?

So, to put it simply, AI is like having super-smart robot friends who can do a wide variety of clever things, and it's increasing our world's awesomeness every day!

For example, you can ask the question, “Explain how climate change affects endangered species.” You can tell it, “Write me a poem,” and when it does, say, “Now make it more exciting.” You even ask it to create a reference page and use APA 7th edition.

3.2 MEANING

Artificial intelligence (AI) is the ability of a computer, robot, or software application to perform tasks similar to human learning and decision making. The term "artificial intelligence" (AI) is attributed to John McCarthy of MIT. In 1955, John McCarthy held a workshop at Dartmouth on “artificial intelligence” which is the first use of the word, and how it came into popular usage.

3.3 DEFINITION

- Marvin Minsky of Carnegie-Mellon University defines AI as "*the construction of computer programs that engage in tasks that are currently more satisfactorily performed by human beings*".
- Effective 1 July 2023, Connecticut Senate Bill 1103 defines AI as *"(A) an artificial system that (i) performs tasks under varying and unpredictable circumstances without significant human oversight or can learn from experience and improve such performance when exposed to data sets, (ii) is developed in any context or (iii) is designed to (I) think or act like a human, including, but not limited to, a cognitive architecture or neural network, or (II) act rationally, including, but not limited to, an intelligent software agent or embodied robot that achieves goals using perception, planning, reasoning, learning, communication, decision-making or action, or (B) a set of techniques, including, but not limited to, machine learning, that is designed to approximate a cognitive task*".
- The English Oxford Living Dictionary defines AI as "*The theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.*"
- Merriam-Webster defines artificial intelligence this way:
    1. A branch of computer science dealing with the simulation of intelligent behavior in computers.
    2. The capability of a machine to imitate intelligent human behavior.

- The Encyclopedia Britannica states, "*artificial intelligence (AI), the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings.*" Intelligent beings are those that can adapt to changing circumstances.

- Amazon defines AI as "*the field of computer science dedicated to solving cognitive problems commonly associated with human intelligence, such as learning, problem solving, and pattern recognition*."

3.4 HISTORY

The history of artificial intelligence (AI) dates back to ancient civilizations, when stories were told about human-like machines. The modern era of AI began in the 1950s with the development of electronic computers.

In **1952**, computer scientist Arthur Samuel developed a program to play checkers that could learn the game independently. Later that year, Allen Newell, J.C. Shaw, and Herbert Simon created the Logic Theorist, the first running AI software program.

In **1955**, Allen Newell and Herbert A. Simon created the first AI program, "Logic Theorist".

In **1956**, American computer scientist John McCarthy coined the term "artificial intelligence" at the Dartmouth Conference.

In **1974**, The U.S. and British governments stopped funding undirected AI research due to criticism from James Lighthill and pressure from Congress. This period of low consumer, public, and private interest in AI is known as an "AI winter".

In **1988**, Rollo Carpenter developed the chat-bot Jabberwacky to simulate human chat.

AI entered India through the works of professor **H.N. Mahabala** in the 1960s. Knowledge-Based Computing Systems (KBCS) created in 1986 by UNDP also paved way for India to focus on AI.

Prof. Raj Reddy is widely recognized as the "*Father of AI*" in India. As a pioneering computer scientist, he has made significant contributions to the field of artificial intelligence and played a key role in establishing the groundwork for AI research and education in India.

3.5 FEATURES

The core features of Artificial Intelligence include the following:

A. **Machine Learning**: AI employs sophisticated algorithms to analyze vast datasets, enabling it to learn patterns, associations, and behaviors from examples, thereby facilitating decision-making and problem-solving tasks.
B. **Cognitive Processing**: AI systems possess capabilities akin to human sensory perception, allowing them to interpret and analyze visual and auditory information,

enabling tasks such as image recognition, speech understanding, and natural language processing.

C. **Decision-Making and Optimization**: AI algorithms utilize learned patterns and rules to make informed decisions and optimize outcomes in various domains, ranging from personalized recommendations to complex strategic planning.
D. **Virtual Assistance**: AI serves as virtual assistants, providing personalized support, reminders, and guidance to users, enhancing productivity and efficiency in daily tasks and workflows.
E. **Creativity and Generativity**: AI exhibits creativity through generative processes, producing original content such as art, literature, and music, leveraging learned patterns and probabilistic modeling.
F. **Game Playing and Strategy**: AI excels in strategic decision-making and gameplay across diverse game environments, applying advanced algorithms to analyze game states and devise optimal strategies, thereby challenging human players and contributing to game development and research.
G. **Continuous Learning and Adaptation**: AI systems exhibit the capacity for continuous learning and adaptation, refining their models and improving performance over time through exposure to new data and experiences.

3.6 IMPORTANCE

- **Enhancing Entertainment**: AI creates realistic characters and problems in your favorite video games, making them more thrilling.
- **Organizing Pictures and Videos**: AI makes it simpler to locate what you're looking for in your phone's media library by organizing material based on facial recognition.
- **Advancing Medicine**: AI is advancing medicine by helping physicians uncover more effective ways to treat patients and by accelerating the development of novel drugs that may one day save lives.
- **Improving Transportation**: AI-powered self-driving vehicles have the potential to reduce traffic congestion in the future by making driving safer and more effective.
- **Solving Big Problems**: Artificial Intelligence (AI) is like having a super-smart assistant that assists with solving major problems and simplifies life in a variety of ways.

That being said, artificial intelligence (AI) is pervasive and is improving everything, be it games, medical technology, or daily living.

3.7 TYPES OF AI

AI is generally classified into two broad categories viz., **Strong AI** and **Weak AI**. Although these terminologies may seem unfamiliar, you probably already know what they signify.

Strong AI is an AI that can think with a general intellect comparable to that of a human. Stated differently, it is merely an alternative term for "artificial general intelligence."

Conversely, weak AI describes the limited use of generally accessible AI technologies, such as deep learning or machine learning, for relatively particular tasks, like driving a car, making music recommendations, or playing chess. Weak AI is essentially the form of AI humans use daily. It is often referred to as Artificial Narrow Intelligence (ANI).

This study primarily focuses on Weak AI tools, such as Google Translate, ChatGPT, Alexa, Google Assistant, etc.

- **Virtual assistants:** Virtual assistants are similar to digital assistants in that they may help you with a variety of tasks, like playing music, creating reminders, and responding to inquiries. Although they lack human-like overall intellect, they excel at certain jobs.
  For example, Alexa (Amazon), Siri (Apple), and Google Assistant (Google).
- **Chatbots:** Chatbots are conversational virtual buddies. They can answer your questions about customer service, give you information, or just strike up a chat. They can comprehend and react to text well, but their capabilities are restricted by the nature of their programming.
  For example, Mitsuku, IBM Watson Assistant, and ChatGPT (OpenAI).
- **Recommendation systems:** These programs function similarly to personal shoppers in that they make recommendations for goods, tunes, films, or articles depending on your tastes and previous usage. They don't have higher order thinking skills or deeper comprehension; instead, they use data analysis to forecast what you might like.
  For example, the product recommendations on Amazon and Netflix.
- **Tools for Image Recognition:** These programs examine images and identify faces, objects, or patterns within them. Applications like photo organization, security surveillance, and medical imaging diagnostics are commonly used for them.
  For example, Amazon Rekognition, Clarifai, and Google Photos.

- **Speech recognition systems:** These systems translate spoken words into text, enabling users to utilize voice commands to engage with applications, dictate text messages, and operate devices.

  For example, Apple's Siri, Google Speech-to-Text, and Dragon NaturallySpeaking.
- **Tools for Natural Language Processing (NLP):** NLP tools are used for sentiment analysis, named entity recognition, text summarization, and language translation. They also analyze and comprehend human language.

  For example, Stanford Core, NLTK (Natural Language Toolkit), and spaCy.
- **NLP Language Translation Systems:** By translating speech or text between languages, these systems let people who speak various languages communicate with one another.

  For example, Microsoft Translator, DeepL, and Google Translate.

3.8 Uses of AI

Artificial Intelligence (AI) is the umbrella term for a range of technologies that make it possible for computers to carry out jobs that traditionally demand for human intelligence. Here are some examples of how AI is used in an understandable way:

1. Artificial intelligence-driven virtual assistants, like Siri and Google Assistant, enable a range of voice-activated functions, including information retrieval, music playback, and reminder setup.
2. By giving non-player characters realistic behavior and adjusting game difficulty levels in response to player interactions, artificial intelligence (AI) improves gaming experiences by creating a dynamic and captivating gameplay environment.
3. Robotics benefits from AI because it allows machines to carry out a variety of tasks, such as manufacturing, hazardous environment exploration, and human-machine interaction.
4. By giving researchers access to enormous knowledge bases, facilitating research, deciphering difficult ideas, and delivering individualized learning experiences via adaptive learning platforms, artificial intelligence (AI) supports academic endeavors.
5. Artificial intelligence algorithms provide efficient photo administration, facial identification, and artistic improvements in photography and filmmaking. They also make image detection, organization, and enhancement easier.

6. Through the identification of potential security threats, the detection of anomalies in surveillance footage, and the use of technologies like collision detection in autos to help prevent accidents, artificial intelligence (AI) contributes to safety and security measures.
7. AI contributes to artistic pursuits and stimulates innovation in the creative sectors by showcasing creative talents in the autonomous generation of music, artwork, and tales.

All in all, artificial intelligence is a multipurpose toolkit that improves productivity, efficiency, and creativity in a variety of fields and presents fresh answers to challenging problems facing contemporary civilization.

3.9 ELEMENTS THAT AFFECT ARTIFICIAL INTELLIGENCE

1. **Technological Advancements:** Significant strides in computer power, hardware, and algorithms have a big impact on how quickly artificial intelligence develops.

2. **Data Quality and Availability:** When training AI models, data quality and availability are essential. Successful machine learning requires having access to big, varied, and pertinent datasets.

3. **Computational Resources:** The scalability and effectiveness of AI applications are influenced by the accessibility and cost of strong computational resources.

4. **Research and Development Investments:** The amount of money that governments, organizations, and private companies invest in AI research and development has a big impact on the field's innovation and advancement.

5. **Talent Pool:** One of the most important things driving the advancement of AI technology is the availability of a trained labor force in disciplines relevant to AI, such as engineers, data scientists, and researchers.

6. **Ethical and Regulatory Frameworks:** These frameworks, which direct the appropriate deployment and use of AI, have an impact on the development and adoption of AI.

7. **Industry Adoption:** The trajectory and overall impact of AI development are shaped by the degree to which various sectors adopt and integrate AI technology.

8. **Public Perception:** The acceptability and trust of AI technology by the general public can influence their uptake and application. For acceptance to be widely adopted, privacy, security, and job displacement concerns must be addressed.

9. **International Collaboration:** The growth of AI technology is facilitated by international collaboration and knowledge sharing among academics, organizations, and governments.

10. **Affordability and accessibility**: The degree to which different societal segments can profit from or take part in the AI revolution depends on the affordability and accessibility of AI technology.

11. **Cultural and Social Factors:** The adoption and integration of AI technology in various locales and communities can be influenced by cultural attitudes, societal values, and social acceptance.

12. **Interdisciplinary Collaboration:** More effective and domain-specific AI applications can result from collaborations between AI specialists and professionals from a variety of industries, including healthcare, finance, and manufacturing.

13. **Competitive Landscape:** The AI industry's competition between nations and firms can spur innovation, with the desire for market dominance and technical breakthroughs serving as key drivers.

14. **Security Concerns:** The development of defensive AI systems is influenced by the growing importance of AI in cybersecurity as well as the risks related to its malevolent usage.

15. **Environmental Impact:** A developing aspect that may influence the creation and uptake of more environmentally friendly AI solutions is the influence of AI technology on the environment, notably energy usage.

3.10 TOOLS OF AI

Some of the most important tools in AI are:

A. **Netflix Recommendation System:** The Netflix recommendation system works much like a smart friend who knows exactly what you want to watch. It takes into account the stuff you have already seen, liked, and searched for. Then, based on your preferences, it suggests new movies and TV shows that it thinks you'll enjoy. So, when you log in, a customized list of suggestions will show up, making it easier to choose what kind of fun stuff to watch.

Merits

- It offers individualized content recommendations based on each user's viewing interests and behaviors, which improves the overall user experience.
- The tailored strategy boosts user happiness and engagement on the site, which eventually improves retention rates.

Demerits

- Suggests similar content, which can prevent readers from being exposed to a wider range of genres and viewpoints.
- Emphasizes customized recommendations, which makes it less likely that users will encounter new content by accident that doesn't fit their predefined tastes.

B. **Alexa (Amazon):** Amazon's AI-powered virtual assistant, Alexa, can be found in gadgets such as Echo speakers. It may assist with activities like playing music, creating reminders, managing smart home appliances, and delivering information by responding to voice instructions.

Merits

- Because Alexa can perform a wide range of tasks, such as setting reminders and controlling smart home appliances, she is an adaptable and versatile virtual assistant.

- Customers can easily access information and services with its simple voice command interface and seamless device integration, which enhances the user experience overall.

Demerits

- Data security and privacy are issues since Alexa listens for its wake word nonstop, possibly recording critical information and intimate conversations.
- Instances, where recordings of Alexa conversations were viewed or used without express agreement, have sparked concerns about how Amazon collects and handles user data.

C. **ChatGPT (OpenAI):** OpenAI's ChatGPT is an intelligent chatbot that has human-like speech patterns. It makes use of sophisticated computer algorithms to comprehend your speech and provide logical responses. Chatbots and virtual assistants use it to assist users with inquiries and chores.

Merits

- ChatGPT simulates human conversation by responding in a logical and contextually appropriate manner.
- Its features improve user experiences by enabling smooth interactions, which makes it useful for applications like virtual assistants and chatbots.

Demerits

- Occasionally, ChatGPT may not comprehend everything and may provide inaccurate information.
- Important details should always be verified again because ChatGPT may not always get them exactly properly.

D. **Google Photos:** Google offers a service called Google Photos for online photo and video saving and organization. Your media is automatically backed up, sorted, and made easy to look for and share. Along with useful features like making albums and animations, it also provides editing tools.

Merits

- Google Images automatically organizes and finds your images and videos so you can locate them easily when you need them.
- You may create amazing albums and animations by simply editing your images. Also, you won't have to worry about running out of storage because you have infinite room for your memories.

Demerits

- People who are concerned about privacy may find it uncomfortable to post their private images on Google Photos.
- Although Google utilizes our images to create albums and animations, some people are concerned about additional uses Google may have for them, such as advertisements or other purposes.

E. **Google Speech-to-Text:** A service called Google Speech-to-Text translates spoken speech into text instantaneously. It reliably transcribes audio from a variety of sources, including calls and recordings, by using cutting-edge machine learning. It improves accessibility and communication in sectors including healthcare and telecommunications by being extensively utilized for voice commands, transcription, and dictation.

Merits

- Google Speech-to-Text converts spoken words into text quickly and simply, making it simple to use and comprehend.
- With its wide range of language and accent comprehension, it facilitates easy communication between a large number of people and computers.

Demerits

- Errors may occur while using Google Speech-to-Text, particularly in loud environments or when using an accent.
- Some individuals might feel uneasy about their privacy if it inadvertently records private or personal information when it translates what you say into text.

F. **spaCy:** A quick and effective open-source package for Python Natural Language Processing (NLP) is called spaCy. For a variety of NLP tasks, including named entity identification, tokenization, and part-of-speech tagging, it provides tools and pre-trained

models. SpaCy is a popular tool for efficiently processing massive amounts of text data because of its speed and user-friendliness.

Merits

- spaCy is excellent at processing large amounts of text rapidly since it can comprehend a large number of words and their meanings with ease.
- It's like to having a perceptive buddy who understands you. You don't have to be an expert to instruct your computer what to do with text when you use spaCy.

Demerits

- Because spaCy contains so many sophisticated capabilities, it can occasionally be difficult for novices to grasp how to utilize it.
- Because spaCy doesn't allow for much modification, it could be difficult to make extremely specific adjustments to how it operates.

G. **Microsoft Translator:** Microsoft offers a sophisticated language translation service called Microsoft Translator. It translates voice, text, and graphics in real time between several languages using artificial intelligence. It makes it simple to communicate across language boundaries and is dependable, convenient, and effortlessly integrates with Microsoft products like Office and the Edge browser.

Merits

- Microsoft Translator helps people communicate without waiting by rapidly translating words, sounds, and images into several languages.
- Because it's integrated into Microsoft products like Office and Edge, users can use it effortlessly from anywhere, which facilitates multilingual communication.

Demerits

- At times, translations might not be exact, particularly when dealing with complicated language.
- Since the translator sends your data and communications via the Internet, you may be concerned about privacy and the security of your personal information.

3.11 ADVANTAGES

Artificial Intelligence (AI) has several advantages for us in many areas of our lives. AI benefits people and organizations in many ways, from streamlining decision-making procedures to automating laborious jobs. We'll look over some of the main benefits of AI and how it's improving things in our world in this succinct synopsis.

a) **Completes Tasks More Quickly:** Tasks may be completed more quickly without requiring manual labor thanks to AI automation.
b) **Aids in Making Better Decisions:** AI analyzes a large amount of data to assist in making informed choices.
c) **Personalized Help:** AI makes recommendations and ideas just for you, such as what to watch or buy on the internet.
d) **Saves Money:** Artificial intelligence (AI) reduces labor and resource costs for organizations by automating processes.
e) **Brings New Ideas:** AI contributes to the creation of novel and inventive concepts.
f) **Keeps Us Safe and Healthy:** Artificial intelligence (AI) ensures that our data is protected online and aids in the early diagnosis of illnesses.

3.12 DISADVANTAGES

Artificial intelligence (AI) has many advantages, but it also has drawbacks and difficulties. Even with its amazing powers, artificial intelligence has certain disadvantages. We'll look at a few of the main drawbacks of AI technology here.

a) **Job Loss:** AI may replace human labor in some activities, resulting in employment reductions.
b) Biases: Due to biases in the training data, AI systems could make unfair decisions.
c) **Privacy Issues:** Since AI frequently requires large amounts of personal data, privacy problems are raised.
d) **Security Risks:** Data leaks and security lapses might result from hackers making use of AI technology.
e) **Ethical Questions:** The effects of AI on society and human rights raise ethical concerns.
f) **Environmental Impact:** The energy needed to train AI might have a negative impact on the environment.

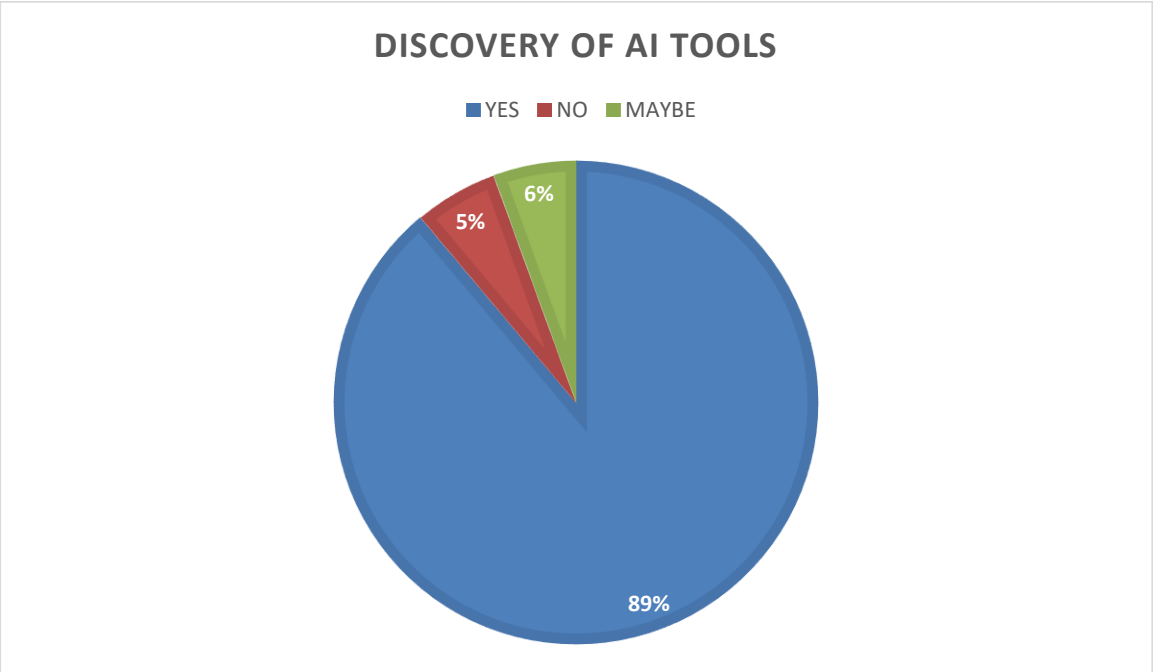
CHAPTER 4

DATA ANALYSIS & INTERPRETATION

4.1 DISCOVERY OF AI TOOLS

Table 4.1 shows the discovery of AI Tools by the respondents

PARTICULARS	NUMBER OF RESPONDENTS	PERCENTAGE
YES	48	88.9
NO	3	5.6
MAYBE	3	5.6



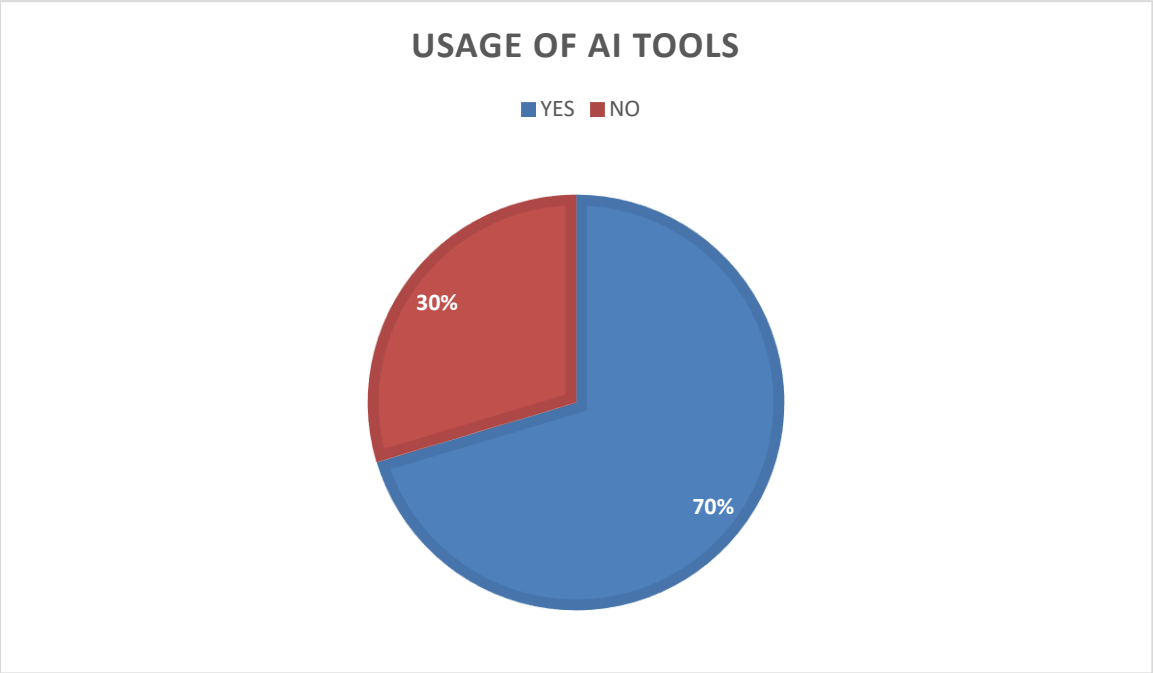
INTERPRETATION:

The above figure shows that around 89% of youngsters have heard about AI Tools before, 5% of youngsters haven't heard about them, and 6% of them somewhat know a little about AI Tools.

4.2 USAGE OF AI IN BOTH PERSONAL & PROFESSIONAL LIVES

Table 4.2 shows the usage of AI in both the personal and professional lives of the respondents.

PARTICULARS	NUMBER OF RESPONDENTS	PERCENTAGE
YES	38	70.4
NO	16	29.6



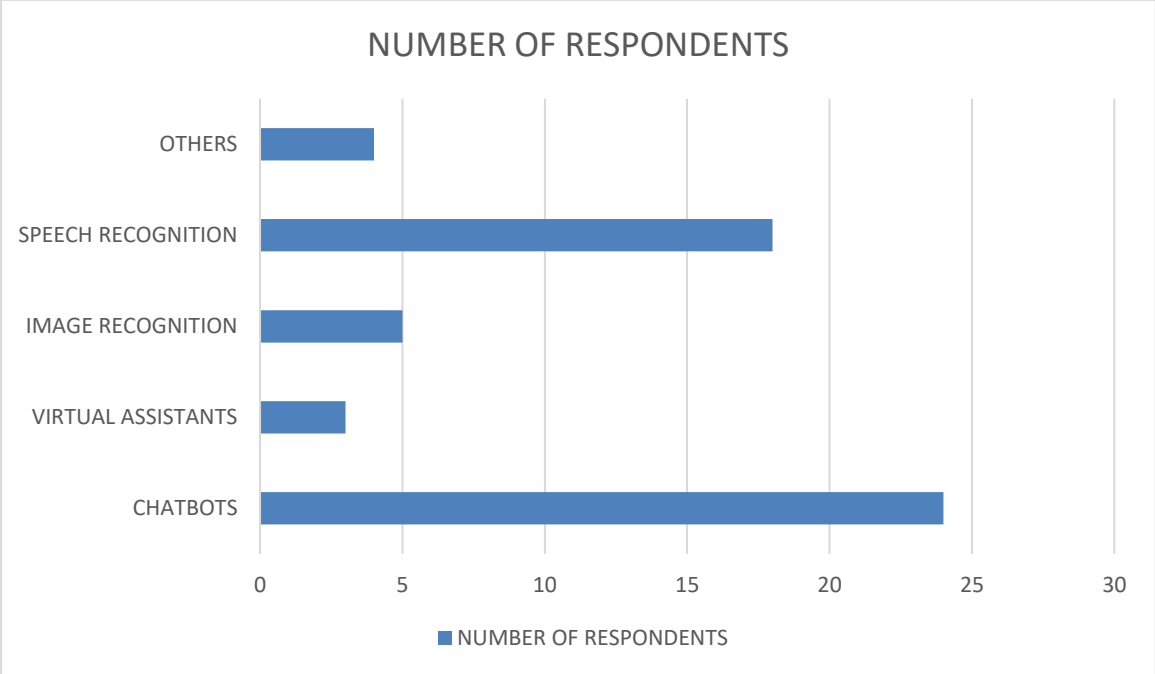
INTERPRETATION:

As per the above chart, about 70% of the respondents use AI tools in their day-to-day lives whereas the rest 30% don't use them in their personal as well as professional lives.

4.3 TYPES OF AI TOOLS USED

Table 4.3 shows the types of AI tools the respondents used and the purpose for which they used them.

TYPES	NUMBER OF RESPONDENTS	PURPOSE	PERCENTAGE
CHATBOTS	24	For educational, research analysis, personal, and other purposes.	44.4
VIRTUAL ASSISTANTS	3	To play music and videos, for controlling smart appliances.	5.6
IMAGE RECOGNITION	5	For fetching designs, office, educational, and other purposes.	9.3
SPEECH RECOGNITION	18	For playing music and videos and for educational purposes.	3.3
OTHERS	4	Haven't used any.	7.4



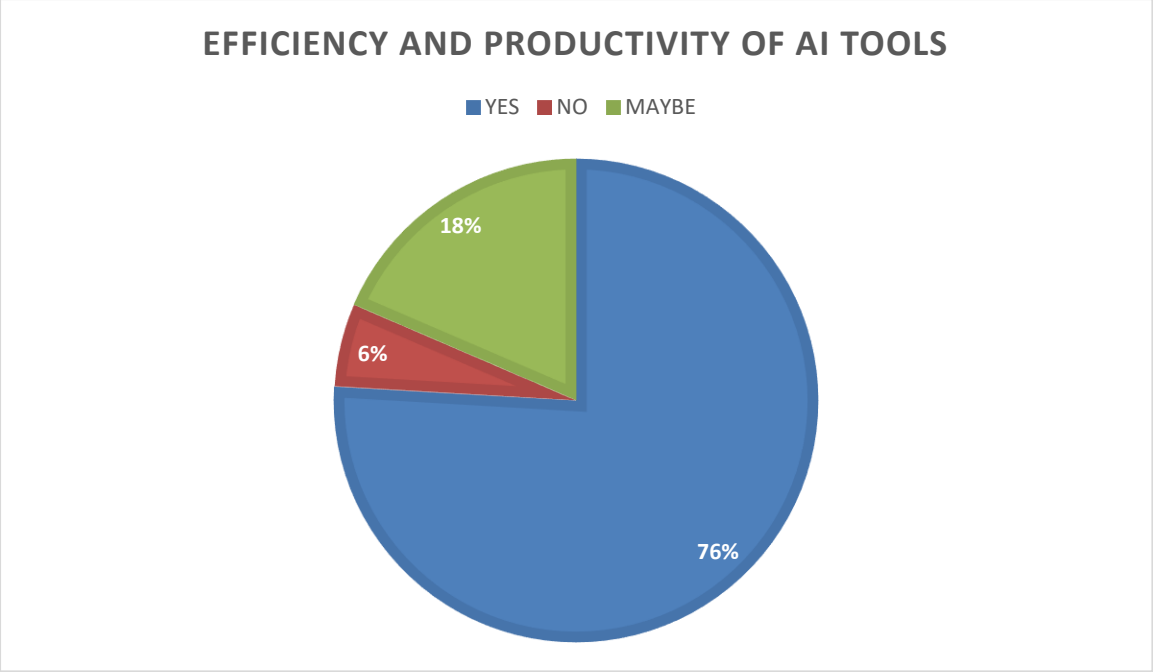
INTERPRETATION:

According to the Table and Bar Chart, 24 of the respondents use ChatBots for educational, research analysis, personal, and other purposes. 3 of them use virtual assistants to play music and videos, control smart appliances, etc. 5 of the respondents use image recognition tools for fetching designs, office, educational, and other purposes. 18 of them use speech recognition tools for playing music and videos and for educational purposes and the other 4 haven't used any tools before.

4.4 EFFICIENCY AND PRODUCTIVITY OF AI TOOLS IN THEIR LIFE

The following table and diagram show how AI tools have improved efficiency and productivity in the respondents' tasks or projects.

PARTICULARS	NUMBER OF RESPONDENTS	PERCENTAGE
YES	41	75.9
NO	3	5.6
MAYBE	10	18.5



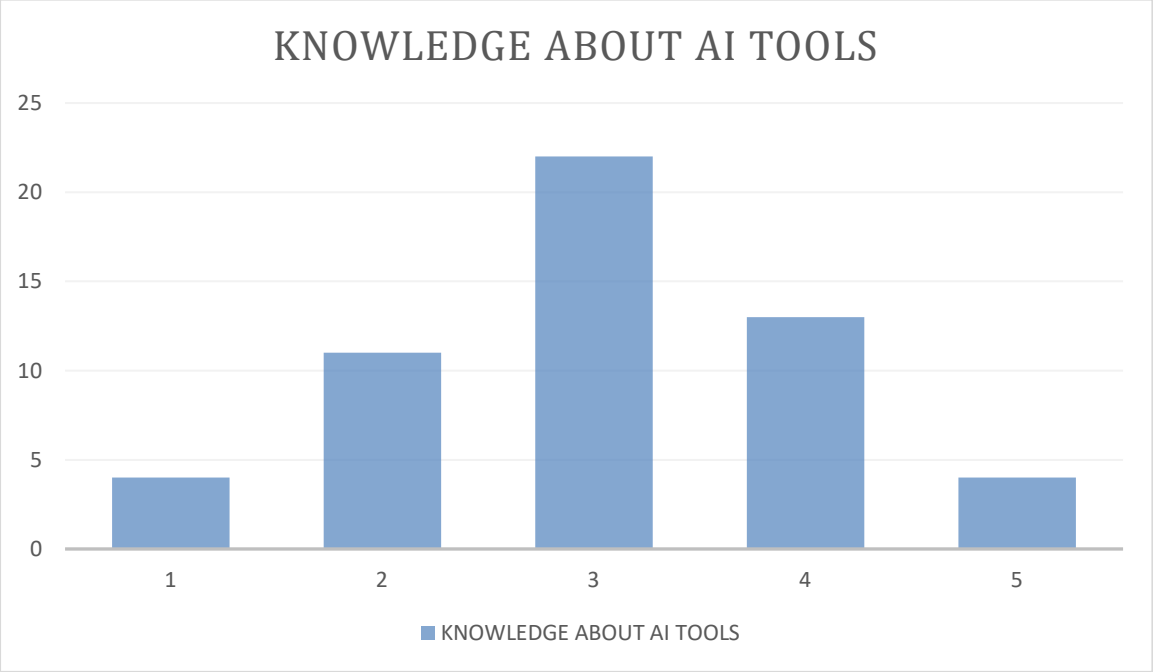
INTERPRETATION:

From the above figures it is interpreted that AI tools have improved its efficiency and productivity for about 76% of the respondents' lives, while 6% of the respondents say that they haven't used AI tools for their task or project, hence they do not know about it. And rest of them somewhat believe the AI tools were efficient and productive.

4.5 KNOWLEDGE ABOUT AI TOOLS

Table 4.5 shows how knowledgeable are the respondents about using AI tools.

RATING	NUMBER OF RESPONDENTS	PERCENTAGE
1	4	7.4
2	11	20.4
3	22	40.7
4	13	24.1
5	4	7.4



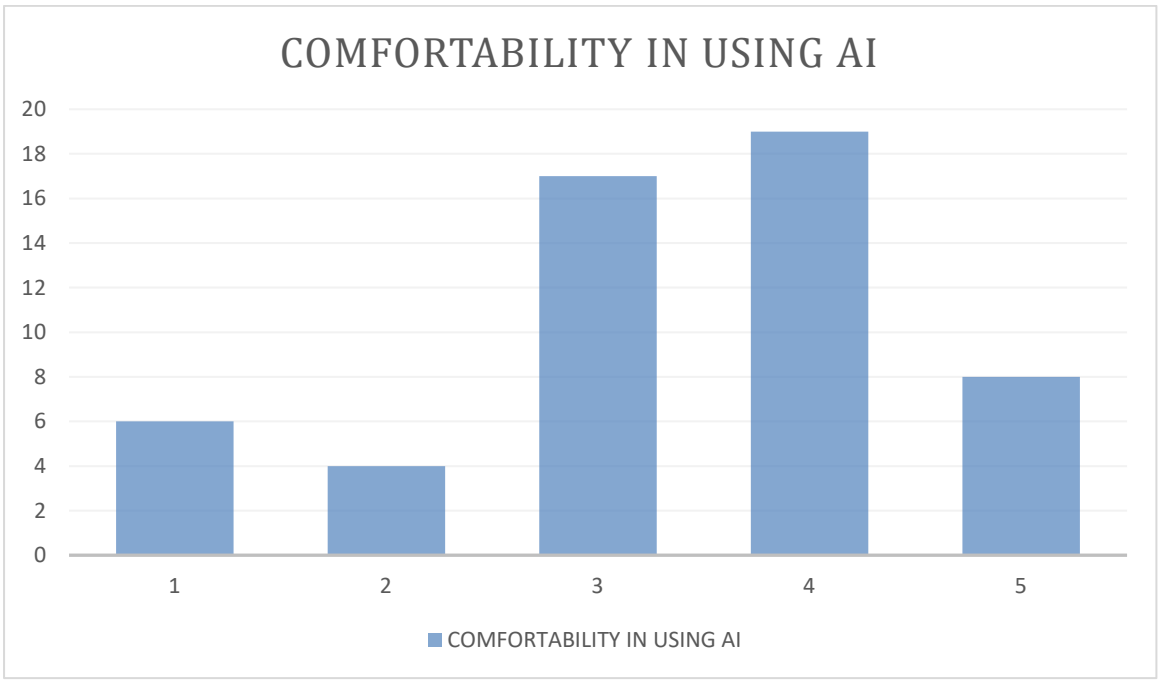
INTERPRETATION:

As per the above the chart and table, around 7.4% of the respondents have a very well knowledge about the AI tools they use, followed by 24.1% and 40.7% of them. 20.4% of the respondents have less knowledge about AI and the rest 7.4% do not know about them at all.

4.6 COMFORTABILITY IN USING AI

The following table shows how comfortable were the respondents while using AI tools for various purposes.

RATING	NUMBER OF RESPONDENTS	PERCENTAGE
1	6	11.1
2	4	7.4
3	17	31.5
4	19	35.2
5	8	14.8



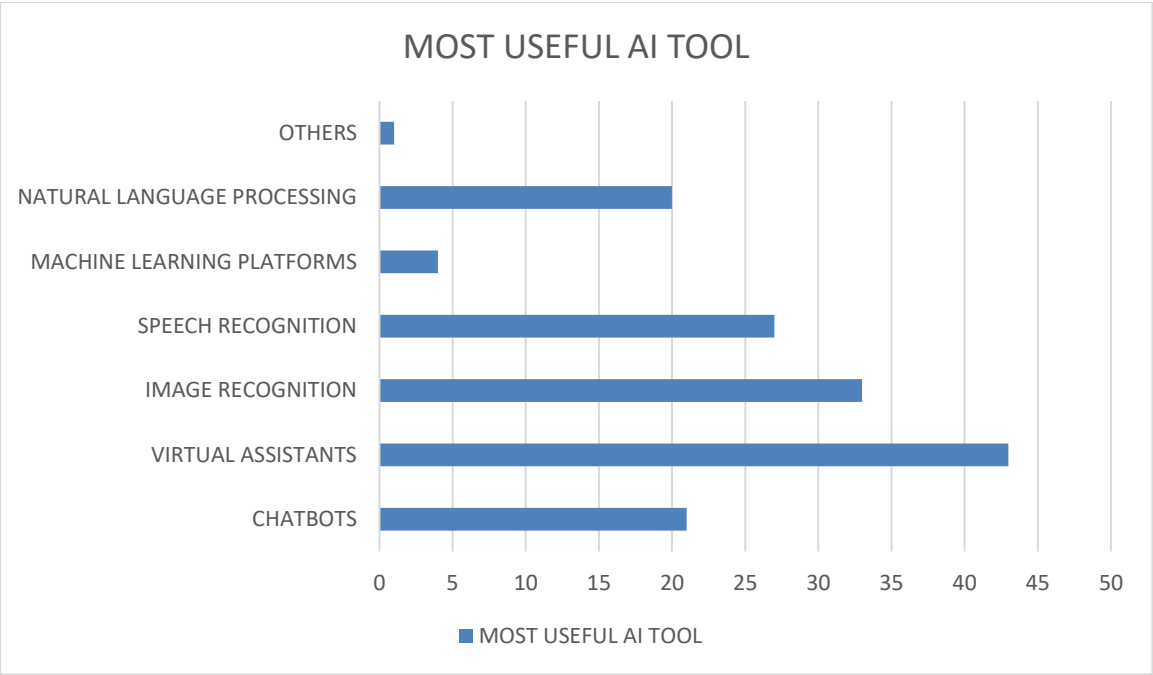
INTERPRETATION:

The above figures state that around 14.8% of the respondents are completely comfortable in using AI Tools, followed by 35.2% and 31.5% of them whereas 7.4% are less comfortable and the remaining 11.1% are not comfortable at all.

4.7 MOST USEFUL AI TOOL

Table 4.7 of the following and the related figure show the type of AI Tools that are most useful for the respondents.

TOOLS	NUMBER OF RESPONDENTS	PERCENTAGE
CHATBOTS	21	38.9
VIRTUAL ASSISTANTS	43	79.6
IMAGE RECOGNITION	33	61.1
SPEECH RECOGNITION	27	50.0
MACHINE LEARNING PLATFORMS	4	7.4
NATURAL LANGUAGE PROCESSING	20	37.0
OTHERS	1	1.9



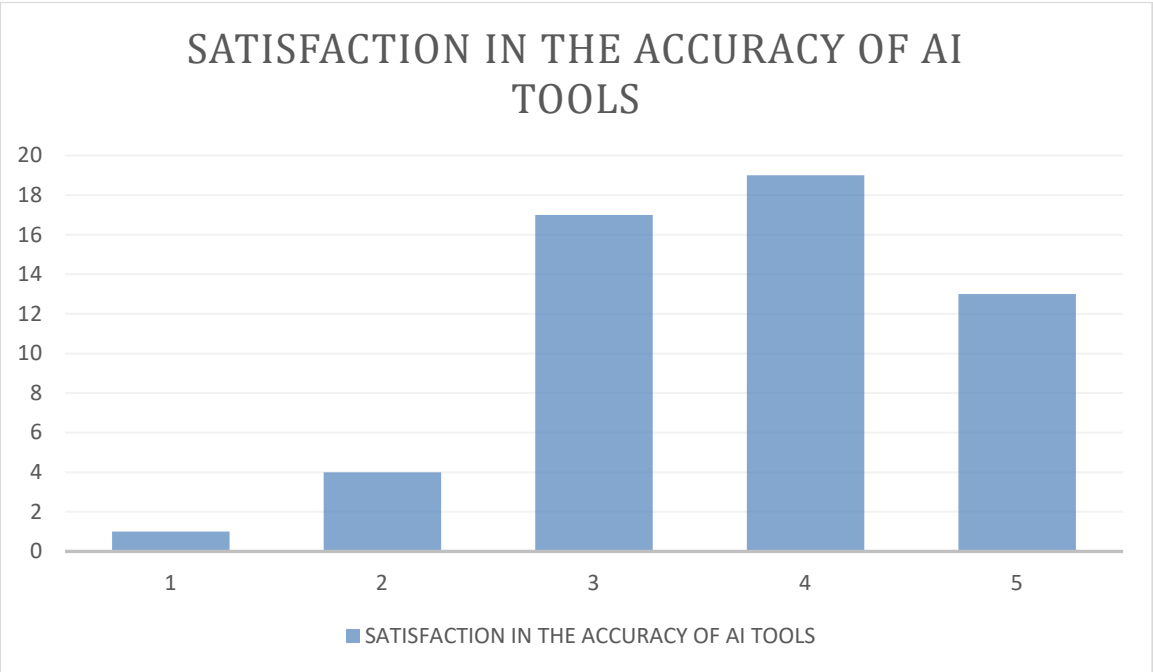
INTERPRETATION:

From the above figures, it is interpreted that the mostly used AI Tool are basically Virtual Assistants since 79.6% of the respondents use them often, followed by Image Recognition tools(61.1%), Speech Recognition tools(50%), ChatBots(38.9%), Natural Language Processing tools(37%) and Machine Learning Platforms(7.4%). The rest of the respondents(1.9%) use other AI tools or do not use them.

4.8 SATISFACTION IN THE ACCURACY OF AI TOOLS

Table 4.8 and the following chart exhibit how much satisfied were the respondents with the performance and accuracy of AI tools they have used.

RATING	NUMBER OF RESPONDENTS	PERCENTAGE
1	1	1.9
2	4	7.4
3	17	31.5
4	19	35.2
5	13	24.1



INTERPRETATION:

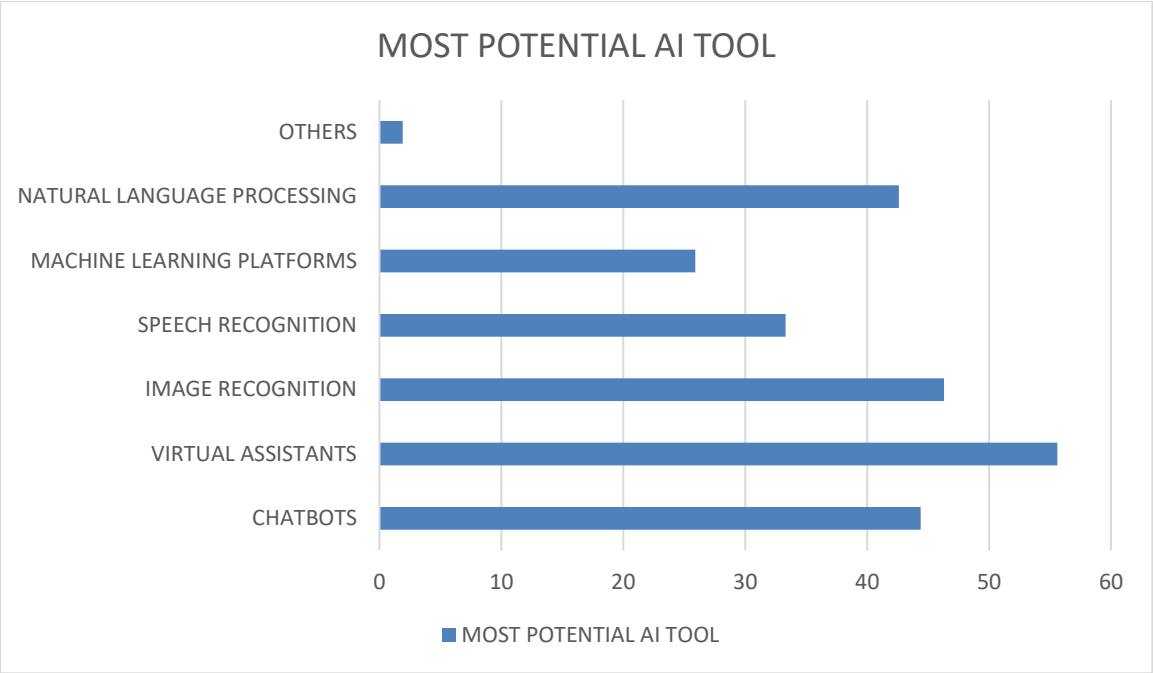
The above table and chart provide a more detailed breakdown of the respondents' satisfaction in the performance and accuracy of AI tools in their tasks. Around 24.1% of the respondents are completely satisfied with performance, followed by 35.2% and 31.5% of the respondents. 7.4% of the respondents are less satisfied while the rest 1.9% are not at all satisfied with the performance and accuracy of AI tools in their tasks.

4.9 MOST POTENTIAL AI TOOL

The following Table and figure show the type of AI Tool which the respondents think the most potential for further development and improvement among others.

TOOLS	NUMBER OF RESPONDENTS	PERCENTAGE
CHATBOTS	24	44.4
VIRTUAL ASSISTANTS	30	55.6
IMAGE RECOGNITION	25	46.3
SPEECH RECOGNITION	18	33.3
MACHINE LEARNING PLATFORMS	14	25.9

NATURAL LANGUAGE PROCESSING	23	42.6
OTHERS	1	1.9



INTERPRETATION:

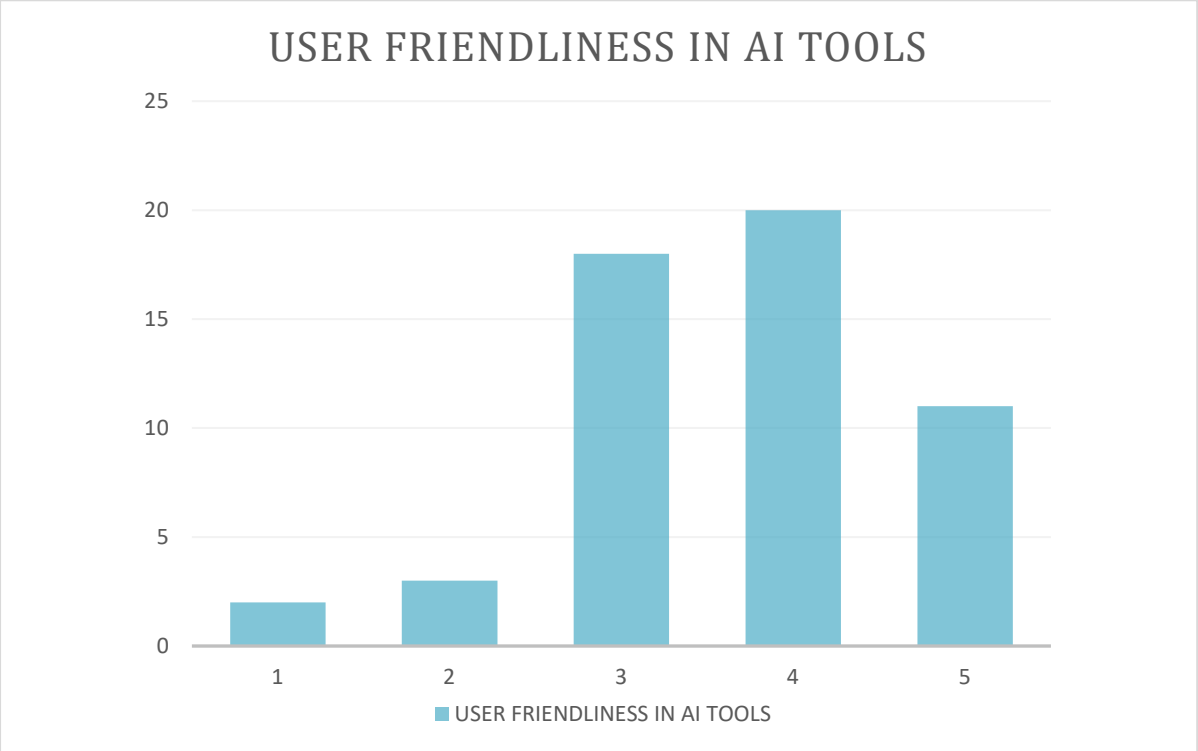
The 55.6% of the respondents believe that Virtual Assistants have the most potential for further development and improvement comparatively, followed by Image Recognition tools(46.3%), ChatBots(44.4%), Natural Language Processing tools(42.6%), Speech Recognition tools(33.3%) and Machine Learning Platforms(25.9%). The rest 1.9% of the respondents either prefer other tools or do not use them.

4.10 EXPLORING USER-FRIENDLINESS IN AI TOOLS

Table 4.10 of the following and the related figure shows how user-friendly are the AI tools the respondents have used.

RATING	NUMBER OF RESPONDENTS	PERCENTAGE
1	2	3.7
2	3	5.6

3	18	33.3
4	20	37
5	11	20.4



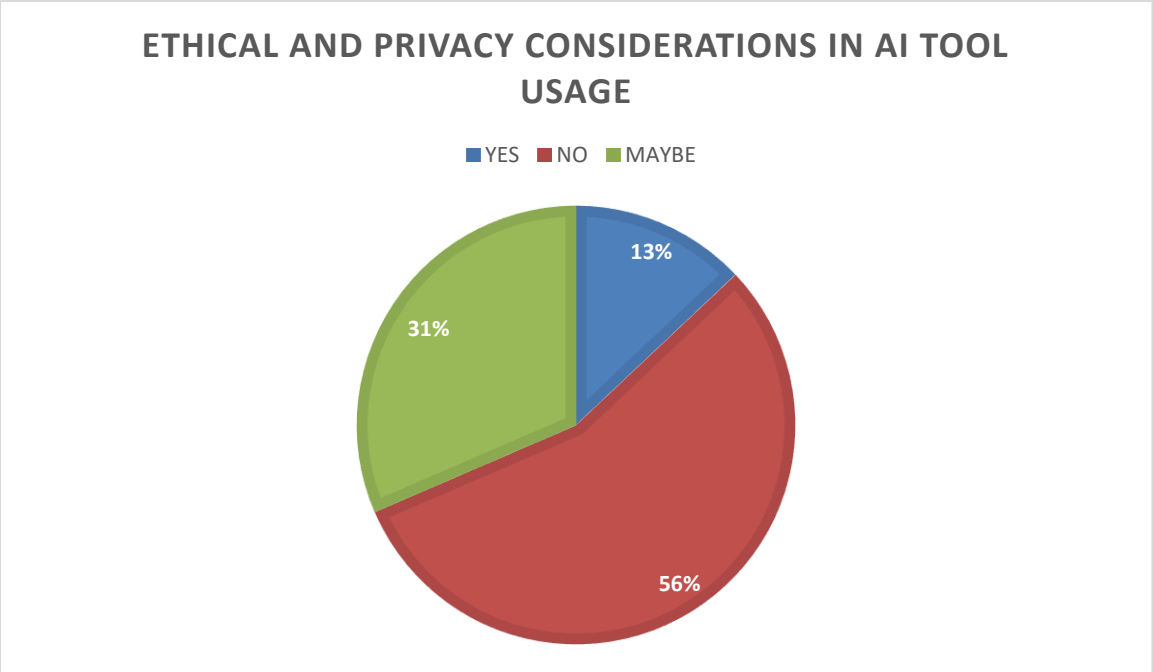
INTERPRETATION:

Here 37% of the respondents reported that AI tools are user-friendly for their tasks, followed by 33.3% and 20.4% of respondents. Additionally, 5.6% indicated that the AI tools are less user-friendly for their tasks, while 3.7% responded that AI tools are not user-friendly at all for them.

4.11 ETHICAL AND PRIVACY CONSIDERATIONS IN AI TOOL USAGE

In this table 4.11 shows the ethical or privacy concerns while using AI tools for the respondents.

PARTICULARS	NUMBER OF RESPONDENTS	PERCENTAGE
YES	7	13
NO	30	55.6
MAYBE	17	31.5



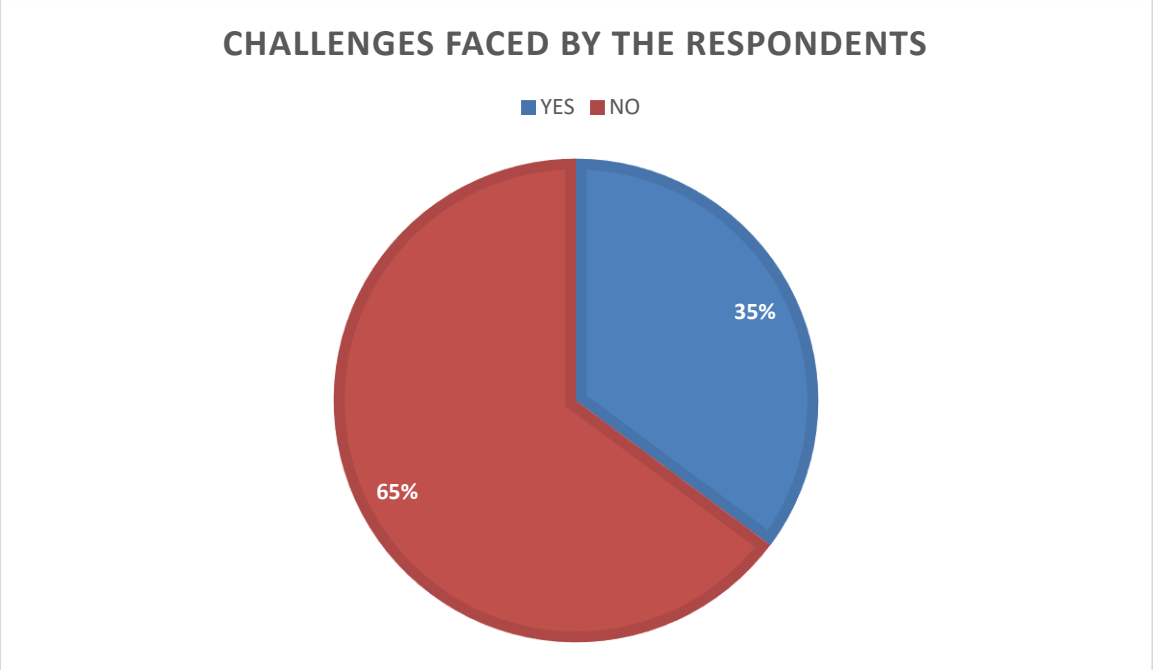
INTERPRETATION:

From the above table and figure, we can understand that 55.6% of the respondents do not have any ethical or privacy concerns while using AI tools, with only 13% expressing privacy worries and the remaining indicating ethical concerns.

4.12 CHALLENGES FACED WHEN WORKING ALONE AFTER UTILIZING AI TOOLS

The table indicates the challenges that appeared while respondents used AI tools in their own work.

PARTICULARS	NUMBER OF RESPONDENTS	PERCENTAGE
YES	19	35.2
NO	35	64.8



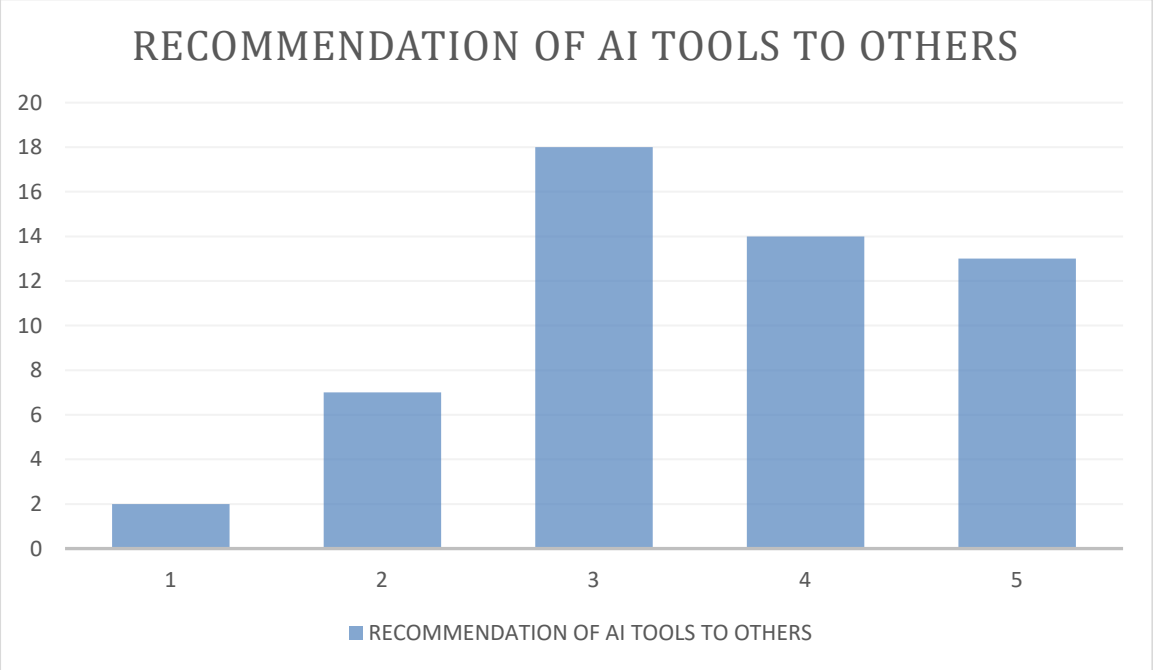
INTERPRETATION:

The majority of respondents (64.8%) reported not encountering any challenges when using AI tools for their work. Conversely, 35.2% of respondents indicated facing challenges while utilizing AI tools for their tasks. This highlights the varying experiences among users in adapting to AI technology.

4.13 RECOMMENDATION OF AI TOOLS TO OTHERS

Table 4.13 illustrates whether the respondents recommend the AI tools to others.

RATING	NUMBER OF RESPONDENTS	PERCENTAGE
1	2	3.7
2	7	13
3	18	33.3
4	14	25.9
5	13	24.1



INTERPRETATION:

According to the table and chart, 50% (24.1% and 25.9%) of the respondents would strongly recommend using AI tools to others in view of the fact that they believe that AI has a greater impact in their day-to-day tasks and activities. The 33.3% of the respondents are in a neutral position in recommending AI to others for the reason that they give equal importance to AI tools as well as utilizing their own handiwork in doing their day-to-day tasks. The remaining 13% and 3.7% of the respondents are reluctant to recommend AI to their peers as some of them faced various challenges and difficulties while using the tools whereas the others haven't used them at all.

CHAPTER 5

FINDINGS, SUGGESTIONS & CONCLUSION

5.1 FINDINGS

- According to the data, 89% of the young adults inquired said they were familiar with AI tools, suggesting that this group is well aware of them. However, 5% of respondents said they haven't used AI tools yet, which raises the possibility of a knowledge gap. Furthermore, 6% indicate that they just have a cursory comprehension of these tools, underscoring the necessity of focused instructional initiatives. Overall, these results highlight the significance of encouraging young people to have a thorough awareness and knowledge of AI tools to promote technical literacy and societal advancement.
- According to the study results, a noteworthy proportion of participants (about 70%) have used artificial intelligence (AI) tools into their regular activities. Nonetheless, a noteworthy thirty percent of respondents do not use AI tools in their personal or professional lives, indicating a variation in the level of technological adoption among the sample. This discrepancy demonstrates how different societal groups view and interact with AI to differing degrees.
- The study reveals a wide range of technological usage among participants. Three respondents mostly use virtual assistants for home automation and entertainment, while 24 of the respondents choose chatbots for educational, research, and personal uses. Moreover, five people utilize image recognition tools, and eighteen people use speech recognition tools, illustrating the diverse ways in which people incorporate the latest technologies into their daily lives.
- In the survey encompassing respondents' perspectives on AI tools, 76% of the respondents said that using AI tools in their jobs or projects had significantly increased their productivity and efficiency. A small percentage of respondents, that is the 6%, admitted to not using AI tools, which means they were unaware of their possible advantages. The majority of the remaining respondents had a moderate level of confidence in the effectiveness and productivity of AI tools, indicating a general sense of optimism about their potential impact.
- The results show that respondents' expertise with AI technologies varies significantly, with 7.4% of respondents showing a deep comprehension and 24.1% and 40.7% showing varying levels of knowledge. Nonetheless, a sizeable fraction of the participants, up to 20.4%, demonstrate a limited understanding of artificial intelligence technology. It is concerning to learn that 7.4% of respondents seem to know nothing

about AI tools at all, which suggests that education and awareness campaigns in this area are desperately needed.

- The results of the survey indicate that a considerable proportion of participants, roughly 14.8%, demonstrate a high degree of ease while implementing artificial intelligence products. Furthermore, a significant percentage, 35.2%, and 31.5% respectively, indicate a considerable degree of comfort using this technology. On the other hand, a concerning 7.4% of respondents indicate a lesser level of comfort, and 11.1% express no comfort at all, indicating varying degrees of anxiety or unfamiliarity with AI tools among respondents.
- The results of the study demonstrate that the respondents strongly preferred virtual assistants, and 79.6% of them reported using them regularly, demonstrating the wide acceptance of this technology. Tools for image recognition come in close second with a significant 61.1% usage rate, indicating its utility in a range of applications. Interestingly, machine learning platforms have lower adoption rates (7.4%) than speech recognition, chatbot, and natural language processing technologies, which also show notable usage rates. This suggests that there may be room for more research and development in the field of artificial intelligence.
- The analysis reveals a notable trend in respondents' satisfaction levels regarding the performance and accuracy of AI tools in their tasks. A substantial proportion, approximately 24.1%, express complete satisfaction with the tools' performance, indicating a positive reception. However, a significant portion, comprising 7.4% of respondents, exhibits less satisfaction, suggesting areas for potential improvement in enhancing the efficacy of AI tools for task completion.
- The majority of respondents to our study (55.6%) expressed a high belief in the significant potential for continued growth and improvement of virtual assistants. Tools for image recognition come in second, with 46.3% of respondents recognizing their potential for development. Although to varied degrees, chatbots, NLP tools, speech recognition tools, and machine learning platforms also attracted a lot of interest, suggesting that there is widespread awareness of their potential for further development. Nevertheless, it's interesting to note that a tiny percentage of respondents—1.9%—either prefer alternative tools or don't use them at all, indicating a range of preferences and usage patterns within the sample.

- Following the survey results, a significant number of participants, or 37%, believe AI solutions to be very user-friendly for their work. In close succession, 20.4% and 33.3% of respondents also reported a good degree of user-friendliness. However a significant minority—5.6% of respondents—stated that they were not satisfied with how user-friendly AI technologies were for their duties, and 3.7% said that these were completely unfriendly.
- The results of the survey show a noteworthy pattern among respondents: a sizable majority, or 55.6%, show little concern about ethics or privacy while using AI tools. On the other hand, a small percentage of participants, 13%, voiced worries about privacy consequences, and a smaller amount brought up ethical issues. This distribution shows how different consumers are when it comes to their level of apprehension, which emphasizes how important it is to address these issues in order to promote more acceptance and trust in AI technologies.
- The results show that a substantial percentage of respondents, or 35.2%, experienced difficulties incorporating AI tools into their workflows. On the other hand, the majority, or 64.8%, described easy experiences devoid of substantial obstacles. These findings highlight the wide range of user experiences and point to the necessity of more research into the elements that contribute to effective adoption and the reduction of obstacles in the use of AI tools.
- It is clear from the data from the study that a sizable percentage of respondents (50%) strongly support the use of AI tools, citing its major impact on their day-to-day duties and activities. On the other hand, a significant percentage (33.3%) take a neutral position, weighing the benefits of AI technologies against their own manual processes. A smaller percentage of respondents (16.7%) are reluctant to suggest AI, citing either prior failures or a lack of experience with the technology as justifications.

5.2 SUGGESTIONS

- According to the study results a minimum of atleast 5% of the young adults have no knowledge whereas the majority have a little more or further knowledge about AI. Therefore, it is advisable to create awareness among the generation about the significance, uses and benefits of AI in the day-to-day lives of today's generation by conducting awareness programmes at schools, institutions as well as at workplaces.
- The subject, which the Artificial Intelligence, shall be added as a straightforward curriculum in academics covering AI basics, ethics and applications irrespective of the major or stream the student/scholar choose.
- People should have a basic idea about the type of AI tools they use for application as per the circumstances or the solutions they need. Therefore they need hands-on training rather than just listening or reading.
- The developers of each AI tool shall conduct a thorough investigation on how user-friendly their tools are for the users based on their purpose, user eligibility, feedback of the users, etc.
- The developer shall give out a clear and well defined but precise information about the usage, purpose, terms and conditions of the tools they develop to the user so that they could understand the application methodology in a simple way.
- Institutions and organizations shall create such an environment where they can bring users and developers together to brainstorm solutions collaboratively.
- Create platforms among the users themselves similar to peer groups to share tips and tricks with each other and hence everybody can always keep up with the updates as well other relating news on the evolving technology.
- Developers shall hide personal identities data and seek consent from the user to share their private data, only if an emergency occurs, to protect privacy of the users.
- They shall collect and use only necessary data and secure them with strong encryption to limit privacy concerns and risks.
- Consider the genuine feedbacks of the users regularly and fix them promptly.

5.3 CONCLUSION

In conclusion, our study on "The Effect of AI in Today's Generation" explored the versatile effect of Artificial Intelligence on the current generation, revealing both its transformative potential and ingrained disputes. We now have gained better insights on the complicating dynamics shaping the adoption as well as utilization of AI technologies after conducting an examination of user experiences and challenges in AI integration.

The findings underline the powerful role of AI in modern society, its influence in various aspects of daily life, from personal productivity to professional reliability and efficiency. However, it also highlights the diverse range of user experience, with a number of them encountering difficulties in incorporating AI tools for their needs.

In addition to these adversities, we have proposed several suggestions to enhance the privacy friendliness and accuracy of AI tools, accelerating the necessity of data minimization, encryption, anonymization, user control, etc. We can lighten privacy risks and encourage greater trust as well as confidence in the technology among users by executing these suggestions.

Furthermore, the study highlights the need for continued investigation and collaboration to further understand user need, preference, and behavior for adopting AI technology. Such boundaries can be overcomed by engaging with users, developers, and stakeholders and maximizing its benefits for the current generation.

Nevertheless, the users have powerful intelligence, that is, the human intelligence to which AI is still not able to keep up with. If AI technologies could think like humans and solve problems using common sense rather than the programing languages they imitate, it can exceed the human intelligence that is; the power to learn from experiences, adapt to new situations and use common sense to one's advantage, and therefore can become the most powerful and accurate phenomenon in decision making, which could become a threaten to the careers of many. Yet, in the presence scenario, the technology has to grow and develop farther more to accomplish this goal, although it is not impossible.

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ANNEXURE

STUDY ON THE EFFECT OF AI IN TODAY'S GENERATION AMONG THE YOUNGSTERS

APPENDIX

Schedule

We are students from St. Teresa's College (Autonomous), Ernakulam, currently enrolled in the B.Com Capital Market. As part of our academic coursework, we are conducting a study on the topic "Effect of AI in today's generation."

🚀 Dive into the world of AI with us! Explore how Artificial Intelligence (AI) is changing our lives. Join our quick Google Form to share your thoughts on AI's impact - from daily routines to job markets. Let's talk about the future we're building together. 🌐

Your valuable insights will contribute significantly to our study. We appreciate your time and cooperation in participating in this survey. Your responses are confidential and will be used for academic purposes only.

Full Name:

1. Have you heard of AI tools before?

   a. Yes ( ) b. No ( ) c. Maybe ( )

2. Have you used AI tools in your personal or professional life?

   a. Yes ( ) b. No ( )

3. If yes, please describe the AI tools you have used and the purpose for which you used them.

   _____

4. Do you believe AI tools have improved efficiency and productivity in your tasks or projects?

   a. Yes ( ) b. No ( ) c. Maybe ( )

5. On a scale of 1 to 5, how knowledgeable do you consider yourself regarding AI and its applications?

   a. Zero

   b. Less

   c. Neutral

   d. Sufficient

   e. Perfect

6. On a scale of 1 to 5, how comfortable are you in using AI tools?

   a. Not at all

   b. Less

   c. Neutral

   d. More

   e. Very much

7. What challenges or difficulties have you encountered while using AI tools?

   _____

8. Which AI tools have you found most useful? (Select all that apply)

   a. Chatbots (ChatGPT, Telegram)

   b. Virtual Assistants (Google Assistant, Alexa, etc.)

   c. Image Recognition (such as Google Lens)

   d. Speech Recognition (such as Google Voice Search, Duolingo, etc.)

   e. Machine Learning Platforms (AWS Machine Learning, Databricks, Amazon SageMaker, etc.)

   f. Natural Language Processing (such as Google Translate, DeepL, copy.ai, etc.)

   g. Other

9. Which AI tools do you think have the most potential for further development and improvement? (Select all that apply)

   a. Chatbots (ChatGPT, Telegram)

   b. Virtual Assistants (Google Assistant, Alexa, ChatGPT, etc.)

   c. Image Recognition (such as Google Lens)

   d. Speech Recognition (such as Google Voice Search, Duolingo, etc.)

   e. Machine Learning Platforms (AWS Machine Learning, Databricks, Amazon SageMaker, etc.)

   f. Natural Language Processing (such as Google Translate, DeepL, copy.ai, etc.)

   g. Other

10. On a scale of 1 to 5, how satisfied are you with the performance and accuracy of AI tools you have used?

    a. Dissatisfied

    b. Less

    c. Neutral

    d. Satisfied

    e. Very much

11. On a scale of 1 to 5, how user-friendly are the AI tools you have used?

    a. Not at all

    b. Less

    c. Neutral

    d. More

    e. Very much

12. Have you encountered any ethical or privacy concerns while using AI tools?

    a. Yes ( ) b. No ( ) c. Maybe ( )

13. If yes, please explain the ethical or privacy concerns you have encountered.

    _____

14. Have you encountered any difficulties doing the work by your own after using AI tools?

    a. Yes ( ) b. No ( )

15. On a scale of 1 to 5, how likely are you to recommend AI tools to others?

    a. Never

    b. Maybe

    c. Neutral

    d. Will recommend

    e. Definitely

16. Please provide any additional feedback.

    _____