INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES

Vol 15, Issue 8, (2025) E-ISSN: 2222-6990

Integrating Contingency Strategies and Organizational Resilience to Enhance Institutional Adaptability and Educational Quality in Chinese Higher Education

Xue Lidong
City Graduate School,City University of Malaysia
Email: 28893040@qq.com

Dr. Samah Hatem Almaki
City Graduate School,City University Malaysia
Email: dr.samah@city.edu.my

DOI Link: http://dx.doi.org/10.6007/IJARBSS/v15-i8/26193

Published Date: 06 August 2025

Abstract

This study explores the intersection of contingency strategies and organizational resilience in shaping the adaptability and educational quality of Chinese higher education institutions. Prompted by the disruptions caused by the COVID-19 pandemic and growing technological demands, the research investigates how universities in Nanchang, China, implement emergency preparedness measures and adapt to rapidly evolving academic environments. Employing a positivist philosophy and a deductive, quantitative approach, the study utilized a structured questionnaire with 45 items distributed to a sample of 385 students from management and education departments across selected institutions. Data collection was conducted through Google Forms, and results were analyzed using SPSS and SmartPLS, incorporating both regression and mediation analyses. Findings reveal that contingency strategies alone have a limited direct impact on institutional adaptability but significantly enhance educational quality. Importantly, organizational resilience mediates the relationship between contingency strategies and both institutional adaptability and educational quality. Regression analysis confirms that institutions with strong resilience—fostered by effective planning, technological integration, and faculty readiness—are better positioned to sustain performance during crises. The study validates its conceptual framework through confirmatory factor analysis and reliability testing, ensuring the robustness of findings. This research addresses gaps in previous studies by offering a holistic model that combines contingency planning and resilience-building as co-dependent drivers of institutional success. It offers valuable recommendations for policymakers, university administrators, and educators, advocating for the integration of adaptive systems thinking in educational

management. The results underscore the necessity of embedding resilience into institutional planning to maintain high-quality education amid uncertainty.
Keywords: Contingency Strategies, Organizational Resilience, Institutional Adaptability, Educational Quality, Higher Education China

Introduction

Low flexibility and declining quality of education are enormous challenges also for Chinese universities. The rapid technological changes, shifting demands for skills in the workforce, and crises such as the COVID-19 pandemic have exposed the inadequacy with which many institutions have adapted. The issue is not one of resilience or contingency planning, but of the institutional failure to deliver long-term, adaptable measures which can increase student engagement, learning and instruction levels sustainably, as well as reduce them (Prazian & Prykhodko, 2023). And all of these issues make the mission of the university all the more difficult, while the world just keeps cranking out more and better education. Worse, the epidemic demonstarted how unprepared schools were to deliver fast responses while keeping the academic standard. However, some of them were able to easily implement this online form of education due to established infrastructure (Gunter, 2025). Other institutions — and particularly colleges with fewer resources — battled to keep students connected, limit learning loss, and enhance student success. That's the thing, the issue is temperatures have risen in society, technology, and economics, but the institutions and their philosophies have had the ability to adapt and stay quality.

The implications are greater than any of us realize if we cannot transform and deliver quality education for all concerned. Students are faced with fragmented and uneven learning environments, limited resources, and outdated pedagogies, which negatively affect both academic performance and motivation. Of course, the stress levels of teachers increase, and their productivity decreases due to the fact that they are not prepared to redesign or implement their courses using technology (Eidman-Aadahl, 2023). Such problems make it harder for students to learn and enjoy learning. That is the gap between those whom the education system churns out and those that the job market requires, is also becoming wider. Increasing numbers of employers are voicing concerns regarding graduates lacking key competencies when entering the workforce, exposing a disconnect between teaching in institutions and the wants of employers (Goulart et al., 2022). This imbalance undermines both employability and faith in the university system. Failing to provide medium- to high-quality, adaptive education will carry risks of long-term reputational damage, declining enrollment, and rising dissatisfaction from parents, students, employers, and lawmakers.

Previous literature has depicted organisational resilience and contingency planning as largely separate streams—one concerned with short-term crisis management and the other with long-term recovery (Eichholz et al., 2024). Nevertheless, this piecemeal thinking ignores the complementary aspect of the two in improving the quality of education and flexibility of institutions. At the same time, crisis management education has been characterized with increasing globalisation over the years, and yet, Chinese universities have hardly been researched academically, with implications on the availability of data on the crisis response and adaptability of the aforementioned universities (Davvetas et al., 2022). Above all, a review of the existing literature revealed very few scholarly accounts of the use of such contingency or coping strategies in the practice of higher education in China. Although crisis

management education has changed with more scientific assets established around the globe, the detailed studies on the applicability of such strategies in Chinese universities have not been much explored (Zhang et al., 2022). While previous studies analysed crisis management and preparedness in higher education, they rarely provide the depth necessary to address Chinese institutions (Szromek & Wolniak, 2020). In addition, the lack of comparative studies on institutional diversity and stakeholder expectations further aggravates this knowledge gap and hinders a comprehensive understanding of crisis management dynamics in the higher education system of China.

To fill these gaps, the current study aims to explore the challenges that Chinese universities encountered in implementing contingency plans in greater depth. The study seeks to explore the combined effect of organizational resilience and contingency planning on institutional adaptability and quality of education by bringing both the constructs into a single framework. The study aim to answer the following questions:

1) What is the extent level of implementation of contingency strategies in educational management to enhance institutional adaptability and sustaining educational quality?
2) What is the impact of contingency strategies (e.g., technology integration, flexible curriculum, faculty readiness, and Financial Plans) impact institutional adaptability and educational quality in Higher Education in China?
3) To what extent does organizational resilience mediate the relationship between contingency strategies, institutional adaptability, and Sustaining Educational Quality?

Literature Review

As per the view of Nurtjahjanti et al., (2021), checking how ready students and teachers are for unexpected situations is essential to understand resilience measures in schools. Furthermore, this is why schools can adjust to any situation while keeping their high quality for better schooling services for Chinese students. When something unexpected pops up, students and teachers need to quickly move to learn online. This study looks at how prepared the teachers and students are for emergency actions in Chinese colleges. It also sees what challenges or opportunities they might face when handling them. It's very important to be ready when they have unexpected events. Teachers need to quickly change how they teach during emergencies. This keeps education going and good quality. China's higher education institutions are growing quickly. This has led to more international people and teaching styles, which makes it harder to be ready for studies abroad (Liu et al., 2023). The teachers need more than just technical skills. They must also be able to change how they teach based on what the students need.

Being good with technology is a key part that shows how prepared teachers and faculty are. The success of learning on the internet depends upon how good teachers are at using tools for teaching and learning. Tools for computers can be hard to learn at first if some teachers do not know about the new tech. So, schools need to give money for learning about technology and help their teachers always. This way they can be ready with everything needed in the future or if something bad happens suddenly. According to the research by Bojović et al., (2020), teachers should be able to change their teaching methods when students move to online learning. It's just as important that teachers should know about the changes in learning places and change how they teach to fit new situations. To teach well

online, it is needed more than just copying normal teaching styles. Students should mix active skills and work with others too. Teachers need to learn how to connect with students online, give fun media stuff and set up tests that work well in the digital world. In China, it's key to make a learning space that encourages creativity and helps teachers grow with new ways of teaching.

Figure 1: Planning for contingency readiness of students
(Source: Todd, 2020)

Studying in China's higher education system can be hindered by language proficiency, particularly when courses and communication are primarily in Mandarin. Online teaching can cause a lot of problems for faculty members, especially for those who have to cope with international collaborations or teach in English (Todd, 2020). The language barrier can be a significant challenge. Virtual classrooms require effective communication and understanding, thus, readiness programs must focus on enhancing language proficiency.

It's essential to make sure that non-native Mandarin speakers have access to language support, which can aid them in getting ready for emergencies. The amount of work that teachers have to do and the limited time they are given to complete it impacts on their level of preparedness for emergencies. It's really hard for teachers to find time to learn new technology and teaching methods when they have so much work to do. Students believe that the institutions should understand and acknowledge the immense pressure on teachers' time and provide necessary assistance such as customized timetables, specialized workshops, and awards for continued education to improve the proficiency of the faculties without boundary their academic duties.

On the contrary, Clarin & Baluyos (2022) argued that for students, being ready is also very important for the success of backup plans. Technological literacy, self-directed learning skills, and adaptability to diverse learning modalities are all a part of what it means to be adequately prepared as a student. So, higher education in China can be hard for students, because they have different levels of digital tool understanding. Students need to be tech-savvy to succeed academically. Students need to become adept at utilizing digital platforms, obtaining online resources and participating in online cooperation as preparation for remote learning. If students do not all have the same chance to use technology, it can make things tougher for those who already feel different.

So, both schools and colleges need to check out the digital gap. They must offer tools and help so that all students get a fair chance at using technology properly. Knowing how to learn on the own is also a big part of deciding if a student is ready. When students have backup plans, it means they need to care more about their schooling. This requires them to manage their time effectively and work independently with course materials. Learning independently requires a change in teaching methods, putting more focus on thinking about one's learning process, planning and setting objectives, and making use of available resources (Van den Beemt et al., 2020). Schools in China should have lesson plans that are geared towards self-directed learning to help students become more autonomous and independent learners.

The schools must offer study resources and techniques to help the students develop this skill to take charge of their studies and do research by themselves. Having the ability to learn in different ways is very important for a student to be successful. Changing from a typical classroom environment to an online or other format means that students have to adjust to new teaching strategies, evaluation methods and teamwork techniques. Students find it difficult to navigate virtual environments. It is challenging for some, while others easily adapt to the digital learning environment. Students need help navigating change, and institutions need to provide support, guidance and training to help them do that. They should foster a mindset of adaptability towards diverse learning modalities.

So, it is very important to assess whether the faculty and students are ready for contingency plans in higher education institutions in China. This will help determine the effectiveness of different strategies and the resilience of the organization. For a professor to be adequately prepared, they must have proficiency in technology, adaptability in their teaching methods, proficiency in multiple languages, and also take into account the time and workload constraints (Suwastini et al., 2021). Being a student means they have to know how to use technology right and learn in different ways. It also involves speaking more than one language, understanding the money situation and thinking about what's going on with the mind.

To help students in China get ready for their future, schools need to put a training program into place. They should work on bridging the difference between people who have things like smartphones or computers and those who do not. Schools also ought to raise youngsters that can learn by themselves more easily and offer teaching in different languages if necessary. They must make sure learning works out fairly to make universities more able and strong, they need to check if teachers and students can handle any surprise problems. This will make sure to keep giving a good education without a break. Because of unanticipated disruptions like the COVID-19 epidemic, the amount of attention that is committed to the preparedness of both students and instructors to deal with unforeseen conditions in the educational system has substantially increased. This is because of the fact that the educational system has been experiencing unexpected disruptions.

This is because the educational system has been undergoing a substantial number of disturbances, which has led to this situation. All around the world, educational institutions have been pushed to undergo a rapid transition to online learning in order to demonstrate that they are equipped to deal with unforeseen changes. According to Dhawan (2020), the notion of preparedness encompasses a wide range of diverse attributes that all come

together to form the whole. The availability of relevant technological infrastructure, digital literacy, supporting institutions, and psychological adaptation are some of the factors that are included in this category. Studies indicate that despite the fact that many educational institutions had digital platforms in place, both students and staff had difficulty adapting to the new learning methods. This was the case even when digital platforms were available. The reason for this was that they did not have the appropriate training and were not appropriately prepared (Ali, 2020).

It is without a doubt that the preparation of the teaching staff is of the utmost importance in order to guarantee that the continuity of instruction is maintained in the event that there are disruptions. According to the findings of a study that was conducted by Hodges and colleagues in the year 2020, in order to successfully engage students in virtual classrooms, a significant number of educators were necessary to complete quick upskilling exercises in digital technologies and teaching methodologies. This was all done in order to ensure that students were successfully engaged in the learning process.

According to the findings of a study that was carried out in the year 2020 by Rapanta and colleagues, educational institutions that had previously made investments in faculty development programs concluded that it was simpler to move to online modes of instruction from traditional classroom settings. On the other hand, other educational institutions were harmed because the members of their faculty did not receive any formal training. The research that Trust and Whalen carried out in the year 2020 discovered that the attitudes that faculty members had toward technology also played a significant impact in determining the degree to which they were willing to include contingency plans into their operations.

Theoretical Underpinning

An all-encompassing and multi-dimensional lens for studying the interaction of contingency strategies, organizational resilience, adaptability, and educational quality in Chinese higher education has been created by integrating Resource-Based View (RBV) Theory, Institutional Theory, and Complex Adaptive Systems (CAS) Theory. To comprehend how internal resources—like technology, financial capacity, and faculty expertise—act as strategic assets that may be used to cultivate institutional adaptation and resilience, RBV Theory is fundamental. Universities that have robust internal capabilities can better respond to crises like COVID-19 and still provide high-quality education. An invaluable basis for studying institutional performance from the inside, this theory helps shed light on why certain institutions are able to successfully navigate upheaval while others fail.

Institutional theory provides context for the internal resource perspective by outlining the ways in which regulatory pressures, cultural norms, and government policies influence the choice and execution of contingency plans. This hypothesis is especially pertinent for explaining why institutions respond similarly or differently under stress in China, given its centralized governance structure and policy-driven education system. At the same time, CAS Theory offers a systems-oriented, adaptive viewpoint that takes into consideration the ever-changing dynamics of educational settings as well as the relationships between students, teachers, and administrators. Important for both short-term responses to disturbances and long-term maintenance of educational quality, it highlights non-linear change, self-organization, and consistent adaptation.

Conceptual Framework

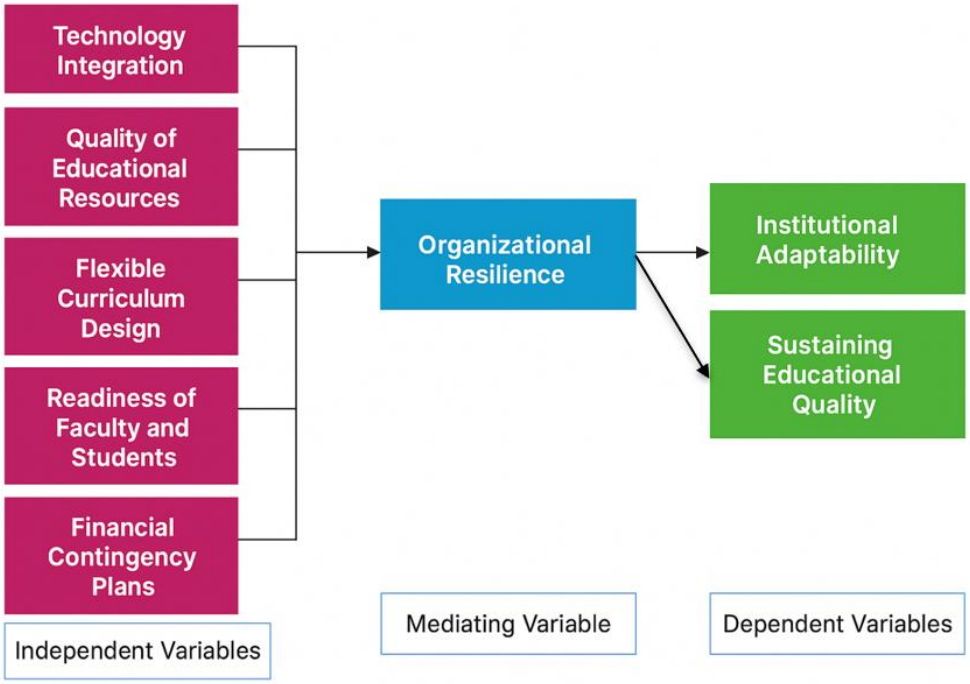

Figure 2: Conceptual framework
(Source: Researcher)

Methodology

This study adopts a positivist research philosophy, emphasizing observable, measurable evidence to understand the relationship between contingency strategies, organizational resilience, and educational quality in Chinese higher education. A deductive, quantitative approach was employed to test predetermined hypotheses using structured data. The study used a survey design, targeting 20,000 students from the management and education departments in Nanchang's higher learning institutions. A sample size of 385 was determined using Cochran's formula and selected through simple random sampling to ensure unbiased representation. A structured questionnaire comprising 45 items across key variables was used for data collection, utilizing a 5-point Likert scale to measure perceptions.

To ensure accuracy and clarity, a pilot study was conducted with 30 participants to assess the reliability and validity of the instrument. Based on feedback and statistical analysis (including factor loadings and Cronbach's alpha), modifications were made to improve item clarity and instrument structure. Data was collected through Google Forms and distributed digitally across institutions. The process ensured participant anonymity and voluntary involvement through informed consent procedures. Descriptive statistics (means, standard deviation, frequencies) and inferential statistics (regression and mediation analyses) were applied using SPSS and SmartPLS to examine the impact of contingency strategies and organizational resilience on adaptability and educational quality.

Validity was established through expert reviews and confirmatory factor analysis, confirming good model fit (CFI, TLI, RMSEA within acceptable thresholds). Reliability was demonstrated with high internal consistency (Cronbach's alpha > 0.70) and strong test-retest stability. Ethical considerations were prioritized throughout the study, including maintaining

confidentiality, respecting cultural values, addressing power dynamics in Chinese educational settings, and ensuring transparency and integrity in data reporting. These ethical safeguards contributed to credible and trustworthy research outcomes.

Results and Discussion

What is the effect of contingency strategy elements (technology integration, quality of online educational resources, Flexible Curriculum Design, the readiness of faculty and students, Financial Contingency Plans) in promoting institutional adaptability in higher education in China?

Table 1

Regression Analysis of contingency strategy elements in promoting institutional adaptability

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	34.776	2.149		16.183	.000
	Contingency Strategies	.022	.040	.027	.536	.059

a. Dependent Variable: Institutional Adaptability

The results are presented in the table. The model uses institutional flexibility as the dependent variable and contingency strategies as the independent variable. The model's predictive power and statistical relevance can be understood from its key outputs, which include standardized and unstandardized coefficients, t-values, and significance levels. Statistically significant at 34.776 with a standard error of 2.149 is the constant, which stands for the initial degree of institutional adaptation when the independent variable is kept constant. The constant is very statistically significant, with a t-value of 16.183 and a 0.000 level of significance. Within the framework of the concept, this indicates that institutional adaptability is strong even in the absence of contingency strategy influence.

Contingency methods have an unstandardized coefficient of 0.022 and a standard error of 0.040. This coefficient suggests that everything else being equal, institutional flexibility is anticipated to rise by 0.022 units for every one-unit increase in contingency plans. Nevertheless, this coefficient's modest size implies that contingency methods do not have a significant practical effect on institutional adaptation. For contingency methods, the beta standardized coefficient is 0.027. This number, expressed in standardized units, allows for comparisons across variables; it shows the strength of the association between institutional adaptability and contingency strategies. There is just a faint positive correlation between the two variables, as the beta value is minimal. With a t-value of 0.536, this variable does not meet the standard criteria for statistical significance. In this model, the correlation between institutional adaptability and contingency methods does not reach the conventional 0.05 significance threshold, although being quite near ($p = 0.059$).

What is the effect of contingency strategy elements (technology integration, quality of online educational resources, Flexible Curriculum Design, the readiness of faculty and students, Financial Contingency Plans) in promoting sustaining educational quality in higher education in China?

Table 2
Regression Analysis of contingency strategy elements in promoting sustaining educational quality

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	30.168	2.081		14.497	.000
	Contingency Strategies	.033	.039	.044	.856	.039

a. Dependent Variable: Sustaining Educational Quality

Sustaining educational quality is the dependent variable in this model, with contingency techniques being the independent variable. The study learn a lot about the predictive relationship between these variables by looking at important metrics like standardized and unstandardized coefficients, t-values, and significance levels. With a standard error of 2.081, the constant, which stands for the baseline level of sustaining educational quality without contingency tactics, is 30.168. This constant is statistically significant, with a t-value of 14.497 and a 0.000 level of significance. This shows that maintaining high-quality education is important even when contingency plans don't have an immediate impact.

With a margin of error of 0.039, the unstandardized coefficient for contingency techniques is 0.033. This coefficient suggests that, everything else being equal, a 0.033-unit increase in sustaining educational quality may be anticipated for every one-unit rise in contingency methods. Although there is a positive correlation, the coefficient is really weak, which means that contingency tactics do not significantly impact educational quality maintenance. The relative strength of the link in standardized units is indicated by the standardized coefficient, or beta, for contingency methods, which is 0.044. There appears to be a weak positive correlation between contingency techniques and maintaining educational quality, as indicated by this minor beta value. A t-value of 0.856 and a p-value of 0.039, however, show that the correlation is highly significant. This indicates that, although the impact is modest, contingency tactics do contribute to improving educational quality, albeit they might not be the main factor.

How does organizational resilience mediate the relationship between the contingency strategies and Institutional Adaptability in Higher Education in China?
Table 3
Organizational resilience mediates the relationship between the contingency strategies and Institutional Adaptability

Model	Estimate	S.E.	P-value
Contingency Strategies → Organizational Resilience → Institutional Adaptability	0.047	0.012	0.019

Table shows the indirect effect of contingency strategies on institutional adaptability, mediated by organizational resilience, is **0.047** (P = 0.019). This underscores the critical role of resilience as a mediator. While contingency strategies alone may not directly influence adaptability, they create the conditions necessary for resilience, which then enhances adaptability. This relationship demonstrates the interconnectedness of planning, resilience, and adaptability within higher education institutions. This finding suggests that contingency strategies, when implemented effectively, bolster resilience, which in turn helps institutions adapt to crises. For instance, a contingency plan that includes crisis management protocols, resource allocation strategies, and training programs ensures that institutions are resilient enough to adapt when faced with disruptions. This dynamic interplay between the variables emphasizes the importance of integrating resilience-building into contingency planning. Higher education institutions in China must recognize that adaptability is not merely the result of having contingency plans in place but rather of having those plans embedded within a resilient organizational framework. Institutions should focus on creating a system where contingency plans enhance resilience, which in turn drives adaptability. This system-oriented approach ensures a more comprehensive and effective response to crises.

How does organizational resilience mediate the relationship between the contingency strategies and Sustaining Educational Quality in Higher Education in China?

Table 4

Organizational resilience mediates the relationship between the contingency strategies and Sustaining Educational Quality

Model	Estimate	S.E.	P-value
Contingency Strategies → Organizational Resilience → Sustaining Educational Quality	0.050	0.013	0.015

The indirect effect of contingency strategies on sustaining educational quality, mediated by organizational resilience, is 0.050 (P = 0.015). This demonstrates that while contingency strategies are essential, their full potential is realized through the mediating role of resilience. Contingency strategies provide the foundation for preparedness, while resilience ensures that these strategies are effectively applied to maintain educational quality. This relationship underscores the importance of integrating resilience-building into contingency planning. For instance, a contingency plan that includes provisions for resource management, faculty training, and student support contributes to resilience. Resilient institutions are better equipped to handle crises, ensuring that educational quality is not compromised even under challenging circumstances. Higher education institutions in China must adopt a holistic approach that combines contingency planning with resilience-building. This ensures that the indirect effects of planning on educational quality are maximized. By fostering resilience, institutions can ensure that their contingency strategies are not just reactive but also proactive, enabling them to maintain quality standards consistently.

Table 5
Regression weights (Full mediation model)

Pathway	Estimate	S.E.	C.R.	P-value
Contingency Strategies → Organizational Resilience	0.365	0.105	3.476	0.001
Organizational Resilience → Institutional Adaptability	0.128	0.040	3.200	0.002
Contingency Strategies → Institutional Adaptability (Indirect Effect)	0.047	0.012	-	0.019
Organizational Resilience → Sustaining Educational Quality	0.145	0.042	3.452	0.001
Contingency Strategies → Sustaining Educational Quality (Indirect Effect)	0.050	0.013	-	0.015

The first pathway in the model shows that contingency strategies have a significant and positive impact on organizational resilience (Estimate = 0.365, p = 0.001). This indicates that when higher education institutions implement effective contingency measures—such as technology integration, financial planning, and flexible curriculum design—their ability to remain stable and recover from disruptions improves significantly. The strong critical ratio (C.R. = 3.476) supports the strength of this relationship. This result affirms the theoretical assumption drawn from the Resource-Based View (RBV) and Institutional Theory: institutions that strategically manage their resources are better equipped to enhance their resilience in unpredictable environments.

The second and third pathways demonstrate the mediating role of organizational resilience in influencing institutional adaptability. Organizational resilience significantly predicts institutional adaptability (Estimate = 0.128, p = 0.002), suggesting that resilient institutions are more capable of adapting to change. Additionally, contingency strategies do not directly affect adaptability in this model, but the indirect effect through resilience (Estimate = 0.047, p = 0.019) is significant. This confirms full mediation, meaning that contingency strategies improve institutional adaptability only when they are first translated into resilience. It underscores the importance of developing internal capacities—rather than relying solely on planning—as a means to drive institutional responsiveness and innovation.

Similarly, the model shows that organizational resilience significantly enhances educational quality (Estimate = 0.145, p = 0.001). The indirect pathway from contingency strategies to sustaining educational quality, mediated by resilience, is also significant (Estimate = 0.050, p = 0.015). This again reflects a full mediation pattern, where contingency strategies improve educational outcomes only when institutions build a strong foundation of resilience. These findings validate the conceptual framework and support the notion that building resilience is a critical bridge between planning and performance in Chinese higher education. It highlights the need for institutions to move beyond reactive planning and instead cultivate adaptive structures and cultures to maintain educational quality amid uncertainty.

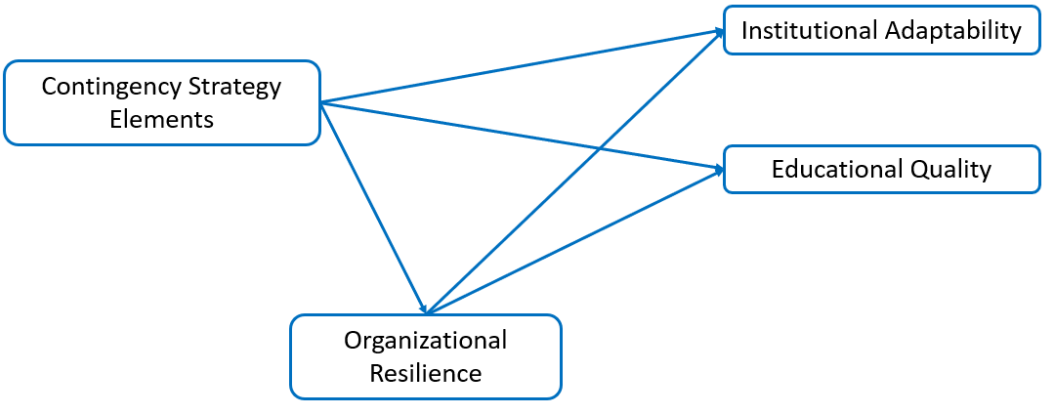

Figure 4.1: Final Model

Conclusion

The study highlights the necessity of integrating digital transformation, financial stability, flexible academic structures, and resilience-building efforts into institutional frameworks. The findings suggest that while contingency strategies provide essential tools for managing disruptions, it is the level of resilience within institutions that determines their effectiveness. The study contributes to the existing body of knowledge by integrating theoretical perspectives with practical recommendations, offering a framework for higher education institutions to enhance their adaptability and educational quality. By addressing the identified limitations and future research directions, this study serves as a foundation for further exploration of institutional resilience and contingency planning in higher education.

References

Abbas, J., Wang, D., Su, Z., & Ziapour, A. (2021). The role of social media in the advent of COVID-19 pandemic: crisis management, mental health challenges and implications. *Risk management and healthcare policy*, 1917-1932. https://www.tandfonline.com/doi/full/10.2147/RMHP.S284313

Adim, C. V., & Emumena, D. E. (2020, August). COVID-19 crises management: A contingency perspective. In *Journal of International Conference Series* (Vol. 1, No. 2, pp. 102-112). https://www.researchgate.net/profile/Robinson-Owenvbiugie/publication/346738961_Human_resource_management_motivational_strategies_for_enhancing_business_educators'_job_performance_in_tertiary_institutions_in_Edo_and_Delta_states_Nigeria/links/609584cc299bf1ad8d857df7/Human-resource-management-motivational-strategies-for-enhancing-business-educators-job-performance-in-tertiary-institutions-in-Edo-and-Delta-states-Nigeria.pdf#page=108

Afifah, S., Mudzakir, A., & Nandiyanto, A. B. D. (2022). How to calculate paired sample t-test using SPSS software: From step-by-step processing for users to the practical examples in the analysis of the effect of application anti-fire bamboo teaching materials on student learning outcomes. *Indonesian Journal of Teaching in Science*, *2*(1), 81-92.https://ejournal.upi.edu/index.php/IJoTis/article/download/45895/19002

Ahmad, S., Wasim, S., Irfan, S., Gogoi, S., Srivastava, A., & Farheen, Z. (2019). Qualitative v/s. quantitative research-A summarized review. *population*, *1*(2). https://www.academia.edu/download/104933106/Sharique_Ahmed_--_FINAL.pdf

Ahmad, T. (2020). Scenario based approach to re-imagining future of higher education which prepares students for the future of work. *Higher Education, Skills and Work-Based*

Learning, *10*(1), 217-238. https://www.emerald.com/insight/content/doi/10.1108/HESWBL-12-2018-0136/full/html

Ahmed, V., & Opoku, A. (2022). Technology supported learning and pedagogy in times of crisis: the case of COVID-19 pandemic. *Education and information technologies*, *27*(1), 365-405. https://link.springer.com/article/10.1007/s10639-021-10706-w

Al Ansi, A. M., & Al-Ansi, A. (2020). Future of education post covid-19 pandemic: reviewing changes in learning environments and latest trends. *Solid State Technology*, *63*(6), 201584-201600. https://www.researchgate.net/profile/Abdullah-Al-Ansi/publication/349692733_Future_of_Education_Post_Covid-19_Pandemic_Reviewing_Changes_in_Learning_Environments_and_Latest_Trends/links/603cd73192851c077f0bbf5c/Future-of-Education-Post-Covid-19-Pandemic-Reviewing-Changes-in-Learning-Environments-and-Latest-Trends.pdf

Al-Ababneh, M. (2020). Linking ontology, epistemology and research methodology. *Science & Philosophy*, *8*(1), 75-91. http://eiris.it/ojs/index.php/scienceandphilosophy/article/viewFile/500/732

Al-Baadani, A. A., & Abbas, M. (2020). The impact of coronavirus (Covid19) pandemic on higher education institutions (HEIs) in Yemen: challenges and recommendations for the future. *European Journal of Education Studies*, *7*(7). https://oapub.org/edu/index.php/ejes/article/download/3152/5789

Alfawaire, F., & Atan, T. (2021). The effect of strategic human resource and knowledge management on sustainable competitive advantages at Jordanian universities: The mediating role of organizational innovation. *Sustainability*, *13*(15), 8445. https://www.mdpi.com/2071-1050/13/15/8445/pdf

Ali, W. (2020). Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic. *Higher education studies*, *10*(3), 16-25. https://files.eric.ed.gov/fulltext/EJ1259642.pdf

Amin, M. E. K., Nørgaard, L. S., Cavaco, A. M., Witry, M. J., Hillman, L., Cernasev, A., & Desselle, S. P. (2020). Establishing trustworthiness and authenticity in qualitative pharmacy research. *Research in Social and Administrative Pharmacy*, *16*(10), 1472-1482. https://www.academia.edu/download/63350466/1-s2.0-S1551741119309155-main20200518-71810-11ov8k5.pdf

Asenahabi, B. M. (2019). Basics of research design: A guide to selecting appropriate research design. *International Journal of Contemporary Applied Researches*, *6*(5), 76-89.http://ijcar.net/assets/pdf/Vol6-No5-May2019/07.-Basics-of-Research-Design-A-Guide-to-selecting-appropriate-research-design.pdf

Ashiq, M., Rehman, S. U., & Mujtaba, G. (2021). Future challenges and emerging role of academic libraries in Pakistan: A phenomenology approach. *Information Development*, *37*(1), 158-173. https://journals.sagepub.com/doi/pdf/10.1177/0266666919897410

Ayub Khan, A., Laghari, A. A., Shaikh, A. A., Bourouis, S., Mamlouk, A. M., & Alshazly, H. (2021). Educational blockchain: A secure degree attestation and verification traceability architecture for higher education commission. *Applied Sciences*, *11*(22), 10917. https://www.mdpi.com/2076-3417/11/22/10917

Babbar, M., & Gupta, T. (2022). Response of educational institutions to COVID-19 pandemic: An inter-country comparison. *Policy Futures in Education*, *20*(4), 469-491. https://journals.sagepub.com/doi/pdf/10.1177/14782103211021937

Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. *Human behavior and emerging technologies*, *2*(2), 113-115. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7262082/

Baranowski, P. (2023). Meta-Systemic Model of Transformation: A General Complexity-Based Approach in Political Science and International Relations. *Polish Political Science Yearbook*, *52*(2), 113-128. https://bibliotekanauki.pl/articles/15847709.pdf

Bartusevičienė, I., Pazaver, A., & Kitada, M. (2021). Building a resilient university: ensuring academic continuity—transition from face-to-face to online in the COVID-19 pandemic. *WMU Journal of Maritime Affairs*, *20*(2), 151-172. https://link.springer.com/article/10.1007/s13437-021-00239-x

Bell, E., Bryman, A., & Harley, B. (2022). *Business research methods*. Oxford university press. https://www.academia.edu/download/53452857/researchproposal_final.pdf

Benavides, L. M. C., Tamayo Arias, J. A., Arango Serna, M. D., Branch Bedoya, J. W., & Burgos, D. (2020). Digital transformation in higher education institutions: A systematic literature review. *Sensors*, *20*(11), 3291. https://www.mdpi.com/1424-8220/20/11/3291/pdf

Bergqvist, E., Tossavainen, T., & Johansson, M. (2020). An analysis of high and low intercorrelations between mathematics self-efficacy, anxiety, and achievement variables: A prerequisite for a reliable factor analysis. *Education Research International*, *2020*, 1-11.https://downloads.hindawi.com/journals/edri/2020/8878607.pdf