Chapter 12

Analyzing the PESTEL Factors on ChatGPT and Its Impact on the Population

ABSTRACT

An AI application called ChatGPT has spurred discussions about how it can affect education. The researcher used the PESTEL analysis framework to understand the political, economic, social, technological, environmental, and legal aspects of ChatGPT in education and research. The political aspect observed leaned towards the left orientation. The economic aspect is loosely inclined towards increased productivity and efficiency. The social aspect is directed towards improved social services sectors. The environmental aspect raised concerns about carbon emissions and is yet not explored in detail by researchers, leading to a clear research gap. Last, the authors discuss the legal impact of ChatGPT on the population, and there is an unclear picture towards the AI laws and regulations. There is a need for research to differentiate traditional AI and generative AI. Moreover, generative AI must subclassify before developing the policy for all stakeholders. In conclusion, the responsible use of ChatGPT will benefit the productivity of the general population.

BACKGROUND

ChatGPT has been discussed extensively in every discipline. It has been stated as beneficial in every field, including education, medicine, science, and research. ChatGPT has been discussed widely in education with its pros and cons. However, it is essential to assess ChatGPT rationally. Therefore, it is necessary to discuss the tool with a framework that covers all aspects of a population's productivity. Therefore, the researcher uses PESTEL as a framework to observe the truthfulness of the argument that ChatGPT is productive in all dimensions and is unbiased, neutral and positively impacts society. The researcher did observe several positive and negative aspects of ChatGPT in various disciplines in a population and is somewhat sceptical. The current study discusses the impact of ChatGPT on the productivity of the general population using the PESTAL framework: RQ1: What will be the overall impact of ChatGPT on the productivity of a general population?

PESTEL ANLAYSIS FRAMEWORK

A political, economic, sociocultural, technological, environmental and legal (PESTEL) analysis is a framework or tool used to analyze and monitor the macro-environmental factors that impact an organization (Nurmi & Niemelä, 2018). It has been used to understand productivity research (Pan et al., 2019). PESTEL analysis of using ChatGPT in education was illustrated in Figure 1.

PESTEL ANALYSIS INTERPRETATION

Political

David Rozado, in his paper titled "The political bias of ChatGPT", has observed left-leaning political orientation when administering several political orientation tests to ChatGPT (Rozado, 2023). Jerome Rutinowski et al. have performed multiple tests to observe the political orientation of ChatGPT and found a similar orientation from an authoritarian left or libertarian left quadrant of the political compass. In addition, ChatGPT perceives itself to be highly open and agreeable, which are traits associated with progressive

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