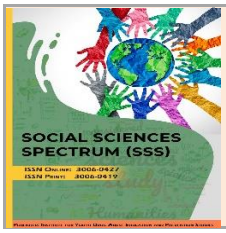

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Exploring Generative AI in Social Sciences: A Case Study of Selected Universities in Karachi, Pakistan

Dr. Erum Muzaffar [1]
In-charge, Pakistan Study Centre, University of Karachi, Pakistan
Correspondence: erummuzaffarali@uok.edu.pk

Marium Fatima [2]
M.Phil Scholar, Department of International Relations, University of Karachi, Pakistan
Email: mariumfatima248@gmail.com

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Abstract

Generative artificial intelligence (GenAI) has gained popularity in the social sciences across the world. Its advanced models to generate high-quality content, texts, images, and videos on a single prompt for the user has full potential to revolutionize the traditional methods in the social sciences. The application of AI tools in the social sciences has drastically altered traditional research and writing techniques. The development of ChatGPT, conversational chatbots, and Deep Neural Networks (DNN)-based techniques have made exploring data sets, writing summaries and literature reviews, analyzing data, and performing other tasks relatively simple. The advantages and prospective benefits of GenAI in education are acknowledged by researchers, but some grave concerns are also brought up, including data bias, costs, deep fakes, transparency, ethical and intellectual property rights, etc. In Pakistan, social scientists have diverse opinions regarding the use of GenAI in higher education. The study aims to investigate the use of GenAI tools in higher education. The research is exploratory. Both qualitative and quantitative methods are employed in this study. A survey of chosen academics from public and private universities in Karachi is conducted to get primary data. The results of the study may be helpful in the integration of GenAI in education.

Keywords: GenAI, Higher Education, Karachi, Social Sciences, Development.

Introduction

The Global adoption of machine-based knowledge integration is becoming extensive with the Artificial Intelligence (AI) adoption rate increasing in fields like behavioral sciences and humanities other than traditional engineering and mathematics subjects. Its usage has become inevitable as it continues to transform many facets of visual perception, language translation, speech recognition, and strategic analysis for decision-making (Kim, 2023).

The operational capabilities of the Chat Generative Pre-Trained Transformer (ChatGPT), which was introduced in November 2022, raised questions. However, within two months of its launch, ChatGPT reached 100 million users rapidly than TikTok and Instagram. (Hu, 2023, Nyst, 2024).

The AI now plays a critical role in the field of social sciences. It has recast knowledge production and validation through enhanced data analysis and identifying patterns by connecting dots which humans have been doing for such a long time. It now balances the automated analysis with human interpretation and calls into question the accepted epistemologies. The conventional methods in social science research are dependent on observations, questionnaires, surveys, interviews, etc., and for obtaining the data from individuals and groups. The incorporation of AI has significantly altered the way researchers used to carry out data collection as mentioned by Igor Grossmann:

> *"Presenting a vast array of human experiences and perspectives the AI is possibly given a higher degree of freedom to generate diverse responses than conventional human participant methods could fetch previously, which also assist in reducing generalizability concerns for research that is carried out."* (Waterloo News, 2023)

The introduction of AI in education offers a newly emerging set of opportunities, potentials, and constraints for educational practices. Exemplary innovations include intelligent tutoring systems, teaching robots, learning analytics dashboards, adaptive learning systems, human computer interfaces, and related platforms. The use of GenAI in education offers new possibilities for personalized learning and advancement but also challenges the role of educators within a complex instructional environment. Its use involves an incorporation of educational, social, cultural, and economic factors at every stage of its implementation. (Ouyang & Jiao, 2021)

The AI has potential for powered simulations allowing students to explore predictive models and interactive scenarios emulating real social dynamics. It helps to analyzes massive datasets, thereby allowing students to conduct empirical research and develop practical data competencies. Adopting AI into social science learning makes it more dynamic, inclusive, and interactive. In academia there is a debate about the use of GenAI in the social sciences that AI can be biased and requires ethical review. With the continuous evolution it is likely that AI may even revolutionize the architect of social science education by providing data-driven, individualized, and interactive learning experiences, making academic material and literature more accessible in the years coming ahead.

Research Objectives

This study seeks to examine how multiple universities in Karachi are adopting GenAI in research and teaching. The findings delve into the ethical and scholarly implications of their uses of GenAI, motivations, and what they predict the outcomes will be. The focus of this research is on teaching methodology, the need for training about AI, and the quality and integrity of resultant work by students are also examined. It looks further into the validity of research, possible biases within GenAI tools, and expectations for AI to introduce a paradigmatic shift in the academic world.

Research Questions

1. How do social science researchers and educators at several universities in Karachi conceptualize and integrate Generative Artificial Intelligence (GenAI) into their pedagogical practices?
2. What are the ethical considerations involved in using generative AI for social science research in higher education?
3. How do social science academics evaluate the fundamental limitations and challenges posed by the technology?
4. Why would educators have concerns about the integrity and quality of student work produced with the help of generative AI?
5. What do scholars think about the future role that generative AI will play in higher education?

Rationale of the Study

The research attempts to fill few gaps in the existing literature related to the adoption of GenAI in Pakistan's educational landscape. Previous studies related to AI have focused on its applications within particular fields and the impact it has on students' performance. These studies have been based mainly on students' insights and overall trends within educational reform. The narrow focus has left the experiences and challenges that educators face largely unexplored. This research attempts to fill gap by highlighting how AI is being adopted and what it means for its integration into academic settings. The emergence of recent trends in the application of AI within public and private universities in Karachi's social science faculties remains under explored. By investigating these neglected domains, the paper contributes to a more holistic understanding of AI's role in higher education and highlights the importance of evaluating not only technological uses but ethical concerns, and moral dilemmas persist with usage of AI. The study calls for further research to be conducted to assist educators in navigating the shifting digital terrain and to ensure that breakthrough in AI serve all stakeholders in an effective and fair manner.

Literature Review

I. GenAI for Social Sciences

In social sciences, the adoption of GenAI brings multiple opportunities with substantial challenges. According to Moundridou et al. (2024), GenAI has transformative potential across pedagogy of social sciences that involves systematic changes in overall teaching experience integrated through GenAI into instructional and innovative data driven approaches. Their research particularly focuses on the use of GenAI in Inquiry Based Learning (IBL) within the realm of social sciences. It links GenAI technologies with the process of instructional design, assessment, and content development to IBL phases in a conceptual, systematic way. GenAI supports educators in structuring lessons better and thus creating more cost-effective and flexible learning experiences. Although IBL intrinsically builds critical thinking and problem-solving capability, the process is resource intensive. GenAI lessens the load by improving pedagogical effectiveness, making personalized learning possible by reducing the burden of reproducing learning materials and handouts.

In the coming years large language models will revolutionize social science research by virtual human responses and behavior. The massive language models (LLMs), in particular, have the potential to transform social science research by simulating human responses and behaviors, according to Grossmann et al. (2023). These models can give a more realistic depiction of human

experiences by rapidly and thoroughly testing theories. But to guarantee justice, data quality, and fair access, they stress the necessity of controlling socio-cultural biases in LLMs and promote the development of governance frameworks that support free and open-source GenAI systems.

The potential of GenAI in enhancing social science research through online surveys, research experiments, content analysis, and agent-based modelling is also discussed by Bail (2024). The investigation highlights ethical consideration, the biases related to the data on which GenAI was trained, and a risk of getting worse research results despite all the promises of GenAI to automate complex investigations and imitate human behavior. The author also urges the creation of an open-source GenAI infrastructure for social sciences because that would diminish some biases, allow better reproducible results, and advance the ethical use of GenAI. The study stresses that since GenAI is evolving rapidly, scholars will not stop researching its consequences for understanding human behavior.

In addition, Cassell study deals with the concerns related with technological progress in society exploring how GenAI may protect and improve human sociality, drawing parallels with previous societal worries with invention of radio and television. The study began with a focus on language and behavior expanding to include the function of GenAI in enhancing interactions between individuals, work, play, and learning. Cassell rejects the concept that GenAI must be independent, instead advocating for systems that promote common human interests. Cassell's multidisciplinary perspective addressing the worries associated with technological progress implies that GenAI may help us understand societal dynamics for building a better society in future. (Cassell, 2019).

Breuer (2023) explores the growing role of GenAI in Social sciences research serving as both a subject of study and a methodological tool that is altering the practice of research. The GenAI technologies interact with all phases of social sciences research, from conceptualization to dissemination. While focusing on quantitative methods, the study covers symbolic and sub-symbolic GenAI and points out that sub-symbolic approaches now dominate in the form of machine learning and deep learning. The work also documents how GenAI is rapidly developing, especially in the context of large language models such as ChatGPT. The author warns that these tools and procedures are likely to change substantially in the short-run.

The intersection between GenAI, collective intelligence, and indigenous protocols for their potential to reshape the social science is explained by Hall (2024). Guided by dialectical storytelling, the study examines how technology created under capitalist influences shapes and is a product of human interactions in higher education. The study shows that GenAI is not just about reconsidering time-consuming tasks but is an agent of change in how knowledge is generated, social structures are organized, and cultural narratives are told. The Annual AI Index Report places socio-political complexity at the forefront of GenAI, weighing ethical considerations against the potential development of professional competencies.

Davies’s (2025) figurative investigation into GenAI differential acceptability in society represents the growing international concern on integrating GenAI into human networks. The research concludes by suggesting the re-imagination of GenAI’s function within social science communities as a tool that promotes an inclusive and transformative knowledge framework. It stresses that GenAI’s position in the social science should be revisited as a way to create knowledge systems that are more inclusive and relational, which will lead to new ways of knowledge.

Espartinez (2024) explores the perceptions and experiences of students and instructors from higher education institutions in Philippines. Using Q-methodology, the study classifies perceptions related to ChatGPT's convenience, pedagogical value, and ethical concerns. The results show that there is a substantial knowledge gap around the culturally appropriate integration of ChatGPT into pedagogy. The study contributes to the larger discussion of GenAI in the Social sciences by highlighting the need for critical debate about GenAI use and its impact on scholarly work. It is highlighted that bias and academic integrity are just two of the many ethical issues that must be resolved if ChatGPT and other GenAI tools are to enhance learning without lessening the quality of research. The study provides critical input for the effective integration of GenAI in Social sciences teaching.

Anthony, (2025) investigates a Chinese GenAI platform known as DeepSeek which has become a major force in AI driven research, especially in domains that need speech analysis and data interpretation. DeepSeek open-source large language model (LLM), which has a sizable user base of young academics and scholars, has established itself as a major rival to OpenAI ChatGPT. It poses significant implications for GenAI applications in research with the platform offering cost-effective AI model creation, which is demonstrated by the V3 model completion in 55 days for $5.58 million. Although its main use is now outside the domain of social sciences, its potential for future incorporation into social scientific frameworks stems from its talents in natural language processing and qualitative data analysis. Even though DeepSeek is under ethical and legal examination, its quick development has affected the conversation around GenAI worldwide, outperforming ChatGPT.

It is pertinent to mention that researchers and social scientists from the technologically advanced countries are integrating GenAI into their work more than those from less techno-advance countries. Yuan & Zhu's (2023) study reveals that the US and China are the two leading countries to use AI in social sciences. AI algorithms for predictions, optimization, decision support, risk assessment, ethics, sentiment recognition, AI ethics, etc. are the key themes used in social science research. The study focuses on the AI's role in understanding social phenomena and directing social science research in the future.

II. GenAI in Higher Education

The proliferation of GenAI tools in higher education is both swift and unstoppable. Instructors and students alike are drawn to the potential for expending minimal effort. Tyton Partners (2023) examines the adoption of GenAI technologies in higher education systems, including ChatGPT and Google Bard. The study reports that 49% of students and 22% of instructors used these technologies as of September 2023. Students indicate optimism about GenAI's potential to improve learning outcomes, with half believing it will improve their education, while instructors are more cautious. Only 39% of educators report such optimism, which is down from 50% in the previous year. Student-instructor tensions focus on speed vs. academic quality and writing process. However, increasingly, educators also recognize the potential for GenAI to improve student learning and better prepare the workforce.

Acosta-Enríquez et al. (2024) explore the adoption of GenAI in Higher Education and focus on Peruvian University students. In the survey of 201 participants, it is evident that ethical perceptions of ChatGPT and student's concerns about using the tool significantly affect its adoption. These factors meaningfully influence whether or not people decide to adopt the technology. The students have shown knowledge and a very positive attitude, but effective usage remains undetermined. This requires the establishment of guidelines to accord with ethical issues such as academic

integrity and disinformation. Higher Education institutions need to design training programs in a way that will promote ethics in GenAI use while addressing digital gaps. Across the world, attitudes vary from integrity issues in the United States to technical access concerns in India, with many other aspects calling for balanced GenAI use in academia.

Waltzer et al. (2024) examined the increasing participation of GenAI in education and its implications for academic integrity. Their study tested 140 college instructors and 145 students using GenAI Identification Test and established that instructors could correctly identify AI-generated writing only 70% of the time. The ChatGPT performed comparably to human participants with greater confidence. Results indicated complexity in maintaining academic integrity since AI-generated work raises ethical questions about student engagement and assessment. Past research has shown that ChatGPT can produce high-quality academic writing, hence complicating its position in higher education institutions.

In higher education, AI chatbots have become a significant element in digital learning. Jo's (2024) study investigates the students' use of ChatGPT on self-learning abilities and its impacts on knowledge gaining. The correlation between chatbot personalisation and advantages which affects students' intentions is examined in the study. Furthermore, the study identified privacy concerns, technophobia, and feelings of guilt as significant barriers to the adoption of AI. (Jo, 2024)

The use of GenAI especially ChatGPT in self-directed learning (SDL) in academic writing was examined by Wang et al., (2024) the study uncovers how students utilize AI tools to improve their writing processes. The study uses 384 survey answers and 10 semi-structured interviews that determine that the most popular uses of AI tools are for idea development and brainstorming. Moreover, people use ChatGPT for a variety of reasons as well such as fulfilling academic requirements or being curious about new technology. In contrast to the interviewees, who reported critically reflecting on and verifying AI-generated information the survey findings showed minimal levels of self-monitoring despite participant's high sense of responsibility for their learning. While some students' writing improved as a result of AI's capacity, others had trouble determining how AI might affect their learning shortly due to social pressure and the ability to give immediate feedback. By providing empirical insights regarding AI's impact on SDL, particularly in writing-intensive areas this study closes a gap in the body of current work. Self-management, self-monitoring, and motivation are all components of SDL a learner-driven process. Self-monitoring entails controlling one's learning process, and self-management entails the strategic arrangement of time, resources, learning environment, and motivation separated into entering and task. Numerous technology-enhanced learning scenarios such as mobile applications, Massive Open Online Courses (MOOCs), and immersive environments have made use of Garrison's SDL framework. Despite the increasing use of GenAI in education, there is a dearth of empirical studies on SDL in AI assisted writing. While supporting SDL by enabling self-directed learning there are worries that it might also promote cognitive shortcuts that impede deep learning.

Moreover, Al-Zahrani et al. (2024) investigate the place of GenAI in Higher Education system in KSA, focusing on what the stakeholders think, feel, and expect. They see an overall optimistic perception of the potential for GenAI to enhance learning, reduce administrative burden, and unleash human creativity. It cautioned against the associated ethical issues such as privacy, security, and bias, among others. The report recommends GenAI literacy for all stakeholders in order to maximize benefits while minimizing risks associated with its usage. They look into GenAI applications for personalized learning, smart tutoring, and automated assessment and note a gap in knowledge about stakeholder views and possible GenAI applications. Overall, this work adds to

the conversation pertaining to the ethical, social, and educational implications of GenAI with guidelines for responsible integration in the Higher Education.

Existing literature suggests that the current research is univocal, as previous studies have not adequately captured the emerging trend in selected Karachi universities from both the public and private sectors within the realm of social sciences. For example, Ali et al., (2024) discuss the applications and usage of GenAI among Library and Information Science professionals in Pakistan. Furthermore, Dahri et al., (2024) examined GenAI-based academic support acceptance and its impact on student performance in Higher Education institutions in Malaysia and Pakistan by surveying students rather than teachers. The discussion on GenAI integration within Pakistan, done by Khokhar (2025) investigates how GenAI influences educational setup, learning environment, and innovative learning practices in the recent years. Nonetheless, such analysis generally lacks specificity or contributions from education academics that could assist in improving the knowledge base related to GenAI usage.

Research Methodology

A mixed methods research design was followed, combining a comprehensive literature review with survey data collected through both in-person and online questionnaires from selected public and private universities in Karachi. The literature review is systematically analyzed recent works, including scholarly articles, white papers, and policy reports, to explain the emerging context of generative AI applications within the social sciences and humanities. It established a contextual foundation by looking into issues such as the use of AI in institutions of higher learning, ethical considerations involved, and the general implications of this reality on academic practices. At the same time, two survey tools were designed and administered. In-person surveys were targeted at a diverse department of academic professionals, including research officers and faculty members from various social science departments, for qualitative insights into the practical benefits and challenges experienced in integrating generative AI into pedagogy and research. Thematic analysis is employed to analyze major concerns around digital infrastructure, ethical dilemmas, and academic integrity, and allowed the detection of recurrence of patterns to cross-validate findings with the literature review and hence establish them as empirically sound and theoretically valid.

Results

Figure 1: *Use of GenAI in Social Sciences*

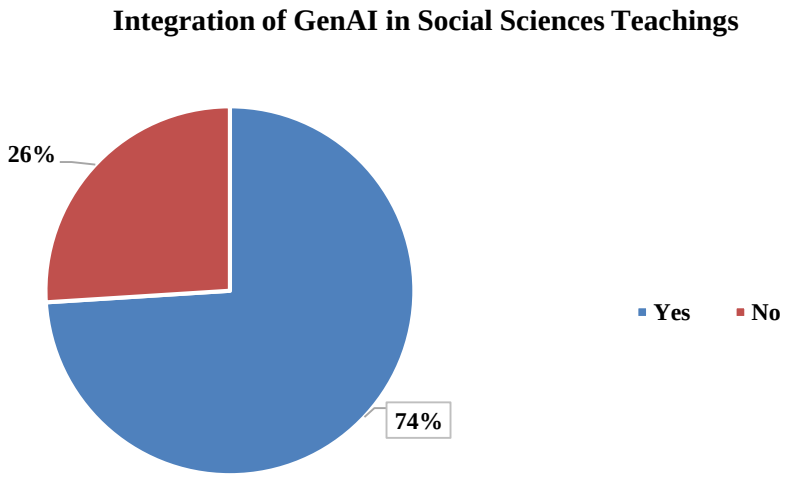


Figure 2: *Timeline of GenAI Adoption in Teaching & Research*

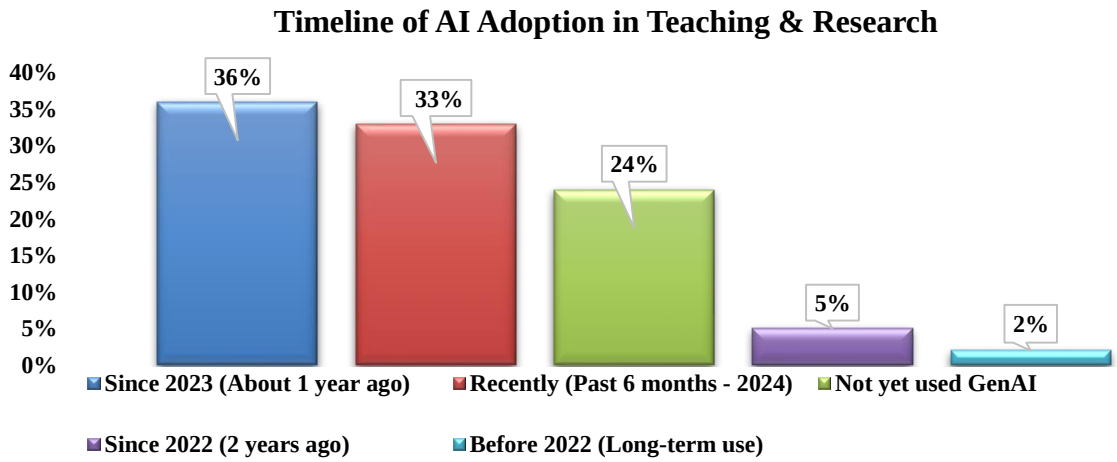


Figure 3: *Availability of Internet Connection*

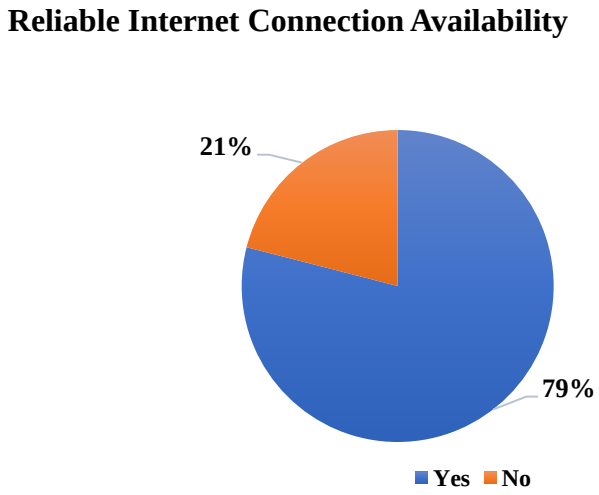


Figure 4: *Frequency of GenAI Applications*

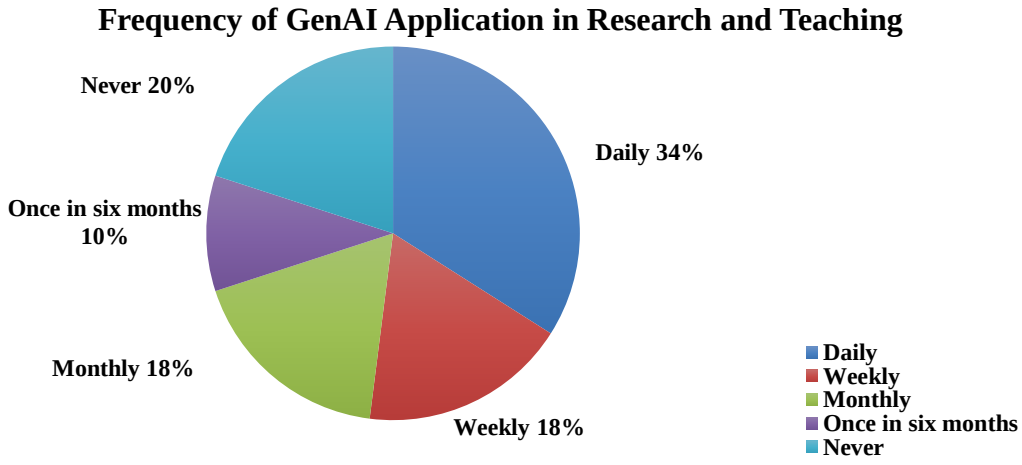


Figure 5: *Frequently Employed GenAI Sources*

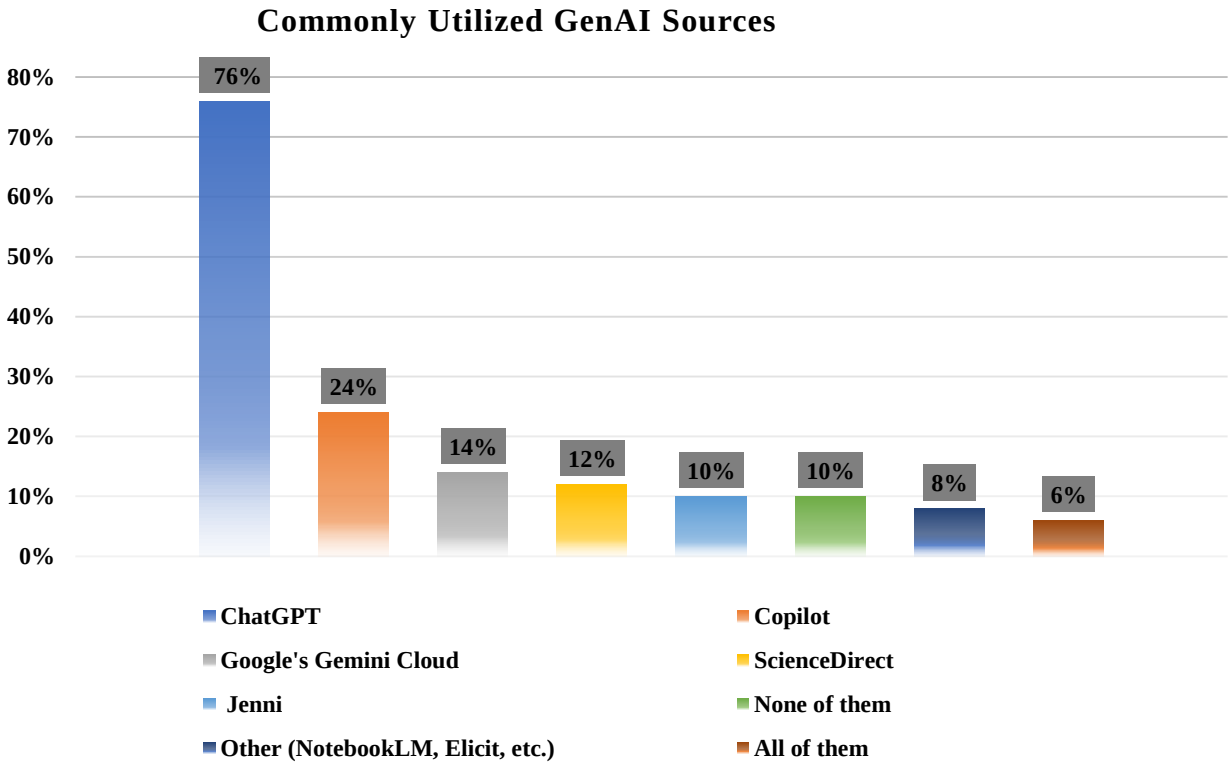


Figure 6: *Objective for Using GenAI*

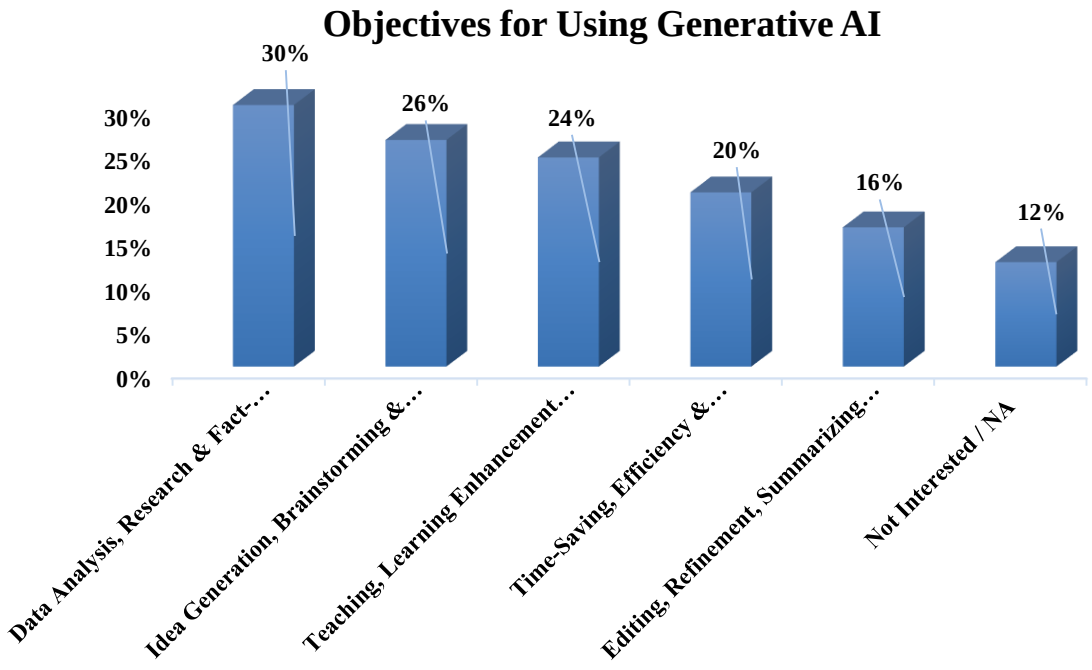


Figure 7: *GenAI Training for Educators*

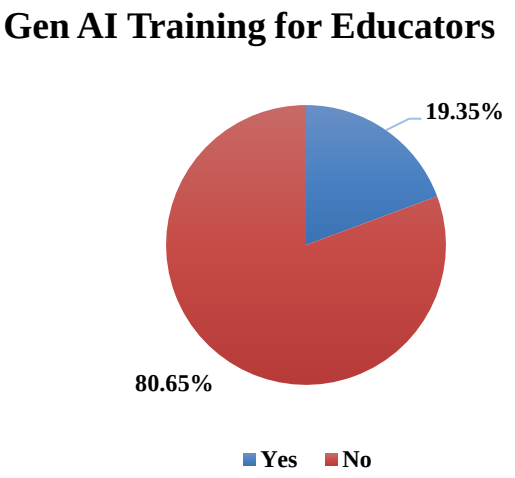


Figure 8: *Overall Satisfaction with Student Submissions*

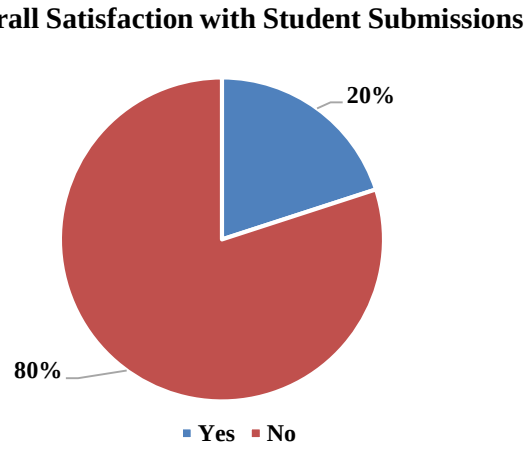


Figure 9: *Awareness of Bias in AI-Driven Academic Data*

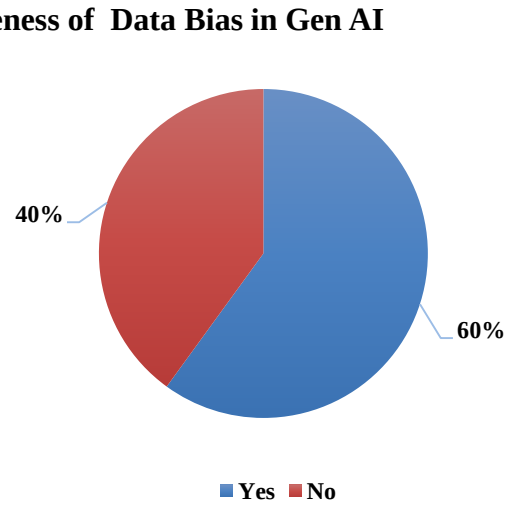
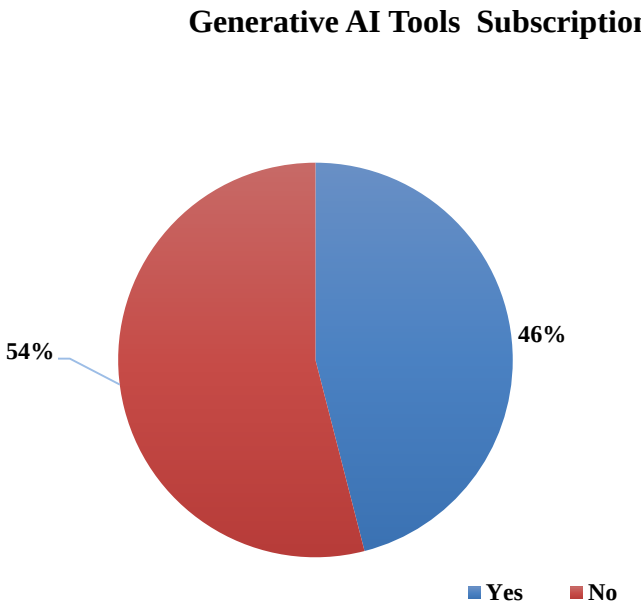


Figure 10: *Subscription to GenAI Tools*



Discussion

This paper studies the usage and adoption of Generative Artificial Intelligence by academics from both public and private universities in Karachi. Samples are selected from various disciplines of social sciences and humanities for instance, international relations, Pakistan studies, media studies, education, sociology, regional studies, gender studies, economics etc. The analysis carried out employs a balanced framework for comparing institutional perspectives. Mixed affiliations are also included to attain exhaustive information. The key findings are graphically shown in a pie chart representing the binary responses, and a graph showing the tools that are used. The major findings of the study are discussed following:

A: Adoption of GenAI in Teaching and Research:

The arrival of GenAI into the social universe has reconstituted conceptions of information and knowledge in contemporary times. Artificial intelligence has dramatically affected the pedagogies and processes of education in the world today. Higher education institutions worldwide are incorporating AI technologies into pedagogies, administrative processes, and individual learning processes. Currently, Pakistan reflects a diverse perspective on integrating GenAI into academic life. In this study, 74% of the respondents reported integrating Generative AI into teaching-learning processes, while 26% had no experience in integrating GenAI either into learning or research and the majority in this category were senior academics. Their resistance to adopting the technology is a result of the inability to adapt to new developments and quality concerns. They fear that students' abilities for critical thinking, creativity, and cognitive acumen will be compromised if they rely on AI. The results also reveal that among those who do not integrate GenAI into professional work are respondents teaching and operating in languages other than English.

A timeline of adoption for GenAI shows increases in the use of AI to conduct research, which suggests a transformation in research methods in recent years. The 74% of the responding scholars

have adopted Generative AI for their research primarily during 2023 and 2024, while smaller numbers began to use it in 2022 or earlier. In this regard, 26% have not used AI yet, including those who are still hesitant.

The frequency with which academics use the GenAI tasks and activities produces some striking trends: 34% use it daily, 18%, weekly and monthly. A few respondents, 10%, uses GenAI once in six months or more, and 20% have never used it.

The results indicate that most of the respondents use AI for the improvement of data and content analysis, brainstorming, idea generation, editing and paraphrasing, refinement, summarizing, while a few believe that traditional ways of conducting research enhance intellectual curiosity and analytical power.

The respondents combine AI tools like ChatGPT, Gemini, and other sources with conventional research methods. The use of ChatGPT comes out on top with a significant margin at 76%, compared to Copilot at 24% and Google's Gemini Cloud at 14%, indicating its predominant preference. While ScienceDirect 12 %, Jenni 10%, and other AI Tools 8 % see lower adoption, a few, mainly senior faculty, still prefer conventional approaches due to technological unfamiliarity or skepticism. Additionally, 10% of respondents do not use any of these AI sources, and 6% rely on all available options.

Keeping in view the adoption of AI in higher education, Qing et al. (2024) presented a framework, Chat GPT Literacy, to address the research gap. As different subjects and their users require different strategies to implement AI in their pedagogy, this framework will guide the proficient and ethical use of ChatGPT as a teaching tool. A survey involving 492 language teachers in 41 countries validated the six-construct design. The findings highlighted the opportunities and challenges related to GenAI. The integration of ChatGPT in teaching can enhance teachers' efficiency and students' learning outcomes, but the challenges related to accuracy, biases, relevance, copyright and ethical concerns with teachers' preparedness must be addressed to fully enjoy the benefits of ChatGPT.

B: Navigating Faculty Concerns on GenAI

Faculty concerns regarding generative AI in academia relate to several essential areas. It is a general consensus among faculty that total dependency on AI tools would compromise the thinking capabilities of the students. Furthermore, the majority express concerns that AI encourages plagiarism and weakens critical thinking, while a few struggle to assess AI generated work due to their limited AI exposure.

The result indicate that 80% respondents are dissatisfied with the quality of work submitted by students. The predominant grievance is the prevalence of the copy-paste phenomenon. A faculty responded *'It poses a threat to the creativity of the younger generation.'* Another opines, *'They [students] merely copy and paste without adequate context.'* A respondent disapproval *'In most of the cases, they can't even explain and justify their submitted work.'* Another concern, *'High rate of plagiarism and lack of critical thinking.'*

The analysis of survey data revealed a disparity in awareness regarding GenAI biases among academics in Karachi. 60% respondents are aware enough to recognized the data bias. They strongly emphasized the need for verification as it's quite easy to fall into the trap of machine generated information. The respondents who failed to identify such biases are 40 %. Their inability to recognized data biases is mainly because of unfamiliarity with the concept and usage of GenAI. Ethical considerations identified by respondents include plagiarism, data security, and

transparency. Some of the respondents prefer not to use AI in their research for fear of breaching academic integrity.

To address ethical issues professionally, Klarian et al. (2024) presented a framework for developers and organizations working with AI. The proposed framework focuses on values like trust, justice and transparency. The existing literature lacks comprehensive solutions for AI usage, especially in professional conduct. They strongly emphasized the concept of ethics and accountability in the AI development process. They also proposed a systematic thinking methodology to assess the multidisciplinary aspects of AI ethics especially in the sensitive domains of health care and military operations.

C: Challenges and Future of GenAI

The challenges allude to adoption of GenAI in higher education in Karachi, Pakistan, spanning across various domains. The majority of the respondent's highlight misinformation, AI dependency, and unreliable infrastructure as key challenges, reinforcing the reluctance of a few traditionalists who prefer manual academic methods. A respondents said *'At times information is not relevant and misleading. Lack of authentic responses and data bias*. Another disclosed *'I have to verify the information from independent sources. That increases the work load.'* A cautious respondent replies, '*Prompt need to be exact otherwise may result in unnecessary or incorrect answer.'*

Additionally, 21 % of respondents do not have a reliable internet connection at their university. This indicates that while digital accessibility is widely available, concerns over infrastructure and technological reliance hinders complete adoption. The 80% of respondents, indicate that they received no prior training regarding the use of artificial intelligence in teaching and research. Only 20% agreed that they have adequate understanding and prior training for smooth integration of GenAI into their teaching and research related tasks. The survey analysis suggested that many lack formal AI training, mostly relying on self-learning, and with a few, senior faculty, need more focused and structured training to bridge the digital divide. One of the responders shared: *'I feel like it's not very practical for everyday use as it doesn't pick up the idea fast, which we teachers usually want.'* Another one mentioned that, *'I think it's so early to gauge the limitations but I believe it certainly kills the creativity and human touch. Lack of real-time knowledge and bias in data is another hurdle. Lack of connectivity with your work and misinformation is another.'*

The future of GenAI in higher education is set to transform pedagogy. It offers personalized learning experience and enhanced research capabilities. One of the merits of the adoption of AI is time-saving while performing different tasks such as analysis of large data sets, structured literature reviews, content creation, summarizing reports, etc., much faster than humans. However, it is necessary to address issues such as ethical concerns, academic integrity, biases need to be dealt cautiously to get the maximum benefits of GenAI. A respondent share that, '*It is a technology and should be expected to serve humans. Yet it's something which is still under development. For instance, I use it for analytical purposes where it sometimes gives many false positive outcomes and you have to validate your findings. This is however an issue with almost all computational techniques. Also, it still is not a very good tool to conduct literature review as it often misses some very relevant and important studies on the subject.'* Another one expressed that, '*I believe that AI can exhibit bias and raise ethical issues, and at times it produces false or misleading information.'* One Respondent also emphasized that, '*It is important to think independently rather than relying solely on AI'* The majority of respondents, 54 %, expressed hesitance in subscribing GenAI tools. It appears that they are more comfortable with the traditional academic sources or reluctant to

change the established methods. Conversely, 46% of the respondents indicated their willingness to subscribe to GenAI sources. The results suggest that educators have recognized the potential benefits of GenAI's ability to assist and enrich their academic work.

Similarly, a study conducted by Gruenhagen et al. (2024) raised the concerns regarding the use of GenAI in the higher education institutions. Their research is based on a survey conducted in 337 universities in Australia. The results of their study indicated that more than one-third of students used AI in their academic work, and they do not see it as a violation of academic integrity. The researchers are quite aware of this alarming situation and therefore recommend that higher education institutions establish clear policies for the ethical use of generative AI in education and assessments while also re-evaluating assessment design.

Conclusion

The integration of generative AI in social science departments at public and private universities in Karachi is examined in the study. Early career researchers are more enthusiastic for using advanced AI tools such as ChatGPT, Jenni, Science Direct, Copilot, and Google's Gemini Cloud. Their motive is to enhance idea generation, content creation, and administrative efficiency. It is pertinent to mention that senior academics have shown grave concerns regarding the potential impact of AI on critical thinking, academic rigor, and overall intellectual creativity. They are apprehensive about unrestricted AI usage, primarily due to ethical and methodological concerns. The integration of GenAI in social science teaching is increasing rapidly. The use of GenAI enhances analytical capabilities and saves time. However, many concerns are still preventing academia from integrating GenAI into their teaching and research. The most significant concern is data bias, which, if unchecked, can influence the study result and propagate misinformation.

There is a comprehensive strategy required to address the challenges of AI in pedagogy. AI is a transformative force, and it is likely to change the outlook of pedagogy in coming years. It is necessary that academia should be equipped with advanced tools and techniques to work in alignment with AI.

For the education sector, it is recommended that AI systems should not completely take over from manual teaching. Teaching isn't just about giving facts; it's also about building relationships, being a mentor, and giving emotional support that only human can give. The combination of AI’s ability to work quickly with human mentorship could be the best way to teach the next generation. A clear legal framework for AI use is essential to control the deepfake, misinformation, and unethical usage of public and private data. Regulation of AI-generated content is also recommended. Furthermore, institutions need to design accountability measures using AI systems to prevent any harm to the individual or society as a whole.

Conflict of Interest

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