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ORIGINAL ARTICLE

Organizational Resilience of Higher Education Institutions: An Empirical Study during Covid-19 Pandemic

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Abstract

Resilient organizations and academic institutions have been identified as contributing immensely to resilient communities. The majority of organizations showing preparedness to mitigate the impact of COVID-19 have deployed an efficient organizational resilience framework. Yet, there is little research on organizational resilience, and the conceptualization of resilience as a complex variable has not been achieved. Focusing on the higher education sector in the UAE during the COVID-19 pandemic, the current study aims to contribute to this promising research area by exploring and expanding a theoretical model on organizational capabilities that constitute organizational resilience. A qualitative phenomenological research design was utilized, where a total of 13 executives from reputable universities were interviewed, followed by a thematic analysis of the data. Findings provided deep insight into the status of universities in the UAE that are currently in the early adaptation stage of the current crisis. Organizational resilience was conceptualized as a process that comprises three successive stages (anticipation, coping, and adaptation), five key antecedents (knowledge, resources availability, social resources, power relationships, and innovative culture), and two main moderators (crisis leadership traits and employee resilience). Important findings were also identified on the needed crisis leadership styles. Recommendations for practice and research are discussed.

Keywords Organizational resilience · Higher education · Anticipation · Coping · Adaptation

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Introduction

In the wake of 9/11, severe acute respiratory syndrome (SARS), natural disasters, and campus violence, many universities have responded by setting up crisis management-response teams to mitigate any damage. The surge of the COVID-19 pandemic has exposed the limits of these efforts (Brown et al. 2021). The novel coronavirus is one of the most unexpected global public health crises in recent years. Academic leaders across the globe have responded by moving academic and related activities online with a sense of immediacy (Aspergen 2021; Hess 2020). While agility and other adaptive behaviors (such as robustness) have been identified as particularly important in handling peculiar daily hurdles, Duchek (2020) identifies organizational resilience as a critical success factor when encountering similar unexpected threats. For instance, despite the swift response of academic institutions to the virus, being quick to empty dorms, train students and staff, and then move classes online, the process was challenging, and many continue to struggle (Hess 2020). The ravaging pandemic is overburdening institutions and individuals. Academic and administrative staff have concerns about their future, and student enrollment and faculty employment are being impacted (Hess 2020; Redden 2020). The resulting uncertainty and economic burdens make it impossible for many universities to sustain operations (Aspergen 2021; Redden 2020). Accordingly, a growing list of reputable community colleges and institutions are closing amid the current crisis, despite many surviving world wars and SARS (Aspergen 2021). Among these institutions are Mills College in California, Concordia College in New York, and MacMurray College in Illinois in the USA, which have been operating since the 1800s (Aspergen 2021). In addition, recent surveys have revealed a severe drop in international enrollments in Fall 2020 and 2021, by 25–43%, resulting in an institutional revenue loss of US$23 billion (Hess 2020; Redden 2020). As a looped recovery strategy, reputable universities have waived standardized test scores from admission requirements. The *Wall Street Journal* has warned that such a chaotic approach might permanently alter how student selection happens and, foremost, the makeup of the student body (Korn and Belkin 2021). Therefore, the rise of the recent coronavirus has challenged any notion of academic and business continuity while causing significant disruption, prompting institutions to increase their organizational resilience.

Prayag et al. (2018) ascertain the importance of organizational resilience, where resilient organizations contribute immensely to resilient communities. With this in mind, Lee et al. (2013) and Bartusevičienė et al. (2021) explain that if organizations are not sufficiently prepared to mitigate impacts and effectively respond to crises, neither will the communal- or supra-systems to which they belong. The literature shows that the majority of those establishments showing preparedness to mitigate the impact of COVID-19 have adopted and deployed an organizational resilience framework (Brown et al. 2021; Bartusevičienė et al. 2021; Chen et al. 2021; Diedrich et al. 2021). A significant component of this approach emphasizes the incorporation of accumulated knowledge from earlier health crises and other global emergencies (Deloitte 2021), business-model innovation (Denyer 2017; Diedrich et al. 2021), prioritizing reliability (Denyer 2017; Diedrich et al. 2021), and so on.

Resilience as a phenomenon is commonly addressed by academics (i.e., Wildavsky 1991; Chen et al. 2021; SchWeber 2013). However, research on organizational resilience in general remains scarce (Bartusevičienė et al. 2021). The conceptualization of resilience as a complex variable has not yet been achieved (Chen et al. 2021; Duchek 2014), and, in the context of higher education, there is insufficient literature addressing the impact of the abrupt transition to online modes on business continuity and organizational resilience (Bartusevičienė et al. 2021). The literature shows an absence of consensus on a comprehensive definition of organizational resilience and its components, while scholars have only attempted to identify significant features, resources, and processes that would reinforce resilience (such as Weick 1993; Kendra and Wachtendorf 2003; Gittell et al. 2006). As such, organizational resilience is perceived as a result of organizations' ability to recover. However, how organizational resilience is achieved and what behaviors foster resilience remain unknown (Duchek 2020). Furthermore, research on organizational resilience has shown mixed conclusions, posing difficulties in understanding why certain organizations are more resilient to crises and providing meaningful recommendations for dealing with adversity (Chen et al. 2021).

To address these limitations, we provide an in-depth analysis of organizational resilience as a construct. Through adopting a resilience theoretical framework, we argue that organizational resilience is a meta-capability (Duchek 2014) and process rather than an output. Hence, the present study explores an organizational resilience theory and extends it to include other critical components that appear to be significant at the level of the higher education context in the United Arab Emirates (UAE). With a focus on the academic continuity of institutions during the COVID-19 pandemic, we aim to conceptualize the meaning of organizational resilience to provide a deeper understanding of the phenomenon and develop a strong foundational base on the underlying dynamics and interactions for the empirical analysis of organizational resilience. To our knowledge, no study has investigated the organizational resilience of academic institutions in the Middle East during a crisis.

This paper contributes to the literature on academic institutional resilience in four ways. First, by reviewing existing literature and analyzing data, we clarify the notion of organizational resilience, providing an operational definition as a multi-leveled and complex process involving successive stages and a number of antecedents. Second, we adopt an organizational resilience theory that has proved to be highly relevant to the higher education context (Bartusevičienė et al. 2021). We then empirically explore its applicability in the UAE context. Third, we expand the theoretical boundaries of the adopted model to examine the structure of institutional resilience using a qualitative research design by selecting the most resilient institutions, in contrast to other studies that test the model while focusing on short-term elements of academic continuity. Fourth, examining the constituents and dynamics of organizational resilience using qualitative research approaches remains scarce. The current study utilizes thematic analysis to divide organizational resilience into themes, subthemes (i.e. the three successive stages), subtheme components (i.e. resilience capabilities in each stage), and then antecedents to resilience. In this way, we address the corresponding gap with the limitations of the extant literature (Bartusevičienė et al. 2021; Duchek 2014).

Literature Review

Organizational Resilience Amid the COVID-19 Pandemic

The concept of "resilience" has been conceptualized to characterize organizations, systems, or individuals that are able to respond to and recover from stress threatening their existence with minimum disruption to their stability and functioning (Parsons 2010; Bhamra et al. 2011; Linnenluecke and Griffiths 2012; Ortiz-de-Mandojana and Bansal 2016; Linnenluecke 2017). Despite the rising interest in organizational resilience, there are various and partly inconsistent definitions in the literature depending on the system under study (Hillmann and Guenther 2021; Xiao and Chao 2017; Madni and Jackson 2009). Organizational resilience is a semantically overloaded phrase in the sense that it signifies somewhat various aspects in different domains depending on the system under study (Jabareen 2009; Madni and Jackson 2009). In that sense, this current study aims to contribute to this promising research area by providing a cohesive definition post the COVID-19 crisis.

Organizational resilience is defined as an organization's capability to anticipate possible risks, successfully cope with unexpected events, and learn and adapt to changing situations aimed at promoting organizational transformation (Duchek 2014, 2020). Amid the spread of COVID-19, the literature indicates that governments', organizations', and citizens' rational and long-term functioning will alter drastically (Abdullah et al. 2020). Resilience is a positive psychological concept that stresses organizations' and individuals' strengths and virtues to cope with a crisis (Ojo et al. 2021), which is particularly important during the current pandemic (Plomecka et al. 2020). As a result, disturbed entities might aggravate their complexities, putting individuals whose condition was previously unknown on the edge of extinction (Abdullah et al. 2020). For organizations to survive, they must operationalize the organizational resilience concept (Parsons 2010). Organizations must have the ability to respond effectively to unanticipated occurrences or interruptions, as well as capitalize on events that might jeopardize the organization's long-term viability (Lengnick-Hall and Beck 2005).

Conceptual Background

Resilient organizations play a vital role in building resilient communities. The inability to convert the notion of organizational resilience into practical functioning frameworks for organizations, however, complicates the job of developing more resilient organizations (McManus et al. 2008). Duchek (2020) developed a set of propositions to evaluate organizational resilience. The framework illustrates the underpinning qualities of the three consecutive resilience stages, anticipating, coping, and adaptation (Rangachari and Woods 2020; Bartusevičienė et al. 2021) and deliberates relationships and interactions between different resilience stages and antecedents, as presented in Fig. 1.

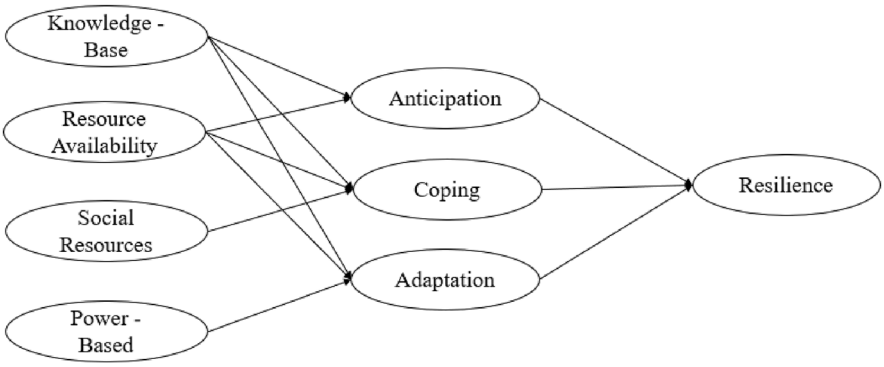

Fig. 1 Organizational resilience theoretical framework (Duchek 2020)

While other scholars have presented various theoretical frameworks in the past, Duchek's (2020) model appears to be highly promising and feasible in building organizational resilience (i.e. Abdullah et al. 2020). This paper adopts Duchek's (2020) model as a conceptual framework that illustrates the major stages of the resilience process and signifies the underlying capabilities that collectively make up the organizational resilience meta-capability. Stemming from the Middle Eastern context, this paper aims to clarify the notion of organizational resilience and then empirically explore and extend Duchek's (2020) framework to UAE higher education institutions.

The Stages of Resilience

Organizational resilience is divided into three successive resilience stages (Lengnick-Hall et al. 2011; Limnios et al. 2014), referring to different time zones within a crisis: the anticipation stage, depicting the period prior to the crisis or unexpected event; the coping stage, which appears during the crisis; and, finally, the adaptation stage, capturing the period post-crisis (McManus et al. 2008; Madni and Jackson 2009; Duchek et al. 2020; Williams et al. 2017).

The Role of Anticipation in Organizational Resilience Anticipation is defined as the capacity to observe internal and external changes, recognize prospective risks, and prepare for unexpected occurrences to a possible degree (Somers 2009; Duchek 2014; Bartusevičienė et al. 2021). This does not imply that crises may be totally avoided; rather, it denotes being able to recognize symptoms of a crisis promptly and successfully respond to them to minimize negative consequences (Somers 2009; Madni and Jackson 2009; Duchek 2014). The anticipation stage includes two main capabilities: observation and identification, which is the ability to scan the environment to make judgments, take actions, and potentially avoid future disruptions; and preparation for future developments as the crisis starts unfolding (Madni and Jackson 2009; Bartusevičienė et al. 2021). Anticipation and risk assessment are perceived as integral elements of the disaster cycle and the creation of a resilient society (Rogers

2011). This paper investigates the relationship between the crisis anticipation stage and the organizational resilience of higher education institutions in the UAE.

The role of the coping stage in organizational resilience Coping is the process of devising and implementing solutions to a given adverse event (Duchek 2014). This stage comprises two independent capabilities: accepting the evolving situation and the ability to seek a solution and put it into action (Madni and Jackson 2009; Jaques 2007). These skills are indicative of quick or short-term actions in the event of unforeseen circumstances (Madni and Jackson 2009). The cognitive conceptions of sense-making and problem-solving arise where organizations need to develop the ability to accept a problem or a situation and make sense of it—only then can they face critical situations and react quickly (Maitlis and Christianson 2014). Scholars argue that accepting the present is a cognitive difficulty that might have severe implications since it takes organizations a long time to recognize and respond to threats (Hamel and Välikangas 2003). As a result, the goal of this study is to uncover higher education institutions' coping capabilities and how they contribute to a successful overall general system response, which strengthens organizational resilience.

The role of the adaptation stage in organizational resilience This stage relates to post-crisis changes that are geared toward organizational growth (Limnios et al. 2014). A system's ability to adapt to changing external conditions is defined by its ability to alter, learn (Gallopín 2006), and rearrange its resources in order to respond to the disturbance (Ambulkar et al. 2015). Amid threatening disruptions, organizations that promote and grow their adaptive ability continually learn and use the accumulated knowledge (Staber and Sydow 2002). As a result, they can function under a wider range of conditions (Burnard et al. 2018). In adaptation, two types of capabilities are distinguished: first, reflection and learning; and, second, organizational change capabilities (Duchek 2020). Adaptive characteristics and proactive reactions are common in organizations that focus on their resilience in the face of change (Ambulkar et al. 2015). However, scholars argue that the superficial learning that generates from concentrating on known failures while disregarding the hidden problematic factors leads to hindered capacity in translating new knowledge into productive long-term practices (Kim and Miner 2007; Madsen 2009). In that sense, this study aims to uncover the institutional interpretations of past experience and the process of putting the new knowledge into practice to support organizational change while minimizing further radical changes.

Antecedents and Drivers of Resilience Stages

Duchek (2020) identifies four main antecedents to the resilience stages: knowledge base, resource availability, social resources, and power and relationships.

Knowledge Base The organization's knowledge base is critical to the success of the resilience process. The literature supports the positive relationship between anticipation abilities and the acquisition of new knowledge (Gomes et al. 2014).

In order to be resilient, organizations should develop a broad and diverse knowledge base that allows them to foresee both internal and external changes—even if they are outside of their core business. This can be accomplished by investing in research, investigation, and diversity (Beinhocker 1999; Williams et al. 2017). Accordingly, an organization's existing or prior knowledge base is the key antecedent informing the anticipation phase (Bartusevičienė et al. 2021). Similarly, knowledge and experience assist individuals and organizations in applying and managing responses, deciding on solutions, and, therefore, coping, sustaining or restoring operations (Williams et al. 2017). A variety of talents, personalities, and views can boost creativity and innovation, as well as information sharing and learning during a crisis, which aid in coping and problem-solving activities and, therefore, are associated with greater resilience (Smith and Elliott 2007; Gittell 2008; Pregenzer 2014). At the level of adaptation, the post-crisis period provides a fertile ground for true corporate learning and system transformation (Jaques 2007). Given the above, this paper examines the role of an organization's knowledge base as an antecedent to the anticipation, coping, and adaptation stages, which in turn would positively impact the organizational resilience of the UAE's higher education institutions.

Resource Availability According to the literature, financial, technical, and social resources are required to establish organizational resilience, particularly during the early stages of anticipation (Andersson 2018). In difficult situations, a diverse and easily accessible collection of resources serves as the foundation for prompt and adequate responses (Vogus and Sutcliffe 2007; Ojo et al. 2021). As the crisis unfolds, the coping phase requires both financial and human resources as part of the crisis management process (Gittell et al. 2006). During the closure of Malaysian schools, Abdullah et al. (2020) found that having financial reserves, as evidenced by entrenched information technology (IT) infrastructure, was critical in coping with the transition to remote learning (Abdullah et al. 2020). In a similar manner, organizational resilience requires both financial and human resources during the adaptation stages to develop recovery plans and train people and leaders to adapt to and implement changes (Gittell et al. 2006; Duchek et al. 2020). Therefore, we explore how UAE higher education institutions use their resources to anticipate, cope with, and respond to adversity pressures in order to perform better than their less well-off competitors.

Social Resources According to the literature, social resources last longer than technical and financial resources, which are dependent on favorable economic and other temporary conditions (Andersson 2018). Hence, enhanced information sharing, resource interchange, shared objectives and vision, and high levels of support and coordination among workers can serve as critical components to organizational resilience (Andersson 2018; Ojo et al. 2021). Following the identification of early indicators of a threat, organizations may function effectively by leveraging social capital and resources that capitalize on individual worker involvement and networks of good connections among employees. According to Ojo et al. (2021),

social support has a positive impact on organizational resilience by improving employee resilience and increasing job engagement. Therefore, this study investigates the role of social resources in ensuring the viability and resilience of academic institutions during the COVID-19 anticipation stage.

The Influence of Power and Responsibility After a crisis, powerful actors can either inhibit or hinder the process of turning lessons learned into overall positive change, affecting organizational performance directly. This reflects how some organizations are better able to make use of accumulated knowledge while organizational goals are being directed (Onwughalu and Amah 2017). One of the most successful practices in adapting to a crisis situation, according to the literature, is establishing power based on expertise rather than hierarchies (Lengnick-Hall et al. 2011). This is achieved through shared decision-making, which allows for ambidexterity and empowers technical expertise to build business strategies, reconfigure, and adapt to ever-changing conditions (Onwughalu and Amah 2017). Accordingly, we seek to uncover how higher educational institutions adapt to disasters or new situations based on power and responsibility, as well as learn from previous experiences, actions, failures, and evaluations.

Research Method

To expand the adopted theoretical model, we utilized a qualitative phenomenological research design. Organizational resilience as a phenomenon was explored and exploited with a group of individuals who once assumed a senior leading role in managing the current pandemic crisis. Research questions that strive to reach an in-depth understanding of patterns of individuals' practices and behaviors call for a qualitative research design (Merriam 2009). Considering the nature of the pandemic, with potential threats to academic continuity and the existence of organizations, participant selection capitalized on utilizing the expert knowledge of executives affiliated with universities showing high organizational resilience. Accordingly, purposive sampling took place. Data were collected during the Spring/Summer 2020–2021 semesters.

Data were collected through face-to-face and online semi-structured interviews, lasting around 30–50 mins each. Subject recruitment was based on researchers' personal connections. Prior to enrollment, an invitation email to take part in the study was sent to potential subjects. Information pertinent to the aims and objectives of the current research study and a consent form encapsulating the subject's voluntary participation, confidentiality, anonymity, and the right to withdraw at any time was shared. Upon receiving confirmation of participation, subject names were given codes and listed in table form for future use in the analysis. Subjects were mainly contacted directly through their personal email accounts and, in a few cases, through the office of their executive assistants.

In total, 15 highly experienced participants holding senior positions in their academic institutions were invited to participate, while two declined amid the study due to illness. The final sample consisted of 13 senior executive leaders in

Table 1 Demographic characteristics of the respondents

Characteristic		Value
Gender	Male	11 (84%)
	Female	2 (16%)
Educational background	PhD	13 (100%)
Age	40–49	5 (39%)
	50–59	7 (54%)
	60+	1 (7%)
Professional rank	Associate Professor	2 (16%)
	Full Professor	11 (84%)
Designation	Dean	10 (77%)
	Provost	2 (16%)
	Vice Chancellor	1 (7%)
Sector	Private higher education institutions	13 (100%)
Affiliated colleges	College of Business Administration	3 (23%)
	College of Education	2 (16%)
	College of Arts	2 (16%)
	College of Engineering	3 (23%)
Nationality	Non-Emirati	13 (100%)

critical roles at the deanship and higher levels. Each participant holds at least one Ph.D. The age groupings ranged from 45 to 70 years old. Only two of the interviewees were female, the remainder being male. The participants work for eight different private higher education institutions in the UAE that have shown high resilience levels during the pandemic period (Table 1).

Semi-structured interviews were conducted, facilitating an inductive research style and allowing the researcher to focus at the micro level to address the problem (Marshall and Rossman 2011). Semi-structured interviews are considered an important data collection tool as these interviews provide relaxed and spontaneous opportunities for participants to share their experiences and allow for data analysis, validity checks, and triangulation (Creswell 2013). These interviews usually provide the participants a platform where they can describe complex situations easily and elaborate or clarify questions (Corbin and Strauss 2008). Interview recordings were professionally transcribed, and the data were analyzed via theoretical thematic analysis (Braun and Clarke 2006) in which the data were organized around major findings. Theoretical thematic analysis is driven by the researcher's theoretical and analytic interest in a specific area and is thus predominantly analyst-driven. Theoretical thematic analysis was deemed as more appropriate for this study, as a more specific question this study needs to answer concerns "the resilience of UAE-based higher education institutions toward the COVID-19 pandemic." Hence, the thematic area and second-order themes in this study were driven by the literature of anticipation, coping, and adaptation, with the first-order themes subsequently emerging from the data.

Once the transcripts were ready, the themes were identified using Braun and Clarke's (2006) six-phase approach: familiarization with data, generation of initial codes, searching for themes, reviewing themes, defining and naming the themes, and producing the report. Emerging codes were regarded as potential themes in a process where various codes merge toward forming overarching and, eventually, themes, sub-themes, components, and antecedents. Initially, this was an inductive process, followed by applying a more deductive approach to explore whether participants confirmed the validity of the main research constructs and relationships and further demonstrated how they were being incorporated during the pandemic as part of their crisis management. Throughout all phases, constant cross-checking of data extracts, codes, and themes against each other and the entire dataset was performed. The authors conducted all interviews and generated initial codes and potential themes. Credibility was addressed by researcher triangulation throughout the analysis, with three industry experts in organizational resilience within the academic context and two researchers having experience with qualitative research. Bias was reduced by having more than one person handling the analysis, where at least two researchers undertook data coding, followed by having an external expert review the data analysis and findings. The experts were two retired deans.

Validity and Reliability of Data

Creswell and Miller (2000) define "validity" as "how accurately the account represents participants' realities of the social phenomena and is credible to them" (p. 124). Qualitative researchers often refer to the trustworthiness of data (Glesne 1998) instead of reliability. Therefore, a number of steps were taken to enhance the trustworthiness of the data.

Trustworthiness is considered an important step to be established in qualitative studies. Lincoln and Guba (1985) describe four criteria to be met: credibility, transferability, dependability, and confirmability. *Credibility* is one of the most important criteria to consider, representing the extent to which the study findings are congruent with examined reality. Patton (2002) recommends an amalgamation of three elements to achieve credibility: a rigorous method, credibility of the researcher, and a philosophical belief in the value of qualitative inquiry. To address these elements, several steps were taken to achieve credibility in the present study. First, the research method used in this study is well established in organization sciences. Second, credibility was ensured as the researchers have a high level of familiarity with the overall culture of the participating organizations. Third, not only were semi-structured interviews conducted, but field observations were also performed to establish the variety, richness, and completeness of the information.

Transferability is another important parameter used to evaluate the trustworthiness of qualitative research. Generally speaking, transferability (or generalizability) is one of the key limitations of qualitative research, limiting its scope (Marshall and Rossman 2011). In order to tackle the issue of transferability, the participating organizations were chosen from all the Emirates of UAE.

Dependability is similar to the concept of reliability in quantitative studies and refers to the need to obtain similar results by other researchers under the same situations. Therefore, in order to enhance reliability in this qualitative study, a colleague was asked to read the transcripts and generate the potential codes. The codes generated by the researchers and colleague were then compared to find the differences so that accurate codes could be reached. A high degree of agreement was found between the codes generated by the colleague and researcher.

Similar to the concept of construct validity in quantitative research (Shenton 2004), *confirmability* refers to the objectivity in qualitative research, specifically focusing on the avoidance of bias, which may influence the researcher. In this study, a few steps were taken to ensure that the study findings were based on informants' ideas and experiences rather than the preferences of the researchers. For example, transcripts were sent to the respective participants to confirm and comment on the information they provided during their interview. This increases the reliability and validity as in participatory and collaborative research strategies (Thomas 2017).

Results

In light of the research questions and objectives, the results of the qualitative data analysis yielded *organizational resilience* as a key theme, three main themes (*anticipation, coping,* and *adaptation*), six subtheme components, five theme antecedents, and two moderating variables. (see Table 2 for detail).

Key Theme: Organizational Resilience

Participants ($n = 10$) defined organizational resilience as a process that enables organizations to adequately react to adverse events and capitalize on sudden disruptions that could potentially threaten the organization's existence, growth, and prosperity. For example, as one interviewee commented: "It is all about how an institution can effectively respond to a high degree of threat, such as the current global health crisis, to ensure continuity, then achieve progress. Resilience is not an end; it is a means toward transforming to the better and remaining as strong in the face of threat".

All of the participants ($n = 13$) confirmed that successful or unsuccessful responses to disruptive events are linked to several enabling factors, hereby denoted as main themes, that would ultimately diminish potential harms, leading to survival and contributing to the organization's evolvability.

In this study, resilience was operationalized as a product of three main themes: *anticipation*, *coping,* and *adaptation*.

Table 2 Themes from the data analysis

Thematic area	Second-order themes	First-order themes
Anticipation	Observation	Threat detection, Scenario planning, Crisis communication,
	Identification	Risk assessment
Coping	Accepting	Defining the problem, Gathering information and collecting data, Developing and weighing the options, Choosing best possible option, Plan and execute, Follow-up action
	Developing and implementing solutions	Developing new policies, Remote teaching and learning environment, Students' training
Adaptation	Reflection and learning	Need for continuity
	Organizational change	Robust change management strategic approach

Themes

Theme 1: Anticipation Stage

Participants defined anticipation as a pre-crisis stage characterized by the ability to detect critical developments within the organization or in its environment and to adapt proactively. For example, as one interviewee argued: "To anticipate is to observe the environment and identify events that might adversely turn into potential threats to our continuity".

Two main subtheme components were identified: (a) observation and identification, and (b) preparation.

Observation and identification were characterized by *threat detection* ($n = 13$), *scenario planning* ($n = 11$), *crisis communication* ($n = 13$), and *risk assessment* ($n = 12$). Threat detection is characterized by early warning signals detection and taking corresponding preventive measures that limit the damage. Scenario planning was mainly based on: (1) the institution remains operating face-to-face with appropriate social distancing measures, (2) an imbalanced combination between physical and online classes, and (3) shifting to full online modes. Interviewees explained that effective communication with internal and external stakeholders, pre-crisis, capitalized on transparency, adequate updates, involvement, clarity, urgency, and empathy. In this sense, staff naturally support institutional efforts in implementing critical messages. Risk assessment in an organization surfaced as critical to adequately plan and prepare for crises and was determined as either low, moderate, or high, with associated interventions in each. On the other hand, preparation to manage the crisis was characterized by *mobilizing a proactive academic continuity plan* ($n = 10$), *upgrading the technology infrastructure* ($n = 13$), and *faculty support* ($n = 13$). Interviewees ($n = 10$) explained that the plan comprises elements of preparedness, activation, response, and assessment that will mitigate the risks and ensure continuity of delivery. Upgrading of technology and IT infrastructure would render organizations to be technologically complex; hence, there is a need to develop suitable recovery plans while capitalizing on such adverse events and unexpected opportunities. Professional development activities were needed to ensure technical readiness. In addition, faculty members received direct individual support from the heads of departments and deans.

Theme 2: Coping Stage

Participants demonstrated how resilient organizations coped during the crisis, with coping functioning as an integral component of the resilience process. Coping was defined as interacting dynamically with the changing situation and then taking constructive actions through developing and implementing fast and positive adaptive responses to the current disruptive crisis. For example, as one interviewee commented: “Once the organization has passed the signal-detection stage, it is now time to deal with the sudden and unexpected events that disturb academic continuity by taking swift and well-planned actions”.

Two main subtheme components were identified: (a) accepting, and (b) developing and implementing solutions.

Accepting was characterized by an immediate and strategic response through forming emergency response teams to install a dynamic and pragmatic operating model.

Interviewees ($n = 11$) confirmed the formation of task forces that are dedicated to handling the fast-moving situation. The task force would develop a framework for action through a series of steps: defining the problem, gathering information and collecting data, developing and weighing the options, choosing the best possible option, planning and executing, and finally taking follow-up action.

Developing and implementing solutions was characterized by operationalizing the adopted model through developing new policies and guidelines that were specific to the remote teaching and learning environment and training students.

Participants confirmed revising their policies and procedures to guide and inform their institution community, including faculty members, students, and administrators. Policies concerned the learning management system, delivery of lectures, remote assessment, IT and data security, grading systems, and so on. In addition, continuous training of students took place.

Theme 3: Adaptation Stage

Participants indicated that the academic institutions are currently in the early adaptation stage, which is highly critical and part of the resilience process. Adaptation was signified as taking place once challenging issues were largely resolved during the coping stage and when opportunities surrounding digitalization and other transformative practices cease so that institutions can grow and change as they reopen campuses in the upcoming academic year. For example, as one interviewee ascertained: "Adaptation is not simply to get back to where we had left off; rather, adaptation is in transforming our practices and attitudes to grow and remain as resilient in the future".

Two main subtheme components were identified: (a) reflection and learning (n = 12), and (b) organizational change (n = 13).

Reflection and learning were demonstrated through the need for continuity planning to be part of a strategic approach that enables institutions to stay ahead of adverse events and to react productively and strategically. Organizational change was signified by emerging stronger from the pandemic using a robust strategic change management approach.

Theme antecedents

Antecedents

Four main antecedents were identified as directly affecting the stages of organizational resilience in different ways.

Prior knowledge was demonstrated (n = 13) through having crisis control planning and utilizing past experiences universities had with piloting online teaching and learning models in previous years. In addition, direct communication was established with a university that has expertise in online learning services in the country. Ultimately, lessons learned post the COVID-19 outbreak shaped the way the current Fall 2021 is expected to start, with emphasis on incorporating blended learning models and enhancing strategic approaches. In that sense, prior knowledge was instrumental in supporting preparation for the crisis (anticipating stage), developing and implementing solutions (coping stage), and enacting organizational change (adaptation stage). For example, as one interviewee mentioned: "Our university has been trying with several blended

and online models over the past few years, so talks on possible full transition to online learning were light on us, as we knew it wouldn't be difficult".

Resource availability was demonstrated through financing and procuring new software licensure, IT equipment, and a heavy reliance on experienced faculty and administrators. The participants ($n = 13$) showed that the presence of strong *resource availability* allowed for effective monitoring of the spread of the virus and coordinating with regulators and other local authorities while accelerating the institutions' digital transformation. The availability of experienced faculty and administrators encouraged institutions to consider online teaching and learning as a reliable replacement of classical modes in some existing and newly developed programs. Therefore, resource availability played a major role in advancing anticipation, coping, and adaptation capabilities. For example, as one interviewee commented: "We relied on our experienced staff and faculty, purchased additional software and expanded our laboratories and studios' capabilities. Our faculty have given their best to innovate their teaching methodologies and design rich learning experiences. We really think now that we are able to consider online teaching as a strategic approach in our future".

Social resources denoted the knowledge sharing and collegial support within the departments and across the institution. Participants ($n = 12$) demonstrated that these resources capitalize on collaboration that helps the community network in the institution to thrive as faculty members navigate through challenges brought about by the pandemic. Hence, institutions capitalizing on social resources helped in developing effective coping capabilities. For example, as one interviewee explained: "Knowledge sharing occurred within the department as well, where experienced faculty were providing a sort of mentoring and coaching faculty members to enhance their classroom experiences".

Power-based relationships emerged as a valuable antecedent to the adaptation stage, which was demonstrated through resetting priorities. All the interviewees ($n = 13$) confirmed expanding their decision-making authority to empower their employees as a long-term priority that was designed to keep the organization as resilient as possible post-pandemic. For example, as one interviewee commented: "We expanded the decision-making authority as an opportunity to remain resilient amid facing any similar potential threats".

Emerging Themes

Interviewees were asked whether there were any other important contributing elements toward the organization's resilience process when encountering adverse events in order to better understand the characteristics of resilient organizations during the pandemic. Three new themes emerged: crisis leadership traits, employee resilience, and innovative culture.

Crisis Leadership Traits

Directive Leadership in the Anticipating Stage All interviewees ($n = 13$) agreed that despite their nature, all crises have three main aspects in common: they require a

response with immediacy, have an unprecedented influence, and tend to unfold in an unordered manner. Hence, the effectiveness of crisis leadership with particular behavior that helps in anticipating and navigating the pandemic and reaching the recovery stage is of immense importance. Crisis leadership traits was demonstrated to be capable of either strengthening or weakening the relationship between each of the stages and resilience as a construct, hence presenting as a moderating variable.

Participants ($n = 13$) explained that amid a scarcity of information, ambiguity, and uncertainty engulfing the anticipating stage, directive leaders provide entrenched clarity through explicit and decisive instructions on task requirements and job roles. Hence, teams are better supported through a top-down approach. For example, as one interviewee mentioned: "The team required clear directions from leaders at this stage, where we were able to leverage knowledge, enhance situation awareness, and emphasize on testing plans. The team, in return, felt clear and good about".

Delegative Leadership in the Coping Stage Amid the process of confronting the acute situation and managing academic continuity, the need for delegative leadership arises in the coping stage. Participants ($n = 13$) signified the role that the emergency response teams play in responding to adverse events; hence, leaders empower these focused teams while they exercise autonomy in their decisions. Such approaches create a positive work environment that capitalizes on the team's competency. For example, as one interviewee demonstrated: "We allow for high levels of autonomy and motivate our team members to undergo their own reasoning and creativity to solve some problems at hand. I know they are capable of that, and, at times of uncertainty, it is highly needed. They feel accountable".

Participatory Leadership in the Adaptation Stage Participants ($n = 12$) explained that leaders strive at the adaptation stage to learn from the crisis experience in hopes of emerging stronger and seizing opportunities to grow. The "new normalcy" becomes a reality, where leaders encounter a number of uncommon situations post-crisis, compared to normal situations, and, hence, are required to be flexible in their leadership behavior. This approach is characterized by engaging and involving team members in the continuous process of decision-making, boosting motive, and productivity. For example, as one interviewee explained: "We trusted our Task Force. They work day and night to provide ultimate resolutions. In delegation, we were able to increase employee engagement, motivate change readiness, expand networks and relationships with different partners, encourage innovation and creativity in benefit of all parties".

Nevertheless, a number of leadership traits were recurrently mentioned and surfaced across all stages of the crisis. These traits are characterized by finding the right mix of attributes during a crisis, namely *empathetic leadership* ($n = 11$) and *communicative leadership* ($n = 10$). As the daunting crisis may seem pressuring, stakeholders' emotional support is required to navigate through the crisis and reach recovery. Successful leaders share what they know and remain open about matters they are unclear about. Communicating with immediacy and

transparency can reduce the lack of clarity and enhance adjustments to constantly changing conditions. For example, as one interviewee noted: "Empathy matters, and our strategy was successful. I have observed that the employees and faculty members performed better at home as they were in a closed and comfortable setting where they were able to work without any distractions"; Another interviewee also explained: "We have always kept a close communication channel open at all times. Regular meetings and straightforward talks. Our policy was set to discuss and report in accordance with a well-defined strategic goal/objective".

Employee Resilience

A common factor supporting organizational resilience was employee resilience (n = 12). The capacity of staff in coping with emotions such as fear, stress, anxiety, and burnout was instrumental in complementing the institution's strategic approach in confronting the crisis. Employee resilience was demonstrated to be capable of either strengthening or weakening the relationship between each of the stages and resilience as a construct, hence presenting as a moderating variable. For example, as one interviewee noted: "We are proud to say that our faculty body and staff showed high resilience. The means in which they cope with strong and overwhelming emotions can really affect the success of our plans in combating the COVID-19 impact and our hopes to rise as stronger".

Innovative Culture

Participants (n = 10) revealed the role of trust, employee engagement, and psychological safety as a nurtured organizational culture in their institutions, supporting crisis management efforts. In this sense, a shared understanding of the situation is developed. An important component of the adaptation stage is the need for change and directions, which is supported by the presence of an adaptive culture in an institution that embraces change and new ideas. Therefore, innovative culture surfaced as the fourth critical antecedent to the anticipation and adaptation stages, leading to organizational resilience. For example, as one interviewee explained: "We aim at creating a culture that promotes innovation, creativity, and collaboration while keeping its autonomy and flexibility that helps in stimulating and reinforcing problem-solving, decision-making, and teamwork, indeed, with the least hierarchy".

Discussion

Principal Findings

This qualitative study aimed to empirically validate an organizational resilience theory by revealing how the resilience successive stages and interactions of antecedents contribute to organizational resilience. Subject interviews yielded descriptive data that confirmed the applicability of the framework to the organizational resilience of

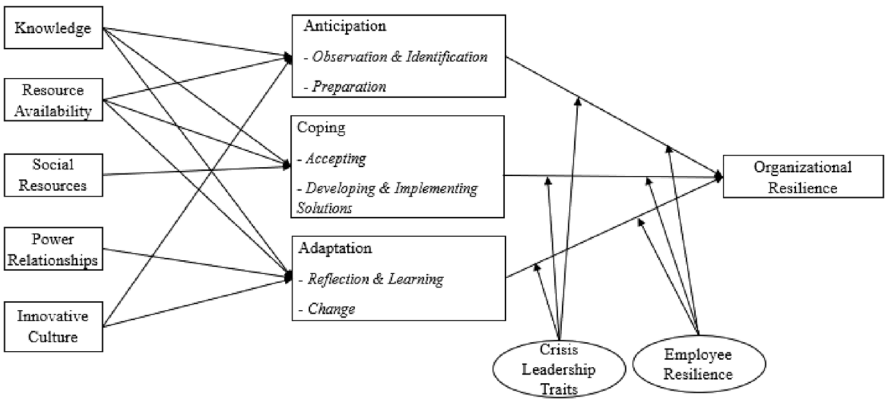

Fig. 2 Organizational resilience final study model

the UAE higher education context (Fig. 1), which led to the expansion of the model toward a final study model (Fig. 2).

The findings provide insight into the present state of higher education institutions in the UAE, which are still in the early stages of adapting to the current COVID-19 crisis. Organizational resilience was conceptualized as a process that enables organizations to respond appropriately to adversity and capitalize on unexpected disruptions in order to develop and thrive. It arises from the ability to anticipate, cope with, and respond to changes as the crisis progresses, which is consistent with previous findings (McManus et al. 2008; Madni and Jackson 2009; Williams et al. 2017; Duchek et al. 2020; Bartusevičienė et al. 2021). Four main antecedents proved to be fostering organizational resilience, namely, knowledge resource availability, social resources, and power-based relationships, confirming Duchek's (2020) and Bartusevičienė et al.'s (2021) findings. Therefore, this study verifies the applicability of the adopted model to the UAE higher education context. Nonetheless, upon investigating why some institutions are emerging as more resilient than others in the current COVID-19 crisis, three main themes emerged: crisis leadership traits, employee resilience, and innovative culture.

These findings lend support to the Duchek and Bartusevičienė models, showing that organizational resilience is primarily based on knowledge, resource availability, social resources, and power-based relationships and is further strengthened by crisis leadership traits, employee resilience, and an innovative culture. More specifically, organizations with these attributes are more likely to come out of crises more easily than those lacking in these factors. Furthermore, these attributes play a key role in preparing organizations to pass through the stages of anticipation, coping, and adaptation, which ultimately transforms into organizational resilience.

Crisis leadership qualities and employee resilience have been shown to be important attributes required in each stage and so are regarded as moderating factors capable of strengthening or weakening the relationship between related stages and organizational resilience. Directive leadership in the anticipating stage, delegative leadership in the coping stage, and participatory leadership in the adaptation stage

were identified as the three major leadership types most needed at each stage of the crisis. Across all stages, an empathic and communicative leadership style was shown to be necessary. Innovative culture, on the other hand, emerged as a fifth antecedent and emerging theme, with direct implications for the anticipation and adaptation stages. This indicates that organizations that have an innovative culture are highly flexible and accommodative. These organizations motivate their employees to think outside of the box and bring in new and creative ideas. As a result, whenever they face any kind of uncertain situation, they are in a far better position to tackle it.

Comparison with Prior Studies

The anticipation stage was found to constitute two main capabilities—observation and identification and preparation—which is in line with earlier studies (i.e. Duchek et al. 2020; Madni and Jackson 2009; Bartusevičienė et al. 2021). Furthermore, our findings revealed that observation and identification was characterized by threat detection of the COVID-19 pandemic, deriving alternative scenarios, crisis communication, and risk assessment. These results are also consistent with previous studies (i.e. Stern 2009; Lengnick-Hall et al. 2011; Dohaney et al. 2020; Ojo et al. 2021). Preparation for the crisis situation was distinguished by upgrading the institution's software and IT infrastructure, and intensive professional development of academic and administrative staff, supporting the findings of Wang et al. (2020), Ojo et al. (2021), and Dohaney et al. (2020). Regarding the coping stage, two main subtheme components were identified—accepting the situation, and developing and implementing solutions—which were found to be in line with Duchek's (2020) and Jaques' (2007) findings.

In this study, developing and implementing solutions was characterized by operationalizing an academic continuity plan through developing new policies and guidelines that are specific to a remote teaching and learning environment, conducting continuous professional development, and providing external support to faculty and students. In accordance with Grissom and Condon's (2021) findings, the current research shows the need for crisis management among institutions following the COVID-19 outbreak to mitigate damages. With respect to the adaptation stage, our study shows that academic institutions in the UAE are presently in the early stages of adaptation when compared to western colleges, as stated by Olson and Wu (2020). These findings contradict those of Bartusevičienė et al. (2021), who note Swedish universities are at the coping stage. One main reason explaining the discrepancy is that this study was conducted close to the commencement of the Fall 2021 semester, whereby the UAE was ending all forms of distance education at the school level and bringing university students back to many campuses across the country. In line with Duchek (2020), two primary subtheme components were found: reflection and learning, and organizational transformation. Such capabilities to adapt to the given adverse events surfaced as a critical component for the successful development of organizational resilience as a whole. These findings align with a number of scholars who highlight the need

for organizations to incorporate new knowledge into their repertoire for further use (Vogus and Sutcliffe 2007; Duchek 2020; Bartusevičienė et al. 2021).

With respect to antecedents, prior knowledge was observed as having a direct impact on the anticipating, coping, and adaptation stages, which is in accordance with a number of other studies (Bartusevičienė et al. 2021; Dohaney et al. 2020; Beinhocker 1999; Williams et al. 2017). The presence of earlier frameworks related to the earlier implementation of online learning and mobile learning systems was instrumental at this level, confirming the significance of prior knowledge. Furthermore, adaptation depends on long-term learning (Madni and Jackson 2009), where the post-crisis era is most conducive to real corporate learning and system change. Every crisis should be followed by a time of preparation for the next one (Jaques 2007). In this study, the leveraging of previous university experiences with piloted online teaching and learning methods fulfilled this.

The presence of good financial reserves, human resources, and knowledge resources also appeared to be critical components in establishing contexts that promote resilience, denoting the importance of resource availability and aligning with Lengnick-Hall et al. (2011). As expected, the availability of accessible resources proved to directly impact the three successive stages and strengthen individual and institutional resilience capacity. Other scholars have reached similar results (Bartusevičienė et al. 2021; Vogus and Sutcliffe 2007; Ojo et al. 2021). Financial and human resources, in particular, have been shown in this study as necessary to keep business afloat during difficult times (Gittell et al. 2006; Duchek et al. 2020; Glover 2012).

Furthermore, social resources surfaced as an important antecedent to the coping stage, which is in line with previous studies that have observed the importance of social support (Gittell 2001; Abdullah et al. 2020; Ojo et al. 2021). Exchanging resources and best practices, sharing knowledge and visions, and providing collegial support are among the needed social resources. In this way, organizations may function effectively by leveraging social capital and resources that capitalize on individual worker involvement and networks of good connections among employees. These results align with a number of studies (Andersson 2018; Duchek 2020; Ojo et al. 2021). Power-based relationships emerged as a valuable antecedent to the adaptation stage, demonstrated through empowering employees as a long-term priority designed to keep the organization as resilient as possible post-pandemic. These results are in line with the literature (Lengnick-Hall et al. 2011; Abdullah et al. 2020).

Accordingly, these results verify the relevance of Duchek's (2020) model. Yet, an important finding of this study was that innovation culture was derived as an emerging antecedent to the anticipation and adaptation stages. Creativity and innovations are directly associated with an organizational culture that is less dependent on hierarchies and rigid choices, relying more on progressive and flexible strategies. Only a few other researchers have reached similar findings; Verdu-Jover et al. (2018), for example, observed that structured flexibility and reflexive learning were found to have a positive influence on product/service innovation results when an adaptable culture was fostered.

Regarding the emerging themes, and in line with Williams et al.'s (2017) results, findings revealed a variety of crisis leadership qualities with a strong impact on each of the crisis stages, denoting how leadership style interacts with how leaders and organizations prepare for the probability of a crisis. During the early stages of the pandemic, participants in the anticipating stage favored directed leadership as a means for clear instructions in order to make quick decisions and adequately respond to the crisis (Madni and Jackson 2009). Delegated leadership was particularly favored during the coping stage. Top management and supervisors should promote and assist their subordinates in developing resources that will help workers in becoming more resilient, engaged, and confident (Ojo et al. 2021). During the adaptation stage, participatory leadership is recommended in line with Rangachari and Woods (2020). Creating communication frameworks that allow the firm to learn from the problem-solving and communication skills of individual employees is immensely effective. A strong group process, also known as relational coordination, is necessary (Gittell 2001). In addition, a number of leadership traits were identified and appeared throughout all stages of the crisis, including empathetic leadership and communicative leadership, which aligns with the findings of Bartusevičienė et al. (2021) and Rangachari and Woods (2020). On the other hand, employee resilience was cited by the majority of participants as a key factor in building organizational resilience during the COVID-19 pandemic. This study intends to provide academic institutions with the means to ensure academic continuity and create resilience during times of turbulence and destabilization (Bartusevičienė et al. 2021). Therefore, leaders must adopt a comprehensive approach to workers' psychological safety—one that recognizes the pandemic's complex impact on emotional discomfort (Rangachari and Woods 2020).

Research Implications

The findings of this paper have several theoretical and practical implications for presidents, chancellors, and other key executive positions in higher education, along with scholars. First and foremost, the derived crisis leadership qualities should be included in the organization's structure, business continuity plan, and, most significantly, recruitment strategy. Hiring leaders based on the identified leadership qualities and reinforcing these through continuous professional development is vital to successfully overcome crisis situations. Second, training leaders on decision-making in crises and emergency situations, scenario planning, and strategic crisis management ought to be a necessity. Third, employees are often placed at the bottom in the pyramid-form of organizational structure, reflecting a top–bottom command and control approach in rigid hierarchies. It is recommended that organizations empower employees through a progressive and innovative adaptive approach to support engagement, agility, and innovation. Transforming rigid pyramids into flexible and agile structures through autonomous teams will reinforce organizational resilience. Fourth, adopting recruiting practices to select highly resilient candidates has become a requirement. Among the most successful strategies is attracting employees coming from highly resilient institutions and then further training these employees

to sustain resilience. Fifth, a change management strategy that provides all organizational change activities with a clear direction and purpose is critical, as is overcoming possible opposition and collaborating for success. Sixth, the change brought forth by COVID-19 to higher education institutions was long needed, especially in terms of changing teaching and learning methods and extending into online education. As a result, a quantitative approach should be used to investigate institutional resilience in the context of COVID-19.

Conclusion and Limitations

Drawing on organizational resilience theory, the present study expanded the boundaries of the given theoretical model into the constituents of a resilient organization amid the COVID-19 experience, with strong practical implications. It provided deep insight into the resilience of the higher education institutions in the UAE, where they proved to be at the early levels of the adaptation stage of the current crisis, surpassing many other universities across the globe. Crisis leadership qualities and employee resilience have emerged as critical attributes required in each stage that are capable of reinforcing or weakening the relationship between related stages and organizational resilience as a whole of the academic institution. One of the study's strengths is the inclusion of participants from institutions with a high level of organizational resilience, allowing for the identification of best practices in responding to the current crisis situation and beyond. Furthermore, the use of qualitative research techniques allowed for a thorough examination of the phenomenon. The interviews were not limited to a set of predefined and rigorous question guidelines, allowing the theoretical boundaries of Duchek's (2020) model to be expanded. Yet, the focus on resilient institutions to unravel the practices and causes underlying their competitive advantage remains a limitation. As a result, this sample may not accurately reflect the intended population. Innovative culture, crisis leadership attributes, employee resilience in the workplace, and subsequently leading resilient employees might be further explored with the possibility of developing a quantitative evaluation instrument. Finally, the derived model is considered to be the most recent work on organizational resilience, which might serve as a strong foundation for future empirical studies.

Appendix

Interview Protocol

Definition of Organizational Resilience

1. Could you please define organizational resilience from your experience.

Characteristics of Organizational Resilience

2. What factors contribute to organizational resilience in crises in general?
3. Do you find your organization reliable in responding to the COVID-19 crisis? If yes, please mention the factors and provide examples.

Anticipation Stage

4. How do you monitor the environment to detect warning signs of adverse events or crises?
5. COVID-19 started spreading in China during December 2019; what kind of interpretations, observations, and actions were made back then? Please elaborate and provide examples.

Coping Stage

6. What factors, practices, resources, and strategies were used to mitigate the effects of COVID-19?
7. Can you give me some examples of when your university has shown resilience amid the pandemic?
8. How successful was your organization in responding and coping with this crisis?

Adaptation Stage

9. What are the lessons learned? How do they contribute to the overall organizational mission?
10. What are the hidden benefits gained by higher education institutions from the pandemic?

Final Study Model

11. Based on the COVID learning experience, what practices/strategies should be adopted to strengthen organizational readiness to face a crisis?
12. Do you agree with the presented model and comment on whether any additional variables would be worthwhile to be examined?

Declarations

Conflict of interests No potential competing interest was reported by the authors.

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