


## Chapter 2

# Cybersecurity Crisis Management in Higher Education Institutions: A Case of How the University of Sunderland in London Managed a Ransomware Threat

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### **ABSTRACT**

*In the wake of the global pandemic, higher education institutions have faced numerous challenges, not only in terms of maintaining academic continuity but also in safeguarding their digital infrastructure against ever-evolving cyber threats. The shift towards remote learning and increased reliance on technology has exposed educational institutions to new vulnerabilities, making cybersecurity a critical concern. Through a comprehensive exploration of cybersecurity in the context of higher education, crisis management, problem-solving strategies, and leadership competencies, this chapter aims to equip educational stakeholders with the knowledge and tools necessary to fortify their institutions against cyber threats, using the University of Sunderland in London as a case study. By understanding the interconnectedness of these areas, educational leaders can proactively protect their digital assets, and foster a resilient educational environment in the face of future challenges.*

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## **INTRODUCTION**

Over the past few decades, there has been a significant global surge in the utilization of digital technologies in education. These technologies have become an integral part of the educational process, serving various purposes such as content delivery, e-learning applications, cloud storage, learning management systems, computer-based testing, and predictive learning analytics. This rapid digital transformation has presented both opportunities and challenges for educational institutions (Jackson, 2019).

Globally, the use of digital technologies in education has increased over the previous few decades. Technology is now integrated in the educational process, whether as content delivery devices, e-learning applications, cloud storage, learning management systems, computer-based testing, or predictive learning analytics (Haleem et al., 2022).

Amid the Covid-19 pandemic, which disrupted schooling for around 1.6 billion people in 190 nations (UN, 2020), most education systems have been totally reliant on virtual learning facilitated by digital technologies to ensure that schooling continues in the face of the setbacks (World Bank, 2020). However, connectivity and digital divides (Wei and Hindman, 2011), commercialism of knowledge via technology companies (Pietrykowski, 2016), technical and administrative challenges (Krumsvik, 2006), and, most importantly, insufficient teacher and student training (Collins & Halverson, 2019) are just a few of the long-discussed academic challenges in literature.

However, one understudied key issue that the education industry faces due to increased digital learning is cybersecurity.

Several cyber-attacks targeting institutions of higher education in recent years have demonstrated the scope and magnitude of impact that cyberattacks can have on the educational process. According to statistics, the number of ransomware assaults on colleges and institutions in the first six months of 2021 already surpassed the figure for the entire previous year (Alcon, 2021; Ulven et. al., 2021; JISC, 2021). This data is also confirmed by Dolliver et al., (2021), who found that institutions were victims of more than 6.1 million malware attacks in the fourth quarter of the year, with business and professional services being the second most impacted industry with only 900,000 infections. These led to a widespread personal data breach impacting students, staff, and alumni, for example, the 2018 attack at a well-known university that disclosed the Personal Identifiable Information (PII) of 119,000 staff and students (Fuchs, 2018).

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