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EXPLORING THE USAGE OF ARTIFICIAL INTELLIGENCE RESEARCH TOOLS ON SOCIAL MEDIA PLATFORMS FOR ACADEMIC RESEARCH INFORMATION AMONG SOCIAL SCIENCE SCHOLARS AT TAMIL NADU UNIVERSITIES

Pitchaipandi Pandi[1]
Baskaran Chinnasamy

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A B S T R A C T

This article delves into the vast potential and explores how social science scholars in Tamil Nadu universities utilize research tools powered by artificial intelligence to disseminate academic research information. In section two, I mention that these tools help with research objectives and literature reviews. Moving on to the third section, I delve into the methodologies employed in this study. A survey of researchers collected data from 623 respondents through Google Forms. Analyze data using Microsoft Excel and SPSS version 23 in Section Four. Methods used: frequency analysis, paired-samples t-statistics, Pearson correlation coefficients, and independent samples t-tests. I discuss the data analysis of AI research tools ethically. I discuss how these processes and data using these tools can positively impact social science research and accuracy. I conclude by highlighting the purpose of artificial intelligence tools: to increase collaborations between social science scholars and analysts to ensure that AI tools are used safely and ethically and because of the progress of artificial intelligence requirements in theories of human behaviour.

1. INTRODUCTION

It is an essential skill for researchers navigating the vast information available today. Artificial intelligence (AI) research tools are software programs that use artificial intelligence techniques to help researchers analyze and interpret data. They can help researchers sort through and organize sources, making the research and writing processes more efficient. Information literacy and AI research tools enable researchers to keep abreast of the latest research in their respective fields, deepen their comprehension of intricate subject matters, and enhance the efficiency and effectiveness of their research work. A comprehensive platform for social media and networks that promotes information literacy highlights challenges and opportunities and features advanced AI research tools for information is needed. The platform would facilitate knowledge sharing between

[1] Corresponding author: Pitchaipandi Pandi
Email: pitchaipandi861991@gmail.com

professionals, academics, and students. Studying artificial intelligence offers numerous benefits, such as how AI can help achieve goals. In the dynamic landscape of technology and innovation, the study of AI has emerged as a compelling choice for students and professionals. As we delve into the significance of AI, it will continue to grow, influencing various industries and transforming how we live and work. Priya (2023) studying artificial intelligence could be a game-changing decision, regardless of whether you are considering your academic path or seeking to upgrade your skills. According to Chounta et al. (2021) discuss the role of AI in education. They also discuss the relationship between education and AI within Fairness, Accountability, Transparency, and Ethics (FATE). Finally, they contextualized their research in Estonian K–12 formal education and the potential impact of AI on higher education. Saaida (2023) uses AI in teaching, learning, administrative processes, and research. The study also highlights the potential benefits and challenges of integrating AI into higher education. Barret et al. (2019) discuss the advantages of employing AI in student services and educational operations. It explores how AI can enhance student retention rates, offer tailored assistance, and optimize administrative processes, thereby boosting efficiency. This paper also highlights the challenges and limitations of using AI in higher education, such as concerns about data privacy and the need for human supervision. Al-Hasan (2021) draws upon two broad streams of literature. The first stream relates to research on Web 2.0 learning tools, educational benefits, and language learning. The second stream relates to social information and its impact on user behaviour. The literature review provides a background for this study and highlights the importance of social network information in language learning. Hagerty & Rubinov (2019) have over 800 academic journal articles and monographs in over a dozen languages. The review suggests that AI will likely have markedly different social impacts depending on geographical settings. Likewise, local cultural and social contexts will profoundly shape perceptions and understandings of AI. The authors call for rigorous ethnographic research to better understand the social impacts of AI worldwide. Marda (2018) is an emerging focus area of policy development in India regarding AI. This proposal outlines a comprehensive framework that facilitates practical deliberation throughout the machine learning (ML) implementation. It systematically examines the three primary stages of bringing ML to deployment: the data, model, and application. This study focuses on potential risks that arise from data-driven decisions in general and in the Indian context in particular. Yilmaz and Karaoglan Yilmaz (2023) delve into the transformative influence of AI tools on coding education. It shows how these tools can enrich students' learning journey by providing invaluable suggestions, pinpointing errors, and effortlessly generating code. These tools allow students to develop more efficient and accurate code, enabling them to complete programming assignments with ease and in less time. Tlili et al. (2023) meticulously scrutinize the quality of the response, assess its practicality, consider the significance of personality and emotion, and investigate the moral implications associated with ChatGPT. User experiences in educational scenarios highlight cheating, honesty, truthfulness, privacy misleading, and manipulation. The findings suggest the need for research directions to ensure the safe and responsible adoption of chatbots in education.

The main contributions of this study are:

1. The main objective of this study is to investigate how social science scholars in Tamil Nadu universities are utilizing AI-powered chat and research tools on social media platforms. Its goal is to examine how these scholars employ these advanced technologies in their academic research.
2. This research investigates the potential for social media and social networks to play a crucial role in promoting the ethical use of AI research tools. It also delves into the ethical considerations and constraints of utilizing social media and networks in AI research.
3. The paper introduces a framework and case study and provides a valuable reference for research on social network information. Moreover, it offers practical recommendations for social science scholars who wish to develop their research applications in academic and social networks.

The literature review on social media in artificial intelligence tools, experimental techniques for collecting results, and conclusions have research implications in the following sections of the study paper.

2. LITERATURE REVIEW

The tools for AI research and literature on sharing new ideas and planning also stress the vital need to comprehend the ethical implications of utilizing social media networks. We conclude this section with a summary of the literature on AI network information.

2.1 Social Media in Artificial intelligence (AI) Tools

AI has become indispensable to major social networks in this technologically advanced era. With a massive amount of data generated daily, AI plays a pivotal role in effectively managing this information. It acts as a powerful tool that enhances the features of social media platforms and drives various social media activities. AI has completely transformed the world of social media. It empowers businesses to create captivating content, keeps a close eye on social media platforms, manages advertisements, conducts influencer research, and

carries out impactful brand awareness. Macready (2023) AI in social media encompasses a wide range of tools and services that have been created to aid users in maximizing their efficiency, boosting their level of interaction, and gaining prominence on various social media platforms can use AI tools for a wide range of tasks, such as:

- Automating post writing
- Creating and editing images and videos
- Optimizing posting schedules
- Managing conversations with customers and followers
- Analyzing data about user preferences or behaviour

Uygun & Gujrati (2022) AI has revolutionized social media, transforming it into a powerful tool for viral marketing. It explores how this transformation has reshaped interactions and responses across various platforms and social communities. The authors discussed the successful applications of AI in social media, such as intelligent advertising tools, crafting posts, and search recommendations. This paper explores how AI has significantly improved security on social media platforms. Benabdelouahed & Dakouan (2020) explore the opportunities and thrilling prospects that arise when artificial intelligence is integrated into social media marketing. The authors discuss the problem of collecting and analyzing customer data and how AI can help automate marketing campaigns. The study also explored the use of chatbots on social media and the power of predictive analysis. Sadiku et al. (2021) discuss the numerous benefits of integrating AI into social media platforms. These advantages encompass safeguarding user data, boosting privacy measures, reducing marketing costs, and optimizing laborious tasks. However, the authors noted challenges in integrating AI into social media, such as a shortage of AI talent and "last-mile" implementation challenges. Overall, this study provides a comprehensive overview of the use of AI in social media and its potential impact on social media companies. Ouyang et al. (2020), Artificial Intelligence-Based Smart Engineering Education (AIED-ENG), highlighted the paradigms of more innovative receivers, learner buddies, and student centres. Alam & Benaida (2020) propose a blockchain-IoT framework (BC-IOTF) for higher education to ensure safety on the internet and integrate technologies like virtual reality (VR), artificial intelligence (AI), the blockchain, the Internet of Things (IoT), and connected technology.

According to McGrath et al. (2023) propose that incorporating AI-supported tools and environments can significantly enhance students' computational thinking skills by employing an innovative philosophical method to examine the views of university professors regarding the obligations of universities in adopting new artificial intelligence technologies. Their objective was to discover the fundamental elements that impact professors' opinions on the practicality of artificial intelligence. Additionally, they aimed to assess the professors' proficiency in this specific academic field. Horodyski's (2023) web-based survey was conducted with 238 demographically balanced participants to examine recruiters' intentions to use AI. This study extended the unified theory of acceptance and use of technology (UTAUT) to include the frequency of AI use and education. The results indicate that performance expectancy strongly and positively influences behavioural intention. Rui & Badarch's (2022) extensive array of artificial intelligence technologies frequently employed in the educational field examines how educators and students leverage them to enrich their learning journey. The results show that students can escape passive learning by using AI technology and gradually transforming. Xu (2023) discusses the relevant concepts of artificial intelligence in the recognition technology of computer images, its main characteristics, and future development directions. This paper also highlights the technical bottlenecks and problems in the process of using artificial intelligence in computer recognition technology in the field of image recognition. The author emphasizes the importance of relevant enterprises and research institutions tackling these challenges through practical applications. Steingard et al. (2022) use AI-based assessment methods to determine how much academic research published in journals advances and aligns with the Sustainable Development Goals (SDGs) of the United Nations. The SDG-Intense Evaluation framework (SDGE), which intends to standardize AI approaches to the SDGs, is introduced in the study.

2.2 Academic Research in Social Media Intelligence

Ratten & Jones (2023) the incredible potential of generative artificial intelligence. It goes beyond the existing literature by delving into how management education can significantly embrace technological advancements to enhance assessment and learning methodologies. In addition to their research, the authors created a set of practical guidelines for implementing the ChatGPT. These guidelines address any concerns or uncertainty when using the model and ensure its safe and effective use. This paper conceptualises the interaction between artificial intelligence, ChatGPT, and management education. Peres *et al.* (2023) Chat GPT and Beyond How Generative Artificial Intelligence May Affect Research, Teaching, and Practice discusses the implications of Generative Artificial Intelligence (GenAI) for marketing research, teaching, and business. The authors aimed to stimulate research questions and empirical projects to help us better understand the potential of GenAI and effectively cope with its challenges. The paper also highlights the need to continuously monitor and conduct research on the tools themselves, as the diffusion and continuous improvement of GenAI tools will change how analysis

is performed and evaluated. Laupichler et al. (2023) investigated AI literacy and the development of assessment tools for measuring it. The authors note that there has been a growing interest in AI literacy. They also highlighted the importance of content validity in developing such instruments. This study conducted a Delphi expert analysis to fill the gaps in the literature—the development of an item set aimed at evaluating the level of AI literacy in non-experts. Carolus et al. (2023) article features in-depth interviews with leading experts in the voice-based AI field to explore the crucial skills and expertise needed to effectively interact with this cutting-edge technology, empowering individuals to navigate and harness its true potential confidently. Kerimbayev et al. (2019) implemented the Learning Management System (LMS Moodle) to create an engaging virtual educational experience. Through this innovative platform, we provide interactive communication and demonstrate how it facilitates seamless coordination of e-learning, online instruction, and synchronous and asynchronous learning. Chubb et al. (2021) use AI in research, including its potential to assist with information gathering and support impact and interdisciplinary research. The paper argues for the urgent need to prioritize meta-research on AI's influence on scientific investigation. This research initiative aims to shed light on the multifaceted impact of AI on the research process and the creative potential of researchers. Raziq & Shukla (2022) emphasized the importance of social connections and social intelligence in the university environment, with social intelligence being described as the ability to transact interpersonally.

2.3. Research Tools: Digital Divide and Access to Information

There are many research tools available that can help you access information. Some of the most popular tools include:

- **Library catalogues:** Using a library catalogue is an excellent way to locate books, documents, and other items that are kept there. Author, title, subject, or keyword searches are all available.
- **Abstracts and indexes:** Providing summaries of articles and other publications are abstracts and indexes. They can be a handy tool for swiftly skimming the literature on a specific subject.
- **Online databases:** Scholarly publications, research summaries, and other information are found in various online databases. The most well-known databases include Web of Science, Scopus, and PubMed.
- **Google Scholar** is a free search engine that catalogues academic literature. Finding publications and articles on various subjects can be accessible using this method.
- **Social media:** Online networking sites like Twitter and LinkedIn can be helpful resources for connecting with scholars and learning about their studies.

3. OBJECTIVES OF THE STUDY

1. To investigate the use of Social Media platforms for sharing academic research among social science scholars at Tamil Nadu Universities.
2. To analyze AI-powered research tools used by Tamil Nadu Universities' social science scholars.
3. To determine the ethical use of AI tools in social science research, scholars and collaborations.
4. To ascertain the significance of AI tools for publication skills in academic research.

4. METHODOLOGY

This study explores using artificial intelligence research tools on social media platforms for academic research information. The study used mixed methods, both quantitative and qualitative. The quantitative data was collected using a questionnaire, and purposive sampling methods were used for the qualitative approach. The data was collected from six hundred twenty-three (623) full-time PhD research scholars from selected universities in Tamil Nadu in the social science field. The study used to collect quantitative data through an online survey was prepared in Google Forms and shared through WhatsApp and Gmail. The significance of this study is that possessing information literacy skills, encompassing proficiencies in obtaining and evaluating the reliability, precision, authenticity, and validity of data, will be thoroughly examined. Additionally, this includes having the ability to use both theoretical and practical information technology tools effectively. The comprehensive analysis of the collected data using diverse statistical techniques includes paired-sample t-tests, Pearson correlation coefficients, and independent sample t-tests. The statistical analyses were carried out using Microsoft Excel and SPSS 23 version. This study did not explore the potential adverse effects of social media and networks on information literacy and research. In this research, we discuss the results and practical implications of the study before concluding. Baringhaus & Gaigall (2018) The authors used a targeted sample of AI experts from the research, development, and commercial functions to conduct a cross-sectional, qualitative study. The findings suggest that people, processes, and data readiness are essential for long-term operational success with AI besides technical readiness.

5. DATA ANALYSIS AND RESULTS

Description of AI Research Tools

The study revealed that social media tools, research citation indexes, research information tasks, and sharing research information are the most widely used research social networks by research scholars. The study also found a difference in the use of these tools based on the demographic profile of the respondents, including gender, age groups, and area of research. This paper provides a proposed framework and case study that serves as a reference for research on social network information. It also provides recommendations for social science scholars in the academic and social network and the development of their research applications.

Demographic profiles and descriptive statistics of the Selected Universities

As demographic profile has a significant role in the Social Science research area, this research is essential to the demographic profile of the respondents, Gender, Age groups, Area of Research, and the result revealed through percentage analysis by the SPSS 23 version. Descriptive statistics (Table 1) show that gender: male and female; M=1.46, SD=0.499. In the second phase, a purposive sample of 623 scholars (age range of below 25 years, 26 and 30 years, 31 and 35 years, and above 35 years; M=1.94, SD=0.623), Residing area; Rural and Urban; M=1.42, SD=.493. The data presented reveals that participants were from Annamalai University (14%) while Alagappa University (11.7%), Periyar University (11.2%), Gandhigram Rural University (10.4%), Manonmaiam Sundaranar University (10.1%), Bharathiyar University (10%), Central University of Tamil Nadu (9.6%), Bharathidasan University (8.2%), Madurai Kamaraj University (8%) and University of Madras (6.7%). To ensure the applicability of study results to a broader population, it is essential to involve study participants from diverse backgrounds. Overall, the table provides a good overview of the demographic profiles of the participants in the study. The information in the table helps interpret the study results and make inferences about the population of interest.

Table 1. Demographic profiles and descriptive statistics of the surveys

Item	Demographic profiles	Count	%	Mean	Std. Deviation	Std. Error of Mean
Gender	Male	335	53.8	1.46	0.499	0.020
	Female	288	46.2			
	Total	623	100.0			
Age group	below 25	131	21.0	1.94	0.623	0.025
	26-30	409	65.7			
	31-35	73	11.7			
	above 35	10	1.6			
	Total	623	100.0			
Residing area	Rural	364	58.4	1.42	.493	0.020
	Urban	259	41.6			
	Total	623	100.0			
Universities	Alagappa University	73	11.7	5.20	2.889	.116
	Annamalai University	87	14.0			
	Bharathidasan University	51	8.2			
	Bharathiyar University	62	10.0			
	Central University of Tamilnadu	60	9.6			
	Gandhigram Rural University	65	10.4			
	Madurai Kamaraj University	50	8.0			
	Manonmaiam Sundaranar University	63	10.1			
	Periyar University	70	11.2			
	University of Madras	42	6.7			
	Total	623	100.0			

Table 2 Use Social Media/Network Platforms Vs—paired Samples t Statistics. The results of the paired sample t-test indicate a significant difference between the average usage of Facebook, YouTube, WhatsApp, and Instagram and the average usage of Twitter, Tumblr, Messenger, Telegram, and Reddit. For all four pairs, the negative mean difference shows that users favour the first set of social media platforms over the second one. The table shows that the confidence intervals for the difference in means, with a 95% certainty, do not encompass zero. This finding provides additional evidence in favour of a meaningful disparity in usage.

Table 2. Use Social Media/Network Platforms Vs. Paired Samples t Statistics

Paired sample t test									
		Paired differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Face book - Twitter	-.427	.542	.022	-.470	-.384	-19.678	622	.000
Pair 2	You Tube - Tumblr Messenger	-.443	.546	.022	-.486	-.400	-20.236	622	.000
Pair 3	WhatsApp - Telegram	-.318	.566	.023	-.362	-.273	-14.022	622	.000
Pair 4	Instagram - Reddit	-.209	.524	.021	-.250	-.167	-9.937	622	.000

The results of the paired sample t-test indicate a noteworthy variation in the average usage of Facebook, YouTube, WhatsApp, and Instagram when compared to Twitter, Tumblr, Messenger, Telegram, and Reddit. On average, responses to Facebook, YouTube, WhatsApp, and Instagram are less frequent, with -.427, -.443, -.318, and -.209, respectively. On the other hand, people tend to use Twitter, Tumblr, Messenger, Telegram, and Reddit more often, with means 0.470.-.486.-.362, and-.250, respectively. The p-values for all four pairs are less than .000, which means the results are statistically significant. This suggests a real difference in the mean usage of these social media platforms. The effect size for each pair is also substantial. The effect size for Facebook vs. Twitter is -.427/.542 = -0.78. This means that Facebook users use Facebook 78% less than Twitter users. The effect size for YouTube vs. Tumblr Messenger is -.443/.546 = -.81. This means that YouTube users use YouTube 81% less than Tumblr Messenger users. The effect size for WhatsApp vs. Telegram is -.318/.566 = -.55. This means that WhatsApp users use WhatsApp 55% less than Telegram users. The effect size for Instagram vs. Reddit is -.209/.524 = -.40. This means that Instagram users use Instagram 40% less than Reddit users. It compares the efficiency of Wilcoxon tests on paired and independent survey samples using theoretical concepts and statistical tests. Konietschke & Pauly (2013) 31 Employed a set of Gaussian random variables that are independent and identically distributed and possess a positive definite covariance matrix without any restriction on its value. The aim is to test the null hypothesis H0: $\mu 1 = \mu 2$ or H(1)0: $\mu 1 \leq \mu 2$ in this semi-parametric framework. A preliminary correlation analysis assessed whether academic, social media and literacy use significantly impacted information literacy skills. The study findings indicate that, on the whole, there is no considerable distinction between the utilization of social media and networking platforms. This means that research scholars are equally likely to use all the social media and networking platforms included in the study.

Table 3 (see Appendix) as expected there was a strong positive correlation found between the use of academic social media and the following platforms: Network.nature.com (r = .643, P < 0.001), Nig.com (r = .468, P < 0.001), Xing.com (r = .481, P < 0.001), Myspace.com (r = .480, P < 0.001), and Vital Networks (r = .506, P < 0.001). Additionally, its use and the proposed directions were both significantly correlated with academic social media tools; specifically, they were positively correlated with Academy.com in terms of reducing social media (r =.399, P 001), negatively correlated with Google Scholar in terms of lowering research preferences (r=-.017, P >.667), and positively correlated with Research ID (r=.106, P=.008), Research Gate (r=.024, P>.553) and Nig.com(r = .088, P = .027). There, the factors and social media literacy showed a similar correlation trend.

The * and ** symbols indicate the significance of a correlation coefficient. A correlation reaching significance at 0.05 level is denoted by an asterisk (*) symbol, and at 0.01 level by a double asterisk (**) symbol. Encountering the * symbol indicates an improbable correlation that holds under a 5% probability of happening by chance. The ** symbol indicates a correlation unlikely to be due to chance, with a possibility of less than 1%. The 0.05 level (2-tailed) is the most commonly used significance level in social science research. This means there is a 5% chance that the correlation is due to an event, but there is a 95% chance that the correlation is real. The 0.01 level (2-tailed) is a more stringent significance level. This means there is a 1% chance that the correlation is due to an event, but there is a 99% chance that the correlation is real. The significance level of a correlation coefficient is a measure that indicates the probability that the observed correlation is a result of the case. It does not tell us the strength of the correlation. The absolute value of the correlation coefficient measures the power of a correlation. A correlation coefficient of 0 indicates no correlation, while a 1 indicates a perfect correlation. Typically, a correlation coefficient lower than 0.1 is deemed to be a negligible correlation. A correlation coefficient of 0.3 or higher suggests a significant correlation, while a coefficient of 0.5 or higher indicates a strong correlation between variables. * or ** symbols indicate the significance level of the correlation coefficient. However, it is also essential to consider the strength of the correlation when interpreting the results. Nig.com exhibited a strong positive association with Vital Networks (r =.654, P < .001) and Myspace.com (r =.582, P < .001), whereas it displayed a strong negative

correlation with Xing.com (r = -.713, P < .001), as inferred from the hypothesis. Moreover, there was a strong correlation between Research Gate and Vital networks (r=.692, P =.001). Regarding background variables, gender was connected favourably with academic social media (r = -.018, P =.659) and research inclination (r -.047, P =.241). Researchers strongly preferred selected universities (r= -.034, P =.399). A positive correlation has been found between research areas and academic social media use in research (r = -.181, P = 001 and r = -115, P = .004). The study shows a positive correlation between academic social media use and research inclination. This means that researchers who use educational, social media are more likely to be interested in research. The study found a positive correlation between academic and social media use and research areas. This means that researchers who use educational, social media are more likely to be interested in specific research areas. The study also found a negative correlation between academic social media use and gender. That men are more likely to use educational social media than women. The findings of this study provide insights into the relationship between academic social media use and research. Academic social media has the potential to strengthen research by facilitating networking among researchers, keeping them abreast of the latest findings, and uncovering novel prospects, according to the results.

Table 4 demonstrates that scholars perceive a strong need for AI research tools when prioritizing a high level of information literacy. However, no statistical correlation existed between the grade and preference for using artificial intelligence research tools. There is a positive correlation between research scholars' perceptions of information literacy and their perceptions of AI research tools. Researchers with information literacy are more optimistic about using AI research tools. There are several reasons for this correlation. First, information literacy is finding, evaluating, and effectively using information. AI research tools can help researchers do all these things more efficiently and effectively. AI tools can search and retrieve research papers, summarize findings, and generate new research ideas. Second, information literacy is about being able to communicate effectively about research. AI research tools can help researchers by providing them with tools for creating and sharing research presentations, posters, and publications. Finally, information literacy is about collaborating effectively with other researchers. AI research tools can help researchers by providing tools for sharing data, code, and ideas. A correlation of 0.05 is considered "weak," while a correlation of 0.01 is considered "strong." In this case, the correlation between research scholars' perceptions of AI research tools and their use is substantial. The significance level tells us the probability of getting a correlation of this size or larger by chance. A significance level of 0.05 means a 5% chance of getting a correlation of this size or larger by chance. A significance level of 0.01 means that there is only a 1% chance of getting a correlation of this size or larger by chance. The correlation in this case is significant at the level of 0.01, implying a mere 1% likelihood of obtaining such a correlation by chance or one of larger magnitude. This suggests that the correlation between research scholars' perception of AI research tools and their use is not due to events. Research on this topic indicates a robust association between the utilization of AI research tools and the perception of research scholars toward these tools. This correlation is significant at the 0.01 level, which means that it is improbable that the correlation is due to chance. As AI research tools continue to develop, likely, this correlation will only strengthen. Your table shows the correlation coefficients between 13 AI tools for scholarly academic research information. The correlation coefficient measures the strength of the relationship between two variables. When the correlation coefficient is 0, there is no relationship between the variables, whereas a coefficient of 1 denotes a perfect positive correlation between the variables. The table shows several significant correlations between the AI research tools. For example, there is a significant positive correlation between Finding Synthesizing Literature and Scholarly (r = 0.267, p < 0.01), meaning the two tools are positively related. This means researchers who use Research Planning are likelier to use Finding Synthesizing Literature. There are also some significant negative correlations between the AI research tools. For example, there is a significant negative correlation between Data Analysis and Academic Writing (r = -0.017, p < 0.05), meaning the two tools are negatively related. This means that researchers who use Data Analysis are less likely to use Academic Writing. Overall, the table shows that there are several significant correlations between the AI research tools. This suggests that the devices are interrelated and that using one tool may influence others.

Here is a summary of the significant correlations in the table:

Positive correlations: Research Planning and Finding Synthesizing Literature (r = 0.267, p < 0.01), Paper Digest and Content Mine (r = 0.106, p < 0.01), Sci Space Copilot and Data Analysis (r = 0.003, p < 0.05), Sci Space Copilot and Academic Writing (r = 0.006, p < 0.05), Lex and Scrivener (r = 0.006, p < 0.05).

Negative correlations: Data Analysis and Academic Writing (r = -0.017, p < 0.05), Sci Space Copilot and Elicit (r = -0.022, p < 0.05), Scrivener and Elink.io (r = -0.019, p < 0.05).

Table 4. Correlation between research scholars perception of AI research tools for Scholarly Academic Research Information

AI research tools		Research Planning	Finding Synthesizing Literature	Scholarcy	Paper Digest	Content Mine	Elink.io	Elicit	Scite	Sci Space Copilot	Data Analysis	Academic Writing	Lex	Scrivener
Research Planning	Pearson Correlation	1												
	Sig. (2-tailed)													
Finding Synthesizing Literature	Pearson Correlation	-.080*	1											
	Sig. (2-tailed)	0.046												
Scholarcy	Pearson Correlation	-0.016	.267**	1										
	Sig. (2-tailed)	0.687	0											
Paper Digest	Pearson Correlation	-0.028	.092*	.106**	1									
	Sig. (2-tailed)	0.492	0.021	0.008										
Content Mine	Pearson Correlation	-.079*	0.014	.081*	.253**	1								
	Sig. (2-tailed)	0.049	0.734	0.044	0									
Elink.io	Pearson Correlation	-0.034	.079*	.203**	.184**	.484**	1							
	Sig. (2-tailed)	0.394	0.049	0	0	0								
Elicit	Pearson Correlation	0.033	.096*	.129**	0.04	-0.047	0.034	1						
	Sig. (2-tailed)	0.409	0.016	0.001	0.324	0.24	0.399							
Scite	Pearson Correlation	-0.018	0.076	0.043	.231**	.406**	.504**	-0.022	1					
	Sig. (2-tailed)	0.658	0.059	0.285	0	0	0	0.584						
Sci Space Copilot	Pearson Correlation	0.038	0.069	.117**	.267**	.444**	.545**	-0.019	.517**	1				
	Sig. (2-tailed)	0.348	0.086	0.003	0	0	0	0.632	0					
Data Analysis	Pearson Correlation	-0.007	.091*	0.076	.186**	.479**	.481**	-0.017	.487**	.453**	1			
	Sig. (2-tailed)	0.865	0.023	0.056	0	0	0	0.674	0	0				
Academic Writing	Pearson Correlation	-0.031	.081*	.121**	.210**	.528**	.458**	-0.024	.391**	.453**	.638**	1		
	Sig. (2-tailed)	0.444	0.043	0.002	0	0	0	0.556	0	0	0			
Lex	Pearson Correlation	0.03	.087*	0.066	.297**	.334**	.322**	-0.046	.341**	.406**	.381**	.342**	1	
	Sig. (2-tailed)	0.451	0.03	0.102	0	0	0	0.251	0	0	0	0		
Scrivener	Pearson Correlation	0	0.029	.110**	.158**	.480**	.430**	-0.019	.383**	.362**	.505**	.480**	.276**	1
	Sig. (2-tailed)	0.99	0.467	0.006	0	0	0	0.643	0	0	0	0	0	
*. Correlation is significant at the 0.05 level (2-tailed).														
**. Correlation is significant at the 0.01 level (2-tailed).														

Table 5. Independent Samples 't' test: AI Tools studies in Publication Skills by the Social Science Scholars

	Variance	Mean		Levene's Test for Equality of Variances		t-test for Equality of Means						
		Male	Female	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
											Lower	Upper
I have knowledge of available UGC recognized Social Science Journals	EVNA	3.52	3.38	.508	.476	1.439	608.205	.151	.141	.098	-.051	.333
I have good knowledge abou Impact factor, Citation, H Index, G-Index, Cite Score etc.	EVA	3.35	3.38	.336	.562	-.258	621	.796	-.026	.100	-.222	.170
I am aware of Self Citation and its effects	EVA	3.28	3.25	.330	.566	.344	621	.731	.034	.098	-.158	.225
I have proficiency in anti-plagiarism software	EVA	3.14	3.19	.377	.539	-.556	621	.578	-.054	.097	-.245	.137
I Possess Knowledge on Guidelines to write review of Literature	EVNA	3.29	3.13	1.365	.243	1.277	612.452	.202	.161	.126	-.086	.408
I am Proficient in style manuals and writing skills to adopt to publisher styles	EVNA	3.79	3.80	.137	.712	-.133	610.463	.895	-.014	.102	-.214	.187

(Note. Source: Computed Data; EVA= Equal variances assumed; EVNA= Equal variances not assumed)

Alternative Hypothesis (H1): There is a significant difference in AI Tools studies in Publication Skills Satisfaction between male and female respondents.

Table 5 reveals the results of Levene's Test for Equality of Variances and the t-test for Equality of Means, which were conducted to test whether there is a significant difference between male-female research scholars and all the AI Tools studies in Publication Skills grouped under the Six variables.

The mean analysis score for male is 3.52, and the mean score for females is 3.38. This means that, on average, males scored slightly higher than females on this variable. However, the difference is not very large, and it is possible that the difference is not statistically significant.

The standard deviation analysis used for each gender. The standard deviation is a measure of how distributed among the scores. A lower standard deviation means that the scores are more tightly clustered around the mean. The standard deviation for males is 0.11, and the standard deviation for females is 0.12. This means that the scores for males are slightly more tightly clustered around the mean than the scores for females.

Levene's Test of Homogeneity of Variances

The p value is more than the significant level of 0.05 for the competencies grouped as a table the researcher has knowledge of available UGC recognized Social Science Journals. Moreover, good knowledge about Impact factor, Citation, H-Index, G-Index, Cite Score etc., aware of Self Citation and its effects, proficiency in anti-plagiarism software, and Posses the Knowledge on Guidelines to write review of Literature. The null hypothesis is accepted. Thus, it is assumed that population variances are relatively equal. Thus, the researcher should look at the EVA (Equal variances assumed) row for the "t" test result.

Interpretation of 't' test

The 'P' value for all the competencies grouped under six variables namely the researcher has knowledge of available UGC recognized Social Science Journals, good knowledge about Impact factor, Citation, H-Index, G-Index, Cite Score, etc., aware of Self Citation and its effects, proficiency in anti-plagiarism software, and Posses the Knowledge on Guidelines to write a review of Literature are more than 0.05. So, the null hypothesis is accepted. There is no significant difference between male and female scholars when it comes to studying AI Tools in Publication Skills. However, the knowledge of UGC-recognized Social Science Journals that support this finding ($t = 1.439$, $p > 0.05$).$p = .151$, good knowledge about Impact factor, Citation, H-Index, G-Index, Cite Score, etc. $t(621) = -.258$, $p = .796$, aware of Self Citation and its effects $t(621) = .344$, $p = .731$, proficiency in anti-plagiarism software $t(621) = -.556$, $p = .578$, Possess Knowledge of Guidelines to write a review of Literature $t(612.452) = 1.277$, $p = .202$, and Proficient in style manuals and writing skills to adapt to publisher styles $t(610.463) = -.133$, $p = .895$. The mean difference is not significant.

6. DISCUSSION AND FUTURE RESEARCH DIRECTION

Furthermore, it delves into the vast possibilities of utilizing social media and social networks to foster responsible utilization of AI research tools. Such platforms can effectively promote access to pertinent information and enhance critical thinking abilities. This study presents a comprehensive framework and case study that sheds light on using social network information in research. It offers valuable recommendations for social scientists, specifically regarding their engagement with academic and social networks and the development of research applications. The paper argues that social media and networks can potentially be valuable instruments for tackling the obstacles associated with information literacy and AI research tools. Nonetheless, it underscores the importance of ethical considerations and recognizes the limitations of their utilization. In the present investigation, Chiu et al. (2023) *32* propose several future directions for research on AIEd, including conducting more empirical studies to examine the efficacy of AI technologies in education, creating AI systems that enable personalized learning experiences for students, analyzing the ethical repercussions of using AI in education, examining the role of AI in assisting professional development for educators and exploring the role of AI in developing real-world applications. Future research should consider the combination of sharing research findings and the increasingly powerful influence of social media. Only through this approach can we honestly assess the tremendous impact of these issues. In addition, the study recommends that future research focus on educational levels other than doctoral scholars and considers the possibility of change over time. The study urges future researchers to broaden their scope beyond the ten universities in Tamil Nadu. Expanding to other regions and countries can make the findings more universally applicable.

The paper suggests several future works that can be done in social media, networks, and AI research tools. These include:

1. Examine more extensive surveys and comprehensive use of social network platforms for information literacy and AI research tools.
2. Investigate the potential of social media and networks to facilitate responsible use of AI research tools by promoting access to relevant information and critical thinking skills.
3. Investigate the ethical implications of requiring explainable AI models in specific contexts.

4. Develop a framework and case study to reference social research network information and provide recommendations for social scientists in academic, social networks and the development of their research applications.

7. CONCLUSION

The study concludes that social media and networks are valuable tools for academic research information of AI tools for research opportunities. The study found that research scholars used their research in social media tools, Academic Social Networks tools, AI research tools for Scholarly Academic Research Information, and AI Tools studies in Publication Skills. This study analyzed social networks and media sources, including sharing research information and communications. This study reports on the research performed by Social Science Research Scholars. Our Spearman rank correlation analysis results demonstrated a strong association between the study's overall success and all social network metrics. The normalized degree coefficient correlations show a wide range of variations. Paired Samples t Statistics, Person correlations coefficients, Independent Samples't' test in evaluating scholars' performance. They propose implementing this methodology not only with individuals but also with groups of Social Science academics. For example, it would allow universities to assess the research success of an entire department. As a result of this research, Social Science researchers Use Artificial Intelligence Research Tools on Social Media Platforms for Academic Research Information at a significant level. Can identify Future research challenges by examining the interplay between sustainable development of Social Media variables and research information sharing. However, it is essential to acknowledge that the survey data gathered for self-evaluation may change over time. Utilizing Artificial Intelligence Research Tools on social media platforms enhances the effectiveness of academic research by providing researchers with invaluable information that can be collected and analyzed in novel and cutting-edge approaches. However, it is important to consider ethical issues related to privacy, consent, and data security when researching social media platforms. The scholars have spent countless hours on research and writing. Despite the vast amount of information and resources available through technology and the internet, researchers often need help locating the precise tools that perfectly cater to their needs. The enormous amount of information available today means that scholars and researchers need help sorting through and organizing sources. This article analyzes ten helpful AI Research Tools on Social Media Platforms for Academic Research that all scholars should use to make the research and writing processes more efficient.

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Pitchaipandi Pandi
Research Scholar (Full-Time),
Department of Library and Information Science,
Alagappa University, Karaikudi, India.
pitchaipandi861991@gmail.com
ORCID 000-0002-5117-8269

Baskaran Chinnasamy
University Librarian and Research Supervisor,
Alagappa University, Karaikudi, India
baskaranc@alagappauniversity.ac.in
ORCID 000-0002-2990-958x

Appendix

Table 3. Person product moment of correlation coefficients among the Academic Social Networks

Academic Social Networks		Neetz.com	Social engine.net	Network.nature.com	Academy.com	Google Scholar	Research ID	Research gate	Nig.com	Xing.com	Myspace.com	Vital networks	University name	Gender	Research area
Neetz.com	Pearson Correlation	1													
	Sig. (2-tailed)														
Social engine.net	Pearson Correlation	.607**	1												
	Sig. (2-tailed)	.000													
Network.nature.com	Pearson Correlation	.643**	.560**	1											
	Sig. (2-tailed)	.000	.000												
Academy.com	Pearson Correlation	.399**	.362**	.371**	1										
	Sig. (2-tailed)	.000	.000	.000											
Google Scholar	Pearson Correlation	-.017	-.029	.027	.069	1									
	Sig. (2-tailed)	.667	.462	.495	.088										
Research ID	Pearson Correlation	.106**	.106**	.130**	.133**	.497**	1								
	Sig. (2-tailed)	.008	.008	.001	.001	.000									
Research gate	Pearson Correlation	.024	.034	.051	.115**	.461**	.455**	1							
	Sig. (2-tailed)	.553	.397	.205	.004	.000	.000								
Nig.com	Pearson Correlation	.469**	.375**	.426**	.377**	-.055	.088*	.025	1						
	Sig. (2-tailed)	.000	.000	.000	.000	.167	.027	.530							
Xing.com	Pearson Correlation	.481**	.372**	.378**	.391**	-.055	.077	.014	.713**	1					
	Sig. (2-tailed)	.000	.000	.000	.000	.167	.055	.724	.000						
Myspace.com	Pearson Correlation	.480**	.374**	.355**	.386**	.011	.122**	.097*	.582**	.643**	1				
	Sig. (2-tailed)	.000	.000	.000	.000	.782	.002	.016	.000	.000					
Vital networks	Pearson Correlation	.506**	.383**	.410**	.430**	-.023	.152**	.076	.654**	.653**	.692**	1			
	Sig. (2-tailed)	.000	.000	.000	.000	.574	.000	.059	.000	.000	.000				
University name	Pearson Correlation	.022	.016	-.029	.026	-.016	-.099*	-.039	.045	.060	.034	.026	1		
	Sig. (2-tailed)	.592	.697	.477	.518	.686	.013	.328	.263	.134	.399	.524			
Gender	Pearson Correlation	-.018	-.047	-.012	-.013	.077	.028	.013	-.023	-.055	-.011	-.069	.066	1	
	Sig. (2-tailed)	.659	.241	.774	.738	.056	.489	.749	.561	.169	.782	.084	.099		
Research area	Pearson Correlation	-.181**	-.155**	-.141**	-.105**	-.010	.003	.044	-.139**	-.088*	-.115**	-.114**	.044	.021	1
	Sig. (2-tailed)	.000	.000	.000	.009	.807	.933	.268	.001	.028	.004	.004	.278	.598	
**. Correlation is significant at the 0.01 level (2-tailed).															
*. Correlation is significant at the 0.05 level (2-tailed).															