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ChatGPT vs. Google Search Engine: Usage and Popularity Among Bangladeshi University Students

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Abstract

The cultivation of new educational technologies, particularly artificial intelligence (AI), has transformed the world of education. AI-based systems like ChatGPT are quickly emerging as the go-to platform for students. This study intends to analyze and evaluate the use and reliability of ChatGPT and Google search engine as resources for learning among public and private university students in Bangladesh. The study used Google Forms questionnaires with 31 respondents, mostly students, and secondary data to examine students' usage patterns, reasons for preference, and self-reported perceptions of authenticity and effectiveness. Results indicate that while ChatGPT improves users' learning experiences by providing immediate, explanatory, and enriched responses, Google is still the most preferred search engine for academic research. An overwhelming number of students tend to switch from one platform to another based on their needs. While ChatGPT improves user efficiency and allows for advanced personalized learning, it fails to provide the references necessary for credibility, resulting in concerns about the authenticity of the information presented. The primary findings of this study suggest that ChatGPT is a novel learning tool but cannot be relied on exclusively to replace Google; instead, it will serve as an additional resource. These findings elaborate on the understanding of the impact of artificial intelligence on education and the evolution of digital educational resources.

Keywords: ChatGPT, Google, university, Bangladesh, education

INTRODUCTION

The expansion of AI-powered bots made a redefining enhancement in global education [1–18]. E-learning paved the path for novel methodology in education due to the advancement of technology [19, 20]. Chatbot like ChatGPT swiftly gained a user base of 100 million from the day it was launched [21, 22]. In Bangladesh, digital education is blooming, and AI-powered instruments are extensively supporting students in higher studies [23–25]. Upon searching a subject over the internet, a search engine that goes beyond 80% of the global share is none but the search engine, "Google" [26]. The Google search engine is generally considered a handy tool for harvesting data [27]. That is why people generally prefer Google [28] and it is the most popular of all [29]. The ability of ChatGPT to produce an identical response to that of humans is a novel contribution [30–32].

This study intends to address the research gap using a comparison between the usage and popularity of ChatGPT and the Google search engine in the context of Bangladeshi University students. To be precise, the study wishes to discover the frequency range of use, reasons, and impressions of the consistency of ChatGPT and the Google search engine among the University students of Bangladesh in their education. It further

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explores the students' choices for schoolwork, the level of knowledge verification, and their experience with their schoolwork. It ultimately tries to find whether ChatGPT has the potential to overcome the popularity of the Google search engine in education.

LITERATURE REVIEW

ChatGPT triggered a dispute to replace traditional search engines [33]. A study has discovered that ChatGPT users spend less time in comparison with Google search engine users, where there is little to no difference in the data [33]. Moreover, the AI excels in linear questions and answers but fails in the examination of fact-checking; nevertheless, the users advocate that the product of AI is more prosperous than the counter [33]. Furthermore, the user experience is much richer than Google's; however, AI produces inconsistent output [33]. Still, the users of ChatGPT show a more structured approach and better learning assessment than the Google search engine users; this states that the experience of learning is convenient in the AI platform [34, 35]. There are also instances of scoring better grades by using ChatGPT over Google [36]. This AI is helpful, but in the case of mathematical problems, this medium has a long way to go, which results in the acceptance of Google as the primary source of learning [37]. Research shows that researchers tend to use AI on a daily basis [37]. Among university students, the usage of AI consists of the generation of concepts, summarization, paraphrasing, proofreading, and drafting of assignments [38–43]. Academic works, deadline pressure, time constraints, and cautiousness about grades are some of the factors that work as a catalyst behind the usage of ChatGPT [44]. The convenient chatting format for finding any answer and getting a well-decorated response to the question [45–48] promotes a smoother user experience [33, 35].

Google generally expresses multiple responses to every search query along with the sources, but on the other hand, ChatGPT responds to the query in prose form without any reference, which makes it very difficult to cross-check the data [49, 50]. Still, ChatGPT holds strong potential to be a productive tool in the field of research [51]. A point to be noted is that upon instructing the AI to produce the references, it has a tendency to produce fictitious references [52, 53]. As AI is not equipped with human-like attributes, its legitimacy as an author can be questioned, and it has a tendency to produce bias and plagiarized data [54]. Thus, Google has higher reliability [55].

ChatGPT holds a prominent potential to be a facilitator of a personalized and swift feedback-based learning medium [56]; however, the ethical issue of bias and inaccurate data remains a burning concern [47, 57]. Thus, it requires further optimization and scrutiny to adapt to the diverse context [58]. The question of whether ChatGPT can replace the Google search engine is burning. However, chat-based AI has already been integrated into Google, named Gemini [59].

Thus, it is easily comprehensible that Google is trying to incorporate AI in its search engine just to remain relevant and not lose the crown of being the most popular search engine. With the development of ChatGPT or GPT (Generative Pretrained Transformer)-based chatbots, the traditional mode of information harvesting is in jeopardy [60]. Prior to the invention of AI, search engines were the most dominant data harvesting medium for decades; however, the intervention of AI-powered chatbots has great potential to indicate a major alteration in the approach of web searches [61, 62]. ChatGPT has already altered the older version of searching, i.e., keyword-based searching, as it enables the user to search data through dialogue [63]. However, there are instances where there is no significant deviation between the outputs of both platforms [64]. Moreover, this AI tends to generate more accurate and wholesome responses to general or common questions [65].

Prevailing studies suggest that both platforms have overlapping merits. AI produces a more efficient, organized, and personalized experience, yet Google dominates as the preferred tool for academic research and reliability. The adaptation of AI in education preaches that both platforms might coexist side by side; however, the question still remains as to whether ChatGPT can overtake Google's search engine.

RESEARCH GAPS

There are very few studies that focus on the comparative analysis of ChatGPT and the Google search engine in the context of Bangladeshi University Students, which this study seeks to address. To be precise, this study delves into:

1. *The trends of Utilization and Interests:* Why do students prefer one platform over another?
2. *Credibility and Dependability:* Comparative analysis of the data of both platforms regarding the perception of reliability and strategies for verifying the data.
3. *Influence on Academic Learning:* Does ChatGPT uplift the learning performance of the student?
4. *Possibility of Replacing Google:* Can ChatGPT go beyond Google in education?

This study sheds light on AI's initiatives in education and its potential for competition or coexistence with the Google search engine.

METHODOLOGY

Google has a legacy of being the dominant medium for academic endeavors and information collection [33]. It is the most popular search engine out there [29] and ChatGPT is also the most popular AI-powered chatbot [66–69]. That is why these two platforms were selected as study material for the study.

After deciding on the platforms that are to be compared, a mixed method containing primary and secondary data sources was employed in the study. In this method, one approach can compensate for the other approach's weakness. The primary source of data has been a closed-ended questionnaire through "Google Forms" (online survey). In this modern era, data harvesting using "Google Forms" proves to be a revolutionary mode [70, 71]. A point to remember is that every mode of primary data collection has its own set of limitations [72]. Thus, accepting that every method has its own limitations, the researchers chose this convenient mode of data collection.

The online questionnaire was circulated to different public and private university students of Bangladesh to collect data from 31 students and teachers. Then, journal articles, web-based articles, and blogs were harvested to be used as secondary sources. In the realm of secondary data, the Internet exerts extensive influence on mixed-method approaches. A significant disclaimer is that the research delves into a reflective level, and the insights of the study are not conclusive. Still, the study intends to draw a reflective image in the context of Bangladeshi University students (Table 1).

Mostly male university students within the age group of 19 to 24 years had participated, along with other age groups. As a major portion of the same consists of male university students residing in Dhaka, the responses are of high value.

FREQUENCY OF USAGE OF CHATGPT AND GOOGLE SEARCH ENGINE IN ACADEMIA

The findings express that 50% of the sample (students) use ChatGPT regularly or sometimes; this is the finding of Sen and Mehta [73]. When the participants were asked how often they use ChatGPT, they gave the responses given in Table 2.

Table 1. Demographic information of the sample.

		Count	N %
Gender	Female	14	45.2%
	Male	17	54.8%
Age (years)	19–24	20	64.5%
	25–30	5	33.3%
Occupation	Teacher	1	3.2%
	Student	30	96.8%
Residence	Dhaka	15	100.0%

The majority (35.5%) of the sample indicated that they use ChatGPT a few times a month. The second most significant fraction, i.e., 32.3%, indicated that they use AI on a daily basis. Only 3.2% denied using ChatGPT. The essence of the former analysis coincides with the extractions of a study conducted in 2024 [74], as 87.8% of the sample uses this AI on a weekly basis. Identical findings were also discovered in another study conducted in 2023 [38].

Then, the following responses was extracted from the participants to get a comparative analysis of the usage of the Google search engine (Table 3).

Here, 48.4%, the majority of the students undisputedly addressed that they use Google for their academic purposes on a daily basis. This response is much higher than the frequency of usage of ChatGPT. Thus, in this comparison, Google takes the lead. Secondary materials also substantiate that even though AI is advancing, Google still remains the early primary source [37, 75].

USES OF CHATGPT AND GOOGLE SEARCH ENGINE IN ACADEMIA

In a study, it has been discovered that a major portion of the students (70.3%) opined that higher study institutions should accept the use of ChatGPT, and 66.6% consider it to be fair for academic purposes [38]. In the context of Bangladesh, when the students are asked, "What compels you to use ChatGPT and Google in your educational programs?" They gave the following responses (Table 4):

71% use ChatGPT as it produces "Quick explanations and summaries". Identical findings are being discovered in the study by Sen and Mehta, as almost 64.3% consider it very and moderately useful, and 42.8% identified an enhanced work by virtue of this AI [73]. Thus, this finding coincides with the findings of some secondary sources, which claim that it is helpful in generating ideas and summarization [8, 74, 76] (Table 5).

Table 2. What is the frequency of using ChatGPT for your academic programs?

Response	Count	%
a] Daily	10	32.3
b] A few times a week	9	29.0
c] A few times a month	11	35.5
d] Rarely or never	1	3.2
Total	31	100

Table 3. What is the frequency of using Google for your academic programs?

Response	Count	%
a] Daily	15	48.4
b] A few times a week	8	25.8
c] A few times a month	8	25.8
Total	31	100

Table 4. What compels you to use ChatGPT in your educational programs?

Response	Count	%
a] Quick explanations and summaries	22	71.0
b] Assistance with assignments and research	4	12.9
c] Generating ideas and brainstorming	4	12.9
N.B. Did Not Answer	1	3.2
Total	31	100

The Bangladeshi university students stated that mostly they (38.7%) use Google for "Looking for explanations from multiple sources", which coincides with the statement. The second highest response (32.3%) was on "Finding articles", and the least percentage used it for "Searching definitions and quick answers". Thus, Google wins in the search mechanism.

To identify the specific academic activity that the students use with tools, the following tables can help (Table 6).

A whopping 61.3% use ChatGPT to prepare notes, draft assignments, prepare presentations, and even write essays (Table 7). This output totally coincides with some other studies where similar output has been observed [8, 38–43] as it produces furnished outputs [45–48, 77].

For academic activities, as mentioned above, 64.5%, which is greater than the percentage of ChatGPT users, use Google. A study stated that Google is still the primary source of learning, and the novel finding of the above Table 7 is identical to their study [37, 78–81].

RATE OF AUTHENTICITY OF THE PRODUCED DATA BETWEEN CHATGPT AND GOOGLE SEARCH ENGINE

In order to extract the perception of reliability of produced data between ChatGPT and Google, the students responded as given in Table 8.

Table 5. What compels you to use Google in your educational programs?

Response	Count	%
a] Finding research papers and academic articles	10	32.3
b] Looking for explanations from multiple sources	12	38.7
c] Searching for definitions and quick answers	8	25.8
N.B. Did Not Answer	1	3.2
Total	31	100

Table 6. Which of the following programs do you use ChatGPT for?

Response	Count	%
a] Preparing Notes	3	9.7
a] Preparing Notes; c] Writing assignments; d] Preparing Presentation	3	9.7
b] Writing Essays	3	9.7
N.B. Did Not Answer	1	3.2
e] All of the Above	19	61.3
f] None of the Above	2	6.5
Total	31	100

Table 7. Which of the following programs do you use Google for?

Response	Count	%
a] Preparing Notes.	3	9.7
b] Writing Essays	2	6.5
c] Writing Assignments	4	12.9
e] All of the Above	20	64.5
f] None of the Above	1	3.2
N.B. Did Not Answer	1	3.2
Total	31	100

The majority (38.7%) believe that ChatGPT produces reliable output, with the second highest (32.3%) choosing equally, and only 25.8% consider Google to be better in terms of reliability. This finding contradicts other studies, as this AI tends to produce fictitious references and mistaken responses [8, 47, 52, 53, 57, 73, 74–85]. When the students were asked whether they verified the data produced by ChatGPT and Google, they stated the responses given in Tables 9 and 10:

54.8% of students from Bangladesh stated that they sometimes double-check the data produced by Google and ChatGPT, whereas 38.7 and 32.3% heavily question the authenticity of the data extensively developed by ChatGPT and Google. This finding is alarming, as ChatGPT tends to produce fictitious data with imaginary or incorrect references [8, 47, 52, 53, 57, 73, 74]. Therefore, the whole portion should recheck the validity and reliability of the data, but in real life, the scenario is quite different. In this competition, Google takes the lead as it produces more reliable data with sources. However, in Bangladesh, students question Google's reliability not often but sometimes, which is identical to ChatGPT's reliability. A point to note is that Google can also produce fake news, as under the law of retraction, when a fake paper is retracted, Google uses its own ranking algorithm, which paves the path for disseminating fake science, and it also has the tendency to show the search results based on their profit margin, along with the source, where people need to use their own IQ to improve it. That is why people equally question the reliability of both platforms. Overall, Bangladeshi students' responses are not novel, as they echo prior studies [82–89].

LEARNING EXPERIENCE IN CHATGPT AND GOOGLE

ChatGPT has widely influenced the learning experience in this modern era of technology. The students of Bangladesh responded with Table 11, where 54.8% consider it a tool that can save a lot of time, and 32.3% further consider it an easy medium of learning. In this comparison, only 6.5% advocated for the Google search engine, and only 3.2% considered that this AI failed to improve their learning experience [90–93]. Thus, it can be undisputedly stated that ChatGPT improves the experience of learning over the counter.

Table 8. Which of the following platforms do you believe provides more authentic data?

Response	Count	%
a] ChatGPT	12	38.7
b] Google	8	25.8
c] Both equally	10	32.3
N.B. Did Not Answer	1	3.2
Total	31	100

Table 9. Do you cross-check ChatGPT's data?

Response	Count	%
a] Always	12	38.7
b] Sometimes	17	54.8
N.B. Did Not Answer	2	6.5
Total	31	100

Table 10. Do you cross-check the data from Google?

Response	Count	%
a] Always	10	32.3
b] Sometimes	17	54.8
c] Ask a teacher or professor, or consult textbooks	3	9.7
N.B. Did Not Answer	1	3.2
Total	31	100

To nominate a victorious candidate, a precise question was asked to the students about whether they prefer any specific platform or not (Table 12). The majority (48.4%) stated that both are equally important, but the second-highest portion (32.3%) preferred the chatbot. So, it is evident that both are very important in this modern era, as ChatGPT is not based on a web surfing mechanism; thus, it has limited web search capabilities. As each tool performs different acts, both hold significance in learning and research [94–96].

The burning issue is whether ChatGPT will replace the Google search engine. Table 13 dictates Bangladeshi students' responses. Most students (41.9%) think ChatGPT is complementary to Google, not a substitute; they will coexist. However, 29% believe that ChatGPT may entirely substitute Google. On the other hand, 22.6% consider that ChatGPT cannot replace it and that Google will remain dominant. Thus, it is evident that ChatGPT cannot replace Google.

SUMMARY OF THE FINDINGS

The study employs a comparative analysis between the usage of ChatGPT and Google in the context of university students in Bangladesh.

Usage

Google claims the throne, as 48.4% of users use it daily, whereas ChatGPT is used by 32.3% of daily users.

Table 11. How has ChatGPT improved your learning experience over Google?

Response	Count	%
a] ChatGPT saves time by providing direct answers	17	54.8
b] ChatGPT helps me understand complex topics easily	10	32.3
c] ChatGPT has not improved my learning experience	1	3.2
d] I prefer Google over ChatGPT in academic learning	2	6.5
N.B. Did Not Answer	1	3.2
Total	31	100

Table 12. Which one do you prefer to learn?

Response	Count	%
a] ChatGPT	10	32.3
b] Google	3	9.7
c] Both are equally important	15	48.4
d] Neither	1	3.2
N.B. Did Not Answer	1	3.2
Total	31	100

Table 13. Can ChatGPT replace Google for educational programs?

Response	Count	%
a] Yes, definitely	9	29.0
b] Probably, but both will exist	13	41.9
c] No, Google will remain dominant	7	22.6
d] Unsure	2	6.5
Total	31	100

Purpose

When it comes to producing quick summaries and assignments, ChatGPT takes the lead at 71%, and more than 60% prefer it, while Google gains ground at 38.7% when it comes to searching multiple sources for research.

Reliability

Google again takes the lead in terms of reliability, but 38.7% trust ChatGPT's output data. Bangladeshi university students rarely double-check the data produced by the two sources.

Learning Experience

54.8% of respondents advocate that ChatGPT amplifies efficiency, but Google is still an essential tool for research.

Future Prospects

41.9% believe that ChatGPT will be a great complement to Google but will not replace it. ChatGPT amplifies the learning experience, but Google dominates in the field of research. Thus, it is highly likely that both will remain side by side.

LIMITATIONS OF THE STUDY

Small and Possibly Biased Participants

A small number of respondents (N=31), where a significant fraction belongs to the male gender from Dhaka City, puts a bar on generalization. However, as the link was shared to different public and private university groups, there was no intervention by the researchers in picking a certain gender. Besides that, as the capital city of Bangladesh is the best location, equipped with internet, the institutions present in Dhaka city have been selected [97, 98].

Survey-Based Data has Potential Biases

Survey-based extraction can be biased; thus, multiple modes of data collection should have been employed. However, extensive secondary data has been used to minimize this limitation to some extent.

Limited Scope

This study only focuses on the university students of Bangladesh, ignoring other levels of students and geographical locations.

No Experimental Verification

No experiment has been employed to observe usage trends, and no discussion on the ethical aspects of using AI in academia. However, in the methodology part, this study explicitly declares that it only tried to extract the response of the university students at the reflection level and nothing beyond [98].

Unresolved Debate between ChatGPT and Google

The study concludes by stating that both platforms coexist, but it lacks a strong framework to assess ChatGPT's full potential.

Further studies can have a larger sample size, employ an experimental approach, and explore ethical and reliability concerns.

CONCLUSION

The study employs a comparative analysis of ChatGPT and Google search engine utilization by university students in Bangladesh within an academic environment. The results indicate that the two sites are both helpful, but they serve different roles in students' academic lives. Google is still the preferred academic research source, providing original information, multiple sources, and credible content. Compared to this, ChatGPT has been proven to be an effective tool in offering quick explanations, well-organized answers, and higher learner engagement.

The findings show that a majority of students employ ChatGPT in operations such as summarizing, note-taking, and assignment writing, while Google is employed to a great extent for searching for articles and facts. As dazzling as ChatGPT's simplicity and effectiveness are, concerns regarding accuracy, spurious referencing potential, and absence of outright source quotation continue to be widespread. This confirms previous studies that showed the importance of students' fact-checking of AI-generated content.

Studies also show that the two platforms are considered complementary but not competitive. Although some students speculate that ChatGPT will eventually replace regular search engines, most consider them complementary resources, as each plays a different role. Google's efforts to employ AI to enhance its search capability, for instance, in creating Gemini, also support this perception. To sum up, this research emphasizes the vibrant growth of AI-based instruments in education. As helpful as ChatGPT is in enriching learning, it cannot completely replace Google's search engine. Instead, scholarly research and learning in the future may be decided by the deliberate use of both platforms. Future studies should possess large sample sizes, long-term results, and scrutiny of the ethical impact of the application of AI in schools.

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