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Journal of Asian Public Policy

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/rapp20

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To cite this article: Jiaxi Yang, Han Qiu & Wenxuan Yu (23 Nov 2024): Surging currents: a systematic review of the literature on dynamic stakeholder engagements in higher education in the generative artificial intelligence era, Journal of Asian Public Policy, DOI: 10.1080/17516234.2024.2429046

To link to this article: https://doi.org/10.1080/17516234.2024.2429046

JOURNAL OF ASIAN PUBLIC POLICY
https://doi.org/10.1080/17516234.2024.2429046

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RESEARCH ARTICLE

Surging currents: a systematic review of the literature on dynamic stakeholder engagements in higher education in the generative artificial intelligence era

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ABSTRACT

As Generative Artificial Intelligence (GAI) rapidly integrates into higher education, a critical question arises: should we focus on the technology's potential or the essential role of stakeholders? While GAI offers transformative possibilities, its success hinges on students, educators, administrators, and policymakers. This study examines the structure of these stakeholders and the patterns of relationships between them. Utilizing a systematic literature review, we screened 224 studies and selected 38 key articles to construct a hierarchical framework illustrating the complex interactions among stakeholders. The research reveals the prominence of educators, students, and administrators while reflecting the increasing attention to technology vendors and government agencies. Interactions among stakeholders primarily fall into four patterns: cooperation, control and guidance, support and dependency, as well as competition and conflict. Although existing research extensively discusses GAI's potential, this study argues that in-depth analyses of stakeholder roles and relationships are lacking, particularly given real-world complexities. Future research should explore these multidimensional relationships to promote responsible and effective GAI use in education.

ARTICLE HISTORY
Received 15 February 2024
Accepted 10 November 2024

KEYWORDS
Generative artificial intelligence; ChatGPT; higher education; stakeholders

1. Introduction

The integration of Artificial Intelligence (AI) with higher education has drawn considerable attention from educational researchers (Crompton & Burke, 2023; Dwivedi et al., 2023; Kumar et al., 2024; Zawacki-Richter et al., 2019). ChatGPT, a form of GAI, is now driving higher education into a new phase of technological transformation (Korseberg & Elken, 2024; Lim et al., 2023). Recognizing the significantpotential of ChatGPT in education (Bhullar et al., 2024; Jo, 2024; Farrokhnia et al., 2023), OpenAI has introduced a university-specific version, 'ChatGPT Edu', for educational institutions (OpenAI, 2024). Some scholars even perceive ChatGPT as a student-driven innovation (Dai et al., 2023). According to the 2023 EDUCAUSE Horizon Action Plan, AI is set to revolutionize higher education by promoting personalized learning experiences and fostering educational innovation (EDUCAUSE, 2023).

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Despite the widespread interest in ChatGPT and other GAI tools, the effectiveness of these technologies in higher education is ultimately determined by the core stakeholders – including educators, students, and administrators (Abulibdeh et al., 2024; Dai et al., 2023; Korseberg & Elken, 2024). Moreover, the complexity of the higher education system is evident in both the adoption of technology and the power dynamics and multiple roles among stakeholders (Beerkens & Udam, 2017).

The stakeholder theory offers a foundational basis for analysing collaboration among various groups in higher education (Beerkens & Udam, 2017; Falqueto et al., 2020; Gomes et al., 2010; Marshall, 2018; Mitchell et al., 1997; Freeman et al., 2010). Recent literature discusses how ChatGPT affects faculty, students, and institutions, as well as their attitudes towards ChatGPT (Rawas, 2023; Acosta-Enriquez et al., 2024; Chan, 2023; Fauzi et al., 2023; Habibi et al., 2023; Jensen et al., 2024; Luo & Hu, 2024; Rajabi et al., 2024; Strzelecki et al., 2024). Although studies cover a range of stakeholders, the findings remain dispersed and lack holistic analysis. Therefore, this study seeks to integrate these fragmented findings to reveal gaps between literature-based insights and real-world practices. We aim to address two key questions: First, how is the structure of stakeholders in higher education represented in the literature? Second, what patterns of interaction between stakeholders are revealed in the literature due to the influence of ChatGPT?

To address the research questions, this study employs a systematic literature review, examining 224 relevant studies and selecting 38 critical documents for in-depth analysis. From this literature review, a stakeholder hierarchy analysis framework is developed to illustrate the complex stakeholder relationships discussed in the current literature.

The paper is organized as follows: Section 2 reviews the relevant literature, highlighting this study's unique contributions; Section 3 details the systematic review methodology; Section 4 presents key findings; and Section 5 provides an in-depth discussion, addressing the research questions and offering theoretical and practical insights. Finally, the conclusion summarizes the study and suggests directions for future research.

2. Previous reviews

To date, several review studies have examined GAI's impact on higher education (Abulibdeh et al., 2024; Alemdag, 2023, Ansari et al., 2024; Bhullar et al., 2024; Kumar et al., 2024; McGrath et al., 2024; Wu & Yu, 2024; Xia et al., 2024). These studies can be grouped into two main categories.

The first category addresses the broader effects of GAI on higher education. McGrath et al. (2024) provided an in-depth analysis of GAI chatbots' influence on educational practices and student learning, emphasizing theories of AI-based learning and related discourses. Xia et al. (2024) explored GAI's impact on students, teachers, and institutions, covering teaching evaluation, AI literacy, and academic integrity, and outlined how GAI is reshaping higher education. Abulibdeh et al. (2024) examined AI tool integration within Industry 4.0, revealing that current research has yet to fully address the complexity of AI's role in education. Furthermore, studies by Alemdag (2023) and Wu and Yu (2024) pinpointed educational level, intervention duration, instruction type, and chatbot functionality as key moderating factors that influence the impact of GAI. These findings underscore the necessity for additional research to explore the intricacies of these factors.