

Chapter 18

Sustainability and AI in Transnational Higher Education

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ABSTRACT

This chapter shows the integration of sustainability principles and artificial intelligence (AI) in Transnational Higher Education (TNHE) in Bangladesh. It explores the current TNHE landscape, highlighting both its benefits and challenges. The chapter examines how AI can enhance personalized learning, accessibility, and administrative efficiency while addressing ethical concerns such as data privacy and bias. It also emphasizes the role of sustainability in higher education, including green campus practices, curriculum integration, and research advancements. By analyzing case studies and offering strategic recommendations, the chapter outlines how Bangladesh can leverage AI and sustainability to improve its higher education system, enhance global competitiveness, and contribute to sustainable development.

1. INTRODUCTION

In an increasingly interconnected world, Transnational Higher Education (TNHE) has emerged as a vital component of global education, enabling the cross-border movement of students, educators, and academic programs. TNHE represents a significant shift in the traditional models of higher education, offering students the opportunity to receive foreign education without leaving their home countries. This model not only expands access to quality education but also fosters global knowledge exchange and cultural integration. In Bangladesh, the growth of TNHE has been particularly pronounced, reflecting the country's aspirations to enhance its educational standards and align with global academic trends (Wang et al., 2023). As Bangladesh continues to evolve as an educational hub in South Asia, the integration

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of innovative technologies and sustainable practices into TNHE becomes essential for its long-term success and relevance.

Artificial Intelligence (AI) is at the forefront of technological innovations that are transforming various sectors, including education. In the context of higher education, AI holds the promise of revolutionizing the way knowledge is delivered and consumed. From personalized learning experiences to advanced data analytics, AI can significantly enhance educational outcomes by catering to the diverse needs of students (Al-Amin et al., 2021). In TNHE, AI can play a critical role in overcoming the inherent challenges of cross-border education, such as geographical barriers, logistical constraints, and variations in educational standards. By enabling institutions to deliver more adaptive and accessible learning experiences, AI has the potential to democratize education, making it more inclusive and equitable.

However, as the education sector embraces AI, it must also contend with the growing imperative of sustainability. The global discourse on sustainability has gained unprecedented momentum, driven by the urgent need to address environmental degradation, climate change, and resource scarcity. In higher education, sustainability is increasingly seen as a fundamental principle that should guide not only the physical operations of educational institutions but also their curricula, research, and community engagement. The concept of green schools, which prioritize energy efficiency, waste reduction, and sustainability-focused education, is gaining traction worldwide. For TNHE, the integration of sustainability practices is crucial not only for environmental stewardship but also for preparing students to become responsible global citizens who can contribute to sustainable development in their respective fields.

The intersection of AI and sustainability presents a unique opportunity to reimagine TNHE in Bangladesh. By leveraging AI-driven solutions, educational institutions can enhance their sustainability initiatives, whether through more efficient resource management, the promotion of virtual learning environments that reduce the carbon footprint, or the development of research that addresses global sustainability challenges. AI can also support the scaling of sustainability education, equipping students with the knowledge and skills necessary to tackle complex environmental issues in a rapidly changing world.

This chapter aims to explore the transformative potential of integrating AI and sustainability models into TNHE in Bangladesh. It begins by examining the current state of TNHE, highlighting both its achievements and the challenges it faces in a rapidly evolving educational landscape. The chapter then delves into the application of AI in education, discussing how AI can enhance personalized learning and improve accessibility while also addressing the ethical concerns related to data privacy and bias. The importance of sustainability in education is also emphasized, with a focus on practices such as green schools and sustainability research. Moreover, the chapter investigates how AI can be harnessed to support the sustainable development of TNHE, particularly through energy management, innovation, and distance learning.

2. TRANSNATIONAL HIGHER EDUCATION IN BANGLADESH

Transnational Higher Education (TNHE) has emerged as a critical component of Bangladesh's educational system, reflecting the country's growing aspirations to provide globally competitive education to its citizens. TNHE refers to educational programs and degrees offered by foreign institutions within the borders of Bangladesh, often in partnership with local universities. These programs allow Bangladeshi students to earn international qualifications without the financial and logistical burdens of studying abroad. The increasing popularity of TNHE in Bangladesh is indicative of a broader trend where students and

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