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A Study on Public Perception of Artificial Intelligence Tools in Thoothukudi City

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ABSTRACT:-

Artificial intelligence plays a vital role in society. People depend on artificial intelligence, and many AI tools are available on online platforms. AI tools make life easier and give the human brain some rest. Data has been collected from a total of 225 respondents in Thoothukudi City through a well-structured questionnaire. People's opinions on AI tool usage have been analyzed in this paper.

Introduction

Artificial intelligence (AI) is the theory and development of computer systems capable of performing tasks that historically required human intelligence, such as recognizing speech, making decisions, and identifying patterns. AI is an umbrella term that encompasses a wide variety of technologies, including machine learning, deep learning, and natural language processing (NLP). Although the term is commonly used to describe a range of different technologies in use today, many disagree on whether these actually constitute artificial intelligence. Instead, some argue that much of the technology used in the real world today actually constitutes highly advanced machine learning that is simply a first step towards true artificial intelligence, or "general artificial intelligence" (GAI).[1]

Review of Literature

1.VictorFrimpong (2024)[2] in his article titled "Cultural and Regional Influences on Global AI Apprehension" disclosed that a comparative examination of AI concerns in regions such as Asia, Africa, Latin America, and the Middle East, this study emphasizes the significance of localized factors — including historical legacies, political systems, and socio-economic conditions — in shaping public perceptions and governance of AI technologies. The findings underscore the necessity for adaptable and context-sensitive AI governance. Culturally attuned policies, ethical standards and regulatory frameworks are imperative for addressing the specific needs and worries of diverse populations. A uniform approach to AI governance risks perpetuating global disparities and amplifying existing socio-economic gaps. Pursuing empirical research that complements this qualitative analysis by collecting primary data through surveys, interviews, or case studies in non-Western regions is crucial. Further exploration is needed to understand how particular socio-cultural factors influence the deployment of AI technologies in diverse settings. Collaboration among policymakers, researchers, and local stakeholders is essential for crafting AI governance models that prioritize inclusivity, fairness, and cultural resonance. Expanding the global AI discourse will ensuremore equitable outcomes and enhance the societal advantages of AI technologies worldwide.

Objectives

To know about the usage of artificial tools of the respondents and to study the factors to motivate the respondents to use the artificial tools.

Research Methodology

Both primary and secondary data were used for the study. Primary data was collected through a Google form. Secondary data was collected from journals and websites. The size of the sample is 225 respondents who are the residents of Thoothukudi city. The data were analysed through percentage analysis and ANOVA.

Scope of the study

[1]https://www.coursera.org/articles/what-is-artificial-intelligence

[2]Victor Frimpong , Cultural and Regional Influences on Global AI Apprehension, Qeios, CC-BY 4.0 · Article, November 20, 2024

This study confines the factors which positively influence the consumers to consume eco-friendly products and not cover the problem, prospects, and other aspects of eco-friendly products.

Hypothesis of the Study

There is no significant difference in AI tool usage frequency among different age groups.

Data analysis and interpretation

Table 1 Demographic profile of the respondents

Demographic factors	No of respondents	Percentage
Gender		
Male	80	36
Female	145	64
Total	225	100
Age		
Below 21 years	157	70
21-40 years	45	20
41-60 years	20	9
Above 61 years	3	1
Total	225	100
Occupation		
School Student	4	2
College Student	159	71
Private Employee	6	3
Government Employee	3	1
Businessman	7	2
Unemployed	3	1
School Teacher	2	1
Assistant professor	31	14
Associate Professor	4	2
Research Scholar	6	3
Total	225	100
Marital status		
Married	52	23
Unmarried	173	77
Total	225	100

Source:- Primary data

The above table presents the demographic details of the respondents, including gender, age, occupation, and marital status. Among the 225 respondents, the majority (64%) are female, while 36% are male.

In terms of age distribution, a significant portion (70%) are below 21 years, followed by 20% in the 21-40 years age group. The remaining respondents belong to the 41-60 years (9%) and above 61 years (1%) categories.

Regarding occupation, the highest proportion (71%) consists of college students, followed by assistant professors (14%). Other occupations, such as private employees (3%), businessmen (2%), and research scholars (3%), have smaller representations.

When considering marital status, most respondents (77%) are unmarried, while 23% are married.

Table 2 Frequency of AI Tool Usage among Respondents

Particulars	No of respondents	Percentage
Daily	66	29
Weekly	58	26
Monthly	16	7
Rarely	67	30
Never	18	8
Total	225	100

Source :- Primary data

The above table presents the frequency of AI tool usage among the 225 respondents. It is observed that a significant portion of the respondents engage with AI tools regularly, with 29% using them daily and 26% using them weekly, making up a total of 55% regular users. Additionally, 7% of respondents use AI tools on a monthly basis, while 30% use them rarely. A small proportion of respondents (8%) have never used AI tools.

Table 3 Respondents' Perception of AI Tools Making Life Easier

Particulars	No of respondents	Percentage
Strongly Agree	58	25
Agree	116	52
Neutral	43	19
Disagree	4	2
Strongly Disagree	4	2
Total	225	100

Source :- Primary data

The above table highlights respondents' perceptions of whether AI tools make life easier. A majority of the respondents (52%) agree that AI tools contribute to ease of life, while 25% strongly agree, indicating that 77% of the respondents have a positive outlook on AI tools. Additionally, 19% remain neutral, suggesting that they may not have experienced significant benefits or drawbacks. A very small percentage either disagree or strongly disagree, indicating minimal resistance toward AI adoption.

Table 4 Primary Purposes of AI Tool Usage among Respondents

Particulars	No of respondents	Percentage
Education & Learning	157	70
Research purpose	14	6
Homework & Assignments	21	9
Seminar & Presentation Preparation	18	8
Share Market Analysis & Trading	8	4
Content Creation (Writing, Image/Video Generation, etc.)	7	3
Total	225	100.0

Source :- Primary data

The above table illustrates the primary purposes for which respondents use AI tools. A significant majority **(**70%**)** utilize AI tools foreducation and learning**,** highlighting the growing role of AI in academic support. Additionally, 9% use AI for homework and assignments**,** while8% rely on it for seminar and presentation preparation**,** emphasizing AI's role in academic and professional settings. Beyond education,6% of respondents use AI for research purposes**,** while a smaller percentage engage with AI forshare market analysis and trading (4%)andcontent creation (3%)**,** such as writing or image/video generation.

Table 5: Public Opinion on AI Tools

Particulars	No of respondents	Percentage
AI Tools Replacing Human Jobs		
Yes	168	75
No	57	25
Total	225	100
Reliability of AI Tools		
Yes	165	73
No	60	27
Total	225	100
AI Tools Guiding Decision-Making		
Yes	143	64
No	82	36
Total	225	100
Concerns About Privacy and Security		
Yes	135	60
No	90	40
Total	225	100

Source :- Primary data

The above table presents public opinions on various aspects of AI tool usage.
A majority of respondents (75%) believe that AI tools have the potential to replace human jobs, reflecting concerns about automation and job displacement. However, 25% of respondents do not perceive AI as a significant threat to human employment.

About 73% of respondents consider AI tools to provide reliable information, indicating trust in AI-generated content. On the other hand, 27% of respondents remain skeptical about the reliability of AI tools.

A significant proportion (64%) of respondents agree that AI tools assist in decision-making related to shopping, finance, and healthcare. However, 36% of respondents do not rely on AI for such decisions, suggesting a degree of caution or preference for human judgment.
Privacy and security remain major concerns, with 60% of respondents expressing apprehensions about using AI tools. Meanwhile, 40% do not consider privacy and security issues to be a significant concern, indicating varying levels of trust in AI platforms.

Table 6: Key Concerns about AI Tool Usage Among Respondents

Particulars	**No. of Responses**	**Percentage (%)**
Job Losses	59	17
Data Privacy & Security Risks	64	18
Misinformation & Bias	20	7
Dependence on AI for Daily Tasks	45	13
Ethical Issues in AI Development	18	5
Limited Knowledge of AI	35	10
No Concerns	43	12
Data Confidentiality	64	18

Source :- Primary data

The above table highlights the major concerns respondents have regarding the use of AI tools. The most prominent concerns, cited by 18% of respondents, are data privacy & security risks and data confidentiality, indicating that maintaining privacy and ensuring the safety of sensitive information are critical issues for users. Job losses due to AI advancements are another significant concern, with 17% of respondents expressing fears about the potential impact of automation on employment opportunities.

Additionally, 13% of respondents are concerned about becoming overly dependent on AI for daily tasks, reflecting a worry that excessive reliance on AI might diminish essential problem-solving and decision-making skills. Misinformation and bias in AI-generated content is a concern for 7% of respondents, highlighting the need for accuracy and fairness in AI systems.

Around 10% of respondents admit to having limited knowledge of AI, which may lead to uncertainty or hesitation in fully adopting AI tools. Ethical concerns, such as transparency, fairness, and accountability in AI development, were mentioned by 5% of respondents, underscoring the importance of maintaining ethical standards in AI deployment. Interestingly, 12% of respondents reported having no concerns about using AI tools, indicating a level of confidence and comfort with AI technologies.

Hypothesis

There is no significant difference in AI tool usage frequency among different age groups.

ANOVA

Usage	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.266	3	2.422	1.274	.284
Within Groups	420.094	221	1.901		
Total	427.360	224			

Tukey B

Age	N	Subset for alpha = 0.05
		1
(b) 21-40 years	45	2.29
a) Below 21 years	157	2.68
(c) 41-60 years	20	2.75
d) Above 61 years	3	3.33

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 9.711.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

The results of the ANOVA test indicate that there is no significant difference in AI tool usage frequency among different age groups.

- F-value: 1.274
- p-value (Sig.): 0.284, which is greater than the significance level of 0.05.

Since the p-value exceeds 0.05, the null hypothesis — that there is no significant difference in AI tool usage frequency between age groups — is accepted.

Tukey B Post Hoc Test Interpretation:

The Tukey B test further compares the mean usage frequencies across different age groups. The means are as follows:

- 21-40 years (Group b): 2.29 (lowest usage frequency)
- Below 21 years (Group a): 2.68
- 41-60 years (Group c): 2.75

- Above 61 years (Group d): 3.33 (highest usage frequency)

Although there are slight variations in the mean frequencies, these differences are not statistically significant, as the groups are part of a homogeneous subset. This reinforces the conclusion that age does not significantly affect AI tool usage frequency**.**

Findings

The demographic composition indicates that the study sample primarily consists of young, unmarried, and academically inclined individuals, with a strong presence of students and assistant professors.

AI tools are widely recognized for their convenience and efficiency, though some individuals may still be uncertain about their overall impact.
AI tools are primarily leveraged for academic and learning-related activities, with relatively lower adoption for specialized fields like finance and creative content generation.

Conclusion:

AI tools are helping society in new dimensions, with people from all walks of life using them. In this study, researchers utilized various AI tools, including ChatGPT, Meta AI, Perplexity AI, Remini, Writesonic, Wordtune, Gemini AI, and Slides AI for the survey. Most people reported using two or more AI tools in their daily lives.AI tools are particularly beneficial for students, especially college students, assisting them in preparing assignments, project work, and seminar presentations. However, school students mentioned that their teachers strictly advise against using AI tools to complete homework. On the other hand, college professors predominantly rely on AI tools for seminar preparation and report writing.