Chapter 13
Challenges of Blockchain Usage in the Education Sector

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ABSTRACT

The blockchain (BC) is the next technologically mediated socioeconomic megatrend in the age of technological revolution. In this chapter, the authors look at some of the obstacles that BC technology faces in the classroom. It is stated that the education sector cannot take for granted that the digital transformation. BC has many potential uses in education, including improving teacher and student agency, streamlining the rollout of educational projects, and establishing a transparent, decentralized system for accrediting and certifying students' proficiency. Educational BC with its distributed ledger offers innovative norms of crypto-learning and crypto-administration that are acceptable across companies and nations, strengthening thus the objectivity, authenticity, and control of information without being compromised by socio-economic instabilities. BC technology's delayed acceptance in the education sector mirrors that in the teaching and learning sectors, but it also presents several major hurdles, including a lack of funding, security, cost, scalability, and awareness.

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INTRODUCTION

Online learning has becoming increasingly popular, and BC technology has the potential to help keep students secure while also fostering expansion of this promising new field. BC's mixture of data protection and the capacity to distribute this facts among a vast network of stakeholders, all in a purely virtual manner, appears nearly tailor-made to assist safeguard and protect this new model of education. In particular, there are a few things teachers teaching online, schools providing online education, and private sector BC businesses may do to enhance the quality of their teaching and the courses they offer (Smith, 2021). Through the use of cryptocurrency, BC technology is already influencing the banking sector. Furthermore, this technology has the potential to revolutionize the educational system by making it easier to store and share information, more secure, speeding the employment process, and allowing students permanent access to their academic transcripts (Gilda, & Mehrotra, 2018). BC could revolutionize the educational system by introducing novel, low-cost methods of teaching and challenging the traditional dynamic between institutions of higher learning and their students. Tuition management is a time-consuming process that involves numerous stakeholders, including students, parents, scholarship foundations, private lending businesses, federal and state agencies, and the frequently bloated bureaucracy of university financial departments. BC technology can speed this procedure, cutting down on administrative costs and hence potentially lowering tuition rates. Researchers and industry professionals alike have recently shown a lot of interest in BC technology. Its distinguishing characteristics—among them decentralization, security, reliability, and data integrity—are largely responsible for this popularity. Lastly, from the standpoint of potential employers, there is a lack of trust because of inconsistencies in students' descriptions of their abilities and qualifications on resumes (Awaji et al., 2020). As a result, there is a pressing requirement for a deeper understanding of BC and its complexities in order to shed light on the primary benefits of BC for students and HEIs, which frequently employ insufficient education and coordinating systems for preparing professional staff working via outdated, inflexible pedagogical practices that have little to do with the latest developments in information technology (Abdeldayem, & Al Dulaimi, 2020).. While academics have addressed BC's potential economic applications (Swan 2015). Despite this increased curiosity, information about the current level of obstacles associated with implementing BC technology in the classroom is scant. Hence, the chapter discusses the challenges confronting students and educational institutions usage of BC.