Higher Education during crisis: a case study on organic resilience

Case study paper

Abstract

Purpose: The purpose of this paper is to explore the impact the pandemic had on higher education institutions (HEIs), the opportunities they were able to harness, and whether they are better prepared to deal with future disruptions as a result.

Design/methodology/approach: We do this, by presenting a reflective case study using a combination of crisis and resilience theories as our analytical framework. Case studies are flexible research instruments allowing researchers to draw on both subjective experience and also established theoretical frameworks. Case studies can be used to intensively analyse a specific case from an organisation, sector, or personal perspective. Although the results are not usually generalisable, they can be insightful (Bell *et al.,* 2022).

Findings: We found that, in this case, a continuity strategy relevant to the sector, already existed. However, a lack of knowledge meant that the strategy was not used straight away. This was costly in terms of staff and student wellbeing but, ultimately, HEIs adapted by converging on a practical solution, showing inherent resilience. Further research is necessary to ascertain whether robust Business Continuity plans would have made the transition smoother.

Originality: This paper specifically investigates higher education teaching from a crisis and resilience perspective, using a theoretical framework not previously used for the analysis of Covid-19 in HEIs.

Keywords: Covid-19, Crisis, resilience, higher education, teaching

Introduction

As educators teaching risk and resilience, we found ourselves in a strange situation in spring 2020 when we became an important part of the biggest educational experiment (Stewart, 2021; Toquero, 2020), observing higher education institutions (HEI) responding to a crisis which was widely predicted, and completely unexpected (Lewis, 2021).

The core objectives of HEIs are delivering teaching and research. This case study will focus on teaching as our research was temporarily paused over the initial phases of the pandemic. Research into the impact of Covid-19 on Higher Education (HE) is now proliferating, including from crisis management and resilience perspectives (Bond *et al*., 2021; Spais & Paul, 2021). Prior to Covid-19, research into crises in HE had received little attention, especially compared to the corporate world (Wang & Hutchins, 2010). Much of HE Covid-related research has appeared in context-specific (education) journals, rather than discipline-specific (risk, resilience, or crisis) journals. Our paper aims to change this. We aim to add to the body of knowledge by combining the crisis management and resilience perspectives, together with the quickly growing field of Emergency Remote Education (ERE), which responds to Williams *et al.'s* (2017) call for resilience and crisis management literatures to become more integrated, as they are dealing with the same challenge – adversity. Tasic *et al*. (2020) argue effective crisis management is needed for organisations to be resilient. However, as we shall

demonstrate, HEIs were not prepared for the Covid-19 crisis yet demonstrated resilience and responsiveness. Given the scale of the pandemic, we ask if planning ahead was possible or likely (Lewis, 2021) and whether, therefore, the intrinsic resilience shown by HEIs provides sufficient protection from future crises.

We specifically explore what impact Covid-19 had on HEIs and what opportunities they were able to harness during the pandemic, therefore not merely considering risk as a threat but an event with potential positive outcomes. We also wanted to explore whether HEIs are better prepared to deal with future disruptions to their operations after the Covid-19 experience.

Context

The HE sector is an extremely large and important element of any developed economy, with larger cities often having multiple universities, many with international campuses. In the UK, HEIs are generally classed as charitable organisations. HEIs tend to be large organisations, sometimes with vast estates and often with thousands of staff, and students, and consequently have significant social and economic impacts. HEIs are considered by faculty to be bureaucratic, with hierarchical structures and high levels of administrative workload (Jaschik, 2018). HEIs generate income in many ways, e.g. through tuition fees, research grants, and public funding. HEIs are increasingly competitive businesses, with large investments made into estates to attract the best candidates, both staff and students. Some mainly compete for students locally, whereas many now also recruit especially vast amounts of international students who pay the highest fees. Today, the income from teaching (through fee-paying students) often outperforms other revenue streams.

While the concept of students as 'service users' is controversial (as educators historically perceive education as a public good), a "service system" (Walletzký *et al*., 2023) may be the easiest analogy to comprehend the context of HEIs, as well as to compare them with other large organisations. Students pay for the 'service' and the University delivers that 'service'. We describe the HE sector thus to allow readers to make comparisons with business, where risk and resilience discipline is higher profile. They need to generate enough income to remain operational, if not competitive, and increasingly need to have strategies in place for their diverse operations. HEIs most closely resemble other fee relying educational intuitions, such as professional bodies that provide professional certificates, or private educational establishments. HEIs also provide other services such as research and consultancy.

Equally, the education-as-public-good view also requires resilient organisations since the continuity of the public good impact society. Educational institutions also form an important part of the economy in many countries, and this is becoming ever more important in the knowledge economy.

The theoretical and methodological framework

Theoretical frameworks for crisis management are not new in HE research (e.g. Mitroff's, Burnett's, and Turner's models (Spais & Paul, 2021; Wang & Hutchins, 2010; Williams *et al.,* 2017)). Similarly, we trace the stages of the Covid-19 crisis in HE, using Fink's (1986) model, which has been identified as one of the most influential in crisis management literature (Spais & Paul, 2021). We use Fink's model applied to the HE sector in relation to Covid-19 for the first time, although it has been used for analysing other HE crises (e.g. Furiv, 2018; Wahlberg, 2004). We use this model for two reasons, namely simplicity and its descriptive power. Fink (1986) argued that crises consist of four phases: the prodromal crisis stage; the acute crisis stage; the chronic crisis stage; and the crisis resolution stage. Fink positioned the phases, and the overall crisis lifecycle within medical language, as he argued that a crisis is like the stages of a disease. The duration and intensity of the stages is dependent on different variables. What better theoretical framework to use to examine the effects of a medical crisis, than

one that is also medically rooted. Hence, like the experience of developing Covid-19 itself, the experience varied, with several possible severe and non-severe outcomes.

Diseases and crises are both fluid, unstable, dynamic, and in a constant state of flux, and therefore need to be managed with this in mind (Fink, 1986). Recognition is the key to treating each phase correctly. However, this relies on awareness of the crisis and the relevant stage. Drawing parallels with Covid-19, and the name hints at it already – much of society did not recognize the prodrome or did not recognise its severity thus failing to intervene in time. Covid-19 was in the news at the end of 2019, yet for most it was not until March 2020 when society became fully aware of its potential, at which point we were already in the acute crisis stage. Arguably, the prodrome was in fact the months, and years before, when the international medical and scientific community was warning of a global pandemic, yet little was done about it (Lewis, 2021).

The other theoretical concept we utilise is resilience. Resilience is about being able to absorb and adapt to a sudden change in the environment (such as the changes brought about by the pandemic), while still surviving and prospering. It is also about keeping pace with gradual changes, internally and externally (Bell, 2019). Williams *et al*. (2017) discussed crisis management as an activity to restore equilibrium, and if we look at the resilience concept, it has been discussed as the ability to 'bounce back' (*ibid.*), in other words, getting back to one's equilibrium. Like crisis literature, resilience has also been discussed as a process which has been linked to crises. First, there is the anticipation stage – the time before a crisis; second is the coping stage – the time during the crisis; and third, is the adaptation stage – the post-crisis time (Shaya *et al.,* 2022). For a more in-depth analysis of resilience and its limitations, see Hillson (2023) in this special edition.

Our aim is to use the narrative of the HE sector's response to Covid-19 to outline a reactive approach to crises and contrast this with the use of business continuity (BC) and risk management techniques. In many industries BC planning was insufficient to deal with a global pandemic. We therefore ask, what about the role of intrinsic resilience? We will argue that, although HEIs proved surprisingly resilient, BC planning may have mitigated the initial confusion and trauma of the response. Finally, we explore whether Learning from Experience (LfE) will make HEIs (and other large organisations) more resilient in the future.

We employ a reflective case study as the means to consider the impact of Covid-19 on our sector. As large and bureaucratic organisations, many of the challenges within HE reflect similar challenges in government, local government, other public service institutions and large businesses. Our case study is therefore germane to the integrity of many institutions which make up society and business. Specifically, we focus on teaching as the key operation because of its supposed reliance on face-to-face (F2F) delivery; in common with many businesses. The overall story is one of adaption and improvisation when a crisis disrupts a key part of any organisational function. The case study method can be a container for any other research method and may, therefore, include a wide variety of analytical tools; both objective and subjective (Bell *et al.,* 2022). In this case, we will draw on educational literature, personal experience and reflection but combine this with a theoretical framework. Our description of the HE response to Covid-19 cannot be taken to illustrate the response of any given university. Practice differed across the globe, but early research indicates the most common response, which we relay here. To this we draw on personal experience to explain various educational practices, not to describe our own organisation, specifically. We will also commentate on the crisis and how it affected HE, for context and to frame the experience. Wang and Hutchins (2010) argued that research into crises in HEIs needed to embrace a variety of research methods. We believe we deliver on this. We were in a unique position to do this research as a reflective study, as we have

expertise in pedagogy (including in digital learning), and discipline expertise (applied and theoretical) in risk related fields.

We first examine the pre-pandemic state of HE and the capacity for online education. We contrast this with the reality of the Covid-19 pandemic, focusing on the confusion between online learning and emergency remote teaching (which could have been a suitable BC plan). This is followed by an analysis of the stages of the Covid-19 pandemic using crisis and resilience theories. We also draw from the rapidly expanding literature about ERE. We accept that this literature is necessarily undeveloped as there has been insufficient time for more longitudinal and systematic analysis. Nevertheless, the research we are drawing on provides a useful narrative of the crisis response so far (see Bond *et al*., 2021 for a review of this field). We follow this with a discussion of our analysis and conclude by contrasting the response with more 'textbook' responses to crisis. Our aim here is not to criticise, since almost every aspect of society was unprepared for the full impact of the crisis. It was highly unlikely that the world would be able to take Covid-19 in its stride, even with continuity plans meticulously developed and put in place.

Higher Education prior to Covid-19

Research into online teaching and learning has been done for the past three decades, yet online educational programmes in the pre-covid era were still limited (Hofer *et al*., 2021). Harasim (2000) identified three modes of educational delivery in the so-called online era: the adjunct; mixed and online mode. In this section we will explain all three modes, but emphasise that these modes were not used equally, there was significantly more use of the adjunct mode. However, the other modes would become far more important. The aim of describing the modes of delivery is to contextualise the confusion that occurred during the early stages of the pandemic.

In the adjunct mode, the primary source of instruction still takes place in traditional classroom environments, but is enhanced by technology, e.g. through email communication and administering online tests (Harasim, 2000). A Learning Management System (LMS) substituted the role of previous administrative systems, e.g. paper files, notice boards etc. The adjunct mode was widespread in HEIs across the globe representing a superficial approach to technology (Tesar, 2020). From a resilience perspective, we consider this to be the continuity that HEis strived to retain, also known as 'normal' or 'the new normal' (Rapanta *et al.,* 2021).

In the online mode, the online environment is where all instruction takes place, with no in-person classroom component (Harasim, 2000). Some traditional distance learning courses would fall under this mode, as well as Massive Open Online Courses, or MOOCs (Fink & Kurotsuchi Inkelas, 2015). This is more commonly known as Online Distance Learning (ODL). ODL requires considerable resources and planning and relies heavily on a 'front loading' effort to achieve a satisfactory online delivery (Hodges *et al*., 2020). The quality of online courses is comparable to those delivered F2F and rely on well-established learning theories and instructional design (*Ibid.*).

In the mixed mode the online environment has replaced a significant portion of the traditional classroom (Harasim, 2000), to the extent that teaching activities are significantly altered, as exemplified by a 'flipped classroom' approach in which the lecture is delivered online prior to interactive and live sessions (Fink & Kurotsuchi Inkelas, 2015). Their use prior to Covid-19 was not widespread, as institutions preferred to apply a substitution approach (replacing traditional methods with technology indiscriminately) rather than a transformational approach to learning technology (Westera, 2004).

Higher Education during the Covid-19 crisis

Covid-19 is not the first crisis that HE has faced. In 2009, the H1N1 virus threatened to become a global pandemic. Despite a well-established corpus of research into ERE established some 30 years earlier (Oliveira *et al*., 2021), HEIs were not prepared for the potential consequences (Meyer & Wilson, 2011). We can usefully consider ERE to be a rational BC plan had HEIs known of its existence. From a resilience perspective, this allows us to compare the role of BC planning with the emergent resilience, which was so in evidence in the actual event.

ERE was originally devised to explore the means to maintain the continuity of education in war-torn countries or those suffering from natural disasters (Bond *et al*., 2021; Oliveira *et al*., 2021). Under the aegis of UNESCO (e.g. UNESCO, 2003), ERE is largely concerned with a humanitarian right to continuity of education to escape the long-term depletion of economies due to interruptions in education (Oliveira *et al*., 2021). Prior to Covid-19, ERE researchers and UNESCO considered the use of temporary learning spaces as well as videoconferencing as a practical solution to the disruption of infrastructure (Bond *et al*., 2021; Oliveira *et al*., 2021; UNESCO, 2003), focussing on 'what works' (loc cit. Oliveira *et al*., 2021). Ultimately, when faced with a crisis, educational establishments had to exploit existing opportunities rather than transform their practice (Rof *et al*., 2022). ERE is a good example of continuity planning.

This responsive approach, however, was not adopted by many universities in 2020 (Hodges *et al*., 2020; Oliveira *et al*., 2021). Because HEIs were not aware of the continuity plans created by ERE research, they tried to plan their way out of the crisis with no baseline. There were two drawbacks to this approach. Firstly, ERE was conflated with online distance learning (ODL) which differs radically from ERE. ODL requires extensive planning and preparation while ERE is responsive, relying on effective and immediate mitigation of risk, rather than elimination. The effort to achieve such an ambitious goal led to stress and mental exhaustion (Oliveira *et al*., 2021; Stewart, 2021). Secondly, ODL is a niche discipline in most of academe, resulting in widespread confusion about terms such as 'emergency remote teaching, 'emergency remote education', 'blended learning', 'hybrid' etc. (Hodges *et al*., 2020). Most establishments lacked the pedagogical frameworks and the time to realistically switch to online, but ultimately, a more practical ERE response did emerge.

This response was based largely on synchronous videoconferencing (Bond *et al*., 2021). However, because misunderstandings about the nature of online, the material elements of teaching were not considered (that is, the impact of losing the campus was not greatly considered (Raaper & Brown, 2020)), differing from ERE which considers the use of temporary learning spaces (Burde *et al*., 2017; UNESCO, 2003), a standard business continuity strategy employed in business continuity management, for loss of premises.

The Covid-19 response highlights the issues of not correctly identifying a risk or continuity planning strategies. Looking at the resilience of HE, Nandy *et al*. (2020) pointed out that the pandemic has not damaged HEIs so much as revealed existing vulnerabilities. They also point out that rebuilding requires considerable effort even as exhaustion levels are high (Ibid.). Yet failure to do so would be to repeat the mistakes of 2009.

Stages of the Covid-19 crisis in Higher Education

Turning to our theoretical framework, the prodromal crisis stage is the precrisis, or warning stage, or turning point (Fink, 1986), which in resilience context, is the anticipation stage (Shaya *et al.,* 2022). If missed, the result is damage control, as opposed to crisis management, and this limits the options for recovery. If the prodromal stage is detected, it is possible "*to turn the turning point into an opportunity*". Dealing with a crisis at this stage is far easier than letting it get to the acute stage (Fink,

1986, p. 25). Note that we can often only see this with hindsight, so any discussion of perceived 'failures' in this paper will be discussed with the knowledge of hindsight and are not a criticism of any individual's decisions *per se* during any of the crisis stages. In the case of Covid-19 the prodrome was recognised and anticipated – it was on the news every day, first from China, then from Italy, rapidly inching closer to the UK, where we are based. The potential magnitude of the oncoming crisis was of course widely contested and so there was little consensus as to how organisations should best deal with this.

The acute crisis stage is what most people consider the *actual* crisis, although this is an incorrect assumption as the crisis as noted consists of potentially four phases (Fink, 1986). For instance, universities with large international student numbers would have potentially started seeing a drop in international students returning to study after Christmas (a prodrome) – especially students from China. However, what would be considered the acute stage in the crisis is when all operations on campus came to a halt, i.e., the coping stage in a resilience context (Shaya *et al.,* 2022).

The prodromal crisis stage

Recognising that COVID-19 had the potential to become extremely disruptive, if not catastrophic, some HEIs began to identify key challenges that could plausibly impact Higher Education. However, the reality of the transition was far more rapid and consequential than expected with 850 million individuals switched to remote teaching across all forms of education, worldwide (UNESCO, 2020).

It was at this point in the crisis that the lack of awareness of ERE research led to confusion and upheaval (Johnson *et al*., 2020). One of the key features of the prodrome was confusion about the discipline of 'online delivery' (*Ibid.*). Online technology was available in all HEIs, which made it an instinctive, if not the sole, choice. However, there was confusion between the use of online technology and the well-established practice of ODL. ODL proved to be too ambitious a target for a rapid transition, requiring extensive resourcing and meticulous planning to deliver effectively (op cit.)

In the prodromal stage, there was some reflection on what tools and experiences staff could draw upon, for example in US faculties, staff reported previous experiences of either teaching or taking online courses. However, more than half of academics were new to online teaching methods (Johnson *et al*., 2020).

An emerging sub-field of Covid-19/ERE reports that this was a period of shock, mental anguish, and inequality in teaching provision (Rof *et al*., 2022). One paper describes this period as a 'Global Crash-Course in Teaching and Learning Online' (Stewart, 2021).

The acute crisis stage

As Fink (1986, pp. 22-23) noted, "*the key is to control as much of the crisis as you can. If you can't control the actual crisis, see if you can exert some degree of influence over where, how, and when the crisis erupts*". Of course, Covid-19 was not a crisis that HEIs could control or avoid, but they could to some extent control how the crisis would affect their operations, by making proactive changes to those operations in the prodromal phase.

Johnson *et al*. (2020) reported that this reassertion of control took the form of faculty members in the US concentrating on technologies they already understood, such as using the LMS as a repository for online content and the use of videoconferencing in a mainly 'live' or synchronous fashion. This is reflected in a much wider and systematic review of the global literature (Bond *et al*., 2021). Coincidentally, this use of the LMS and videoconferencing parallels earlier ERE research into education in crisis torn countries and the response to H1N1 globally (Oliveira *et al*., 2021). Except for providing

temporary learning spaces (advocated in ERE) (Oliveira *et al*., 2021), the Covid-19 response had converged with the earlier ERE recommendations.

Naturally, some individuals and establishments demonstrated more innovation. A small minority of US academics used chat platforms and social media for educational purposes (Johnson *et al.,* 2020). Our own institution developed a framework of resources for academics to use to support them through the transition (Honeychurch & Offord, 2021), demonstrating an intrapreneurial approach to the crisis (Hunter *et al*., 2021).

However, ERE, is unsustainable over a long period of time (Johnson *et al*., 2020) and while the response was effective in the short term, concerns began to emerge around care of both students and staff (Ibid.; Oliveira *et al*., 2021; Stewart, 2021).

The chronic crisis stage

The acute crisis stage is usually the shortest of the four phases, though it may not feel like it at the time. Typically, the chronic crisis stage is the longest phase. This is when the clean-up of the crisis happens and is sometimes called the post-mortem phase (Fink, 1986).

In the context of the Covid-19 crisis, the crisis has moved at different pace across the globe, largely dependent on where the original strain and sub-strains originated from, with some governments and health authorities making better decisions than others (when it comes to the number of lives lost, the magnitude of the economic repercussions, the continued longer-term 'side effects' on the health sector, etc), being quicker at responding and having better financial capabilities to e.g. facilitate the national testing and vaccination schemes. Therefore, this post-mortem phase may not have started at the same time across the globe and may not even have started yet in some places.

Over the longer-term, problems began to surface. These were largely anticipated, but not dealt with as many academics believed that the crisis would abate very quickly (Tesar, 2020). In the US, HEIs began to plan for F2F education to resume as early as the Autumn of 2020 (Johnson *et al*., 2020), while elsewhere around the world, at the same time, governments began to discuss blended options (Nordmann *et al*., 2020). Against this narrative, HEIs were unlikely to resource online strategies, but disruptions continued for at least another year. This chronic phase therefore tested the resilience of HEIs even more with significant challenges around care of students and staff (Johnson *et al*., 2021), digital support for staff (Tesar, 2020), the lack of a digital mindset in HE (Rof *et al*., 2022), shock and exhaustion among staff (Nandy *et al*., 2021; Stewart, 2021) and inequalities (Johnson *et al*., 2021; Tesar, 2020).

Arguably, the chronic crisis stage would be the start of the adaptation stage in a resilience context, as some adaptation strategies were already being trialled, though its definition of 'post-crisis time' (Shaya *et al.,* 2022) would suggest this stage only begins in the crisis resolution stage (Fink, 1986).

The crisis resolution stage

The crisis resolution stage is the end goal of crisis management, it is here you want to get to as quickly as possible from both the acute and chronic crisis stages (Fink, 1986), restoring the equilibrium (Williams *et al*., 2017). In the university sector, we could argue that the resolution stage was the start of the 2022/2023 academic year (September 2022) as this was when teaching began to return to relative normality.

As noted by Fink (1986), crises rarely come in isolation. Examples include the Russia-Ukraine war started in spring 2022, also touching the academic community in the affected countries and HE more broadly due to the international nature of HE, and the cost-of-living crisis which followed this.

In the UK, the HE sector swiftly moved into "unrelated" crises of sustained strike action among academic and support staff, cost of living impacts and the threat of recession. These have further disrupted HEIs' capability to deliver on their teaching commitments, soon after the Covid-19 restrictions eased.

Additionally, many researchers report the need to learn from experience and rebuild HE resilience for future pandemics or other disruptions, by retaining online experience and developing more digital content (Nandy *et al*., 2021), i.e. adaptive resilience strategies (Shaya *et al.,* 2022). On a local level, in our city, there is a severe housing crisis, which has affected students' ability to move to the city, and thus joining classes F2F, which has resulted in a need to continue some online delivery.

Nandy *et al*. (2021) further proposed that once a protective environment has been developed in HEIs, they can start considering moving beyond a resilience model to an antifragile model to allow them to perform better in the future. An antifragile HEI would be one that is stronger and more creative in the aftermath of disruptions, with everyone within the system having the ability to adapt to the new challenges created by the crisis (Taleb, 2012; also see Hilson, 2023, in this special edition). Arguably, this would move organisations beyond their equilibrium in the post-crisis era.

Discussion

As had happened in the earlier H1N1 outbreak, HEIs were curiously unprepared for the pandemic (Oliveira *et al*., 2021). Risk registers and business continuity plans either did not exist, or were inadequate. The response to the withdrawal of physical teaching spaces was similar across HEIs worldwide (e.g. see Bond *et al*., 2021; Oliveira *et al*., 2021). Many HEIs lacked a comprehensive response to the crisis. This is not a new finding as such, as previous research has reported a lack of overall crisis management preparedness in HEIs (Rayburn *et al.,* 2021; Wang & Hutchins, 2010). However, some structured business continuity planning did take place and, after the crisis flared, a drive towards higher quality teaching than simple 'lectures on zoom' was attempted. While the results were understandably mixed, the exercise did generate a degree of resilience and continuity that would otherwise have not existed. Institutions were able to draw on internal resources for resilience, namely the existence of technology experienced staff or an intrapreneurial spirit (e.g. Hunter *et al*., 2021). This demonstrates an intrinsic resilience which is difficult to plan for. The intrinsic resilience and responsiveness of an organisation can form a part of its ability to withstand shocks.

However, intrinsic resilience cannot avoid certain knowable hazards in the way that fully considered continuity plans and risk registers can. For example, a comprehensively documented risk pertaining to pandemics, may have caused university staff to discover ERE as an easier and more pragmatic mitigation. Whilst it is easy, in hindsight, to suggest more adaptive responses (Toft, 1992), the use of continuity plans is not to immediately switch to the best strategy but to have a range of responses which can be used as necessary. HEIs adopted some elements of ERE and some elements of ODL, in an unstructured way. Many establishments ultimately lacked the resources to go 'fully' ODL because these resources had not been captured by any systematic continuity planning.

The pandemic, while being horrific in so many ways, also brought with it several opportunities for HEIs, especially in relation to teaching, some that were trialled, some that were retained, and others that were not. Since the start of the pandemic, all teaching staff have basically been on a crash course of online and blended learning, for most through a need and a want to learn more about what became

a prevalent and continued form of teaching. Many free formalised learning opportunities exist (e.g. courses through MOOCs offered by FutureLearn). But internally, universities, schools and departments were able to truly co-create and share best practice through sources such as internal guidance and standards for staff on how to move courses online. For example, professional learning networks based on social media platforms became a resource for teachers to adapt to remote teaching (Greenhow *et al*., 2021). As a result, universities have managed to rapidly amass huge individual and institutional theoretical and applied knowledge on a subject that before the pandemic was unknown to most, and this opens doors for future learning and teaching strategies that previously were inaccessible. Continuing to develop online content, for example via micro credentials and MOOCs, allows HEIs to retain talent and potential material for remote teaching in case of a future crisis (Nandy *et al*., 2021).

Although Covid-19 will eventually become endemic, this does not prevent another pandemic occurring. Other global and local events may disrupt F2F teaching and there is increasing pressure on teaching spaces as HEIs run out of campus estate and funding to accommodate student numbers. This makes it likely that recent experience with remote, but more importantly, blending online and F2F delivery, is likely to become useful.

The earlier H1N1 outbreak (Wilson & Meyer, 2011) provided ERE researchers with the knowledge that HEIs were not ready for a crisis, as did many other natural disasters (e.g. Hurricane Katrina (Johnson *et al*., 2020)). In the UK, an extreme weather event known as the Beast from the East (BBC, 2019) led to widespread closures and even ERE. Any of these events, could be considered a prodrome or anticipation stage, indicating that infrastructure and working patterns in most countries could be seriously impacted by climate change, pandemics or other manmade or natural disasters, aptly reasoned by Rajeev Venkayya, who drafted the US pandemic plan in 2005: "*…a mutation here, a mutation there and either one of these viruses could have wreaked havoc on American life…*" (Lewis, 2021, p.52).

Two areas of risk theory provide pertinent reflection on near-misses and prodromes. These are event isomorphism and cross-organisational isomorphism. The first is where two separate incidents occur, that manifest themselves in two completely different ways, but they create an identical threat. If one fails to recognise the isomorphic qualities of these two events, one will miss the opportunity to prevent or minimise a future threat of this kind (Toft, 1992). The 2009 H1N1 event and the 2018 Beast from the East event could be argued to possess such isomorphic qualities, although the latter only affected the UK. This leads us to cross-organisational isomorphism, which is when separate organisations that are in the same industry can be considered identical as they produce the same service in the same way (Toft, 1992). This is where UK HEIs had the opportunity to learn from the threat face by HEIs in Asia during the 2009 H1N1. However, as Toft (1992) noted, "*hindsight is without a doubt one of our most important and costly information sources, in terms both of lives and capital expenditure lost*" (p. 58) and this applies both to the Covid-19 crisis itself, as well as the dissection of how HE faired during the Covid-19 crisis.

The argument that Toft (1992) makes is that we should learn, with the benefit of the knowledge that hindsight affords us, from crises such as Covid-19, so that we can minimise further 'costs'. Arguably, therefore, now that HEIs in the UK for example have faced both the Beast from the East and Covid-19, *now* is the time to learn from this event isomorphism, and anticipate further crises, and consequently build in the anticipation stage (Shaya *et al.,* 2022) as a resilience strategy. Now is also the time to flip the risk coin from considering these issues only from a threat perspective, and instead also consider them from an opportunity perspective. Cross-organisational isomorphism would be especially useful in this regard, to learn from other HEIs, not just in terms of how they dealt with the Covid-19 crisis

(and continue dealing with it), but what opportunities they managed to harness from it. Although universities were rushing to get students and staff back on campuses, arguably, some event isomorphic learning was harnessed from the Covid-19 crisis, as it has helped HE to deal with continuing issues such as locked-down foreign students and accommodation crises which have plagued many university cities.

Conclusions

The literature cataloguing pre-covid and Covid-19 ERE responses are included as an illustration of how most HEIs failed to plan for the pandemic and yet, also as a good example of internal resilience or adaptation to a crisis. While the response was impressive and unexpectedly rapid, there remained some uncomfortable missteps which might have been mitigated by earlier and comprehensive planning and exercising. Early research, emerging from the crisis finds similar stories across HEIs and recommends retaining online expertise and contingencies in case of further shocks (Nandy *et al*., 2021). Continuing with online and/or a mixed-mode of teaching is a resilience strategy and a strategy to capitalise on an opportunity. Not only are the conditions for further pandemics unchanged from 2019, but there are also other crises which can be envisaged which lead to similar results. ERE, which effectively is a business continuity strategy implemented in practice, was established specifically to maintain continuity in education and much good work has been done there. There is also considerable and increasing research into Covid-19 and HE, which will continue to make recommendations as to how institutions can be better prepared in the future.

Our case study places our reflections of HEI in the emerging body of knowledge about remote teaching in the pandemic. The case study is ultimately subjective and therefore limited by personal bias. It is, very simply, our reflection on the events of the pandemic. Additionally, there may be many higher-level considerations that we are not aware of. At this stage, subjective cross-sectional research is used in much of the educational reflection on Covid-19 (Bond *et al*., 2021). However, this is hardly surprising at this stage. It will take more time to develop deeper and more rigorous research, but this will ultimately build on personal reflections of the time as initial exploratory tools. While this paper also focuses on a single event from a subjective perspective, it, additionally considers broader crisis and resilience theories. As such, it moves the understanding of these events from a narrow experiential focus to a more abstract understanding of the events in a longer timeframe and phases of the crisis. It demonstrates that the early signs of the crisis were largely missed (as they were elsewhere) and offers useful insights as to how an organisation can 'bounce back stronger' to co-opt Hillson's (2023) description of anti-fragility, thus going beyond simply resilience.

The knowledge created by our case study has wider implications. The case study offers experiential evidence of Fink (1986)'s phase model, highlighting the importance of this model from a perspective that is extremely rare (a global pandemic), but also from a resilience perspective. As well as this theoretical contribution, the case study also resonates with many large organisations. Such organisations are often considered to be inflexible. Yet, our study demonstrates considerable resilience in terms of individual practice. It also demonstrates the importance of both contingency planning, and also Learning from Experience (LfE), an important pillar in the paper on anti-fragility (Hillson, 2023) in this edition.

We cannot counter the limitation of a lack of empirical research in this paper; hence we call for empirical research that investigates HEIs specifically from a crisis management and resilience perspective. We are of the view that articles focused on the resilience or crisis management in HEIs (especially in a teaching, or pandemic context) have not sufficiently utilised the risk, resilience or crisis literatures found in broader organisational studies. Instead, much of the focus has been on HEI from

an educational literature perspective, with some exceptions (e.g. Spais & Paul, 2021). This is also something that future research should address.

Future studies could also explore in more depth the risk landscape of HEIs and resilience frameworks that would be appropriate for organisations in the sector, given the complex nature of increasingly globalised HEIs, their core services and diverse stakeholders. HEIs are large enough organisations to warrant having robust risk management processes, including risk registers that would have addressed the risk of a pandemic. If they existed, did they not address mitigations for loss of premises or loss of teaching facilities? Why did the continuity planning fall on those doing the teaching (delivering the service on behalf of HEIs) at the time of the crisis, instead of having been previously addressed in risk registers by management? Was risk management, both at strategic and operational levels, lacking in HEIs? Extant research (Bell, 2019) indicates that implementation of e.g. resilience strategies often happen in silos, so theoretically it makes sense that different schools within single HEIs implemented different approaches, and that there perhaps was a disconnect between strategic and operational risk assessments and business continuity strategies. These are issues that further studies should explore empirically.

Ultimately, the pandemic experience did enable HEIs to develop tools, capabilities and capacity, which in themselves should enhance their resilience, yet whether they will capitalise on this experience for the long-term, and develop these tools, capabilities and capacity beyond this experience, is another question. It remains to be seen which organisations will integrate risk management, crisis management, and contingency planning as the pandemic fades from view, yet while future shocks remain unavoidable.

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