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## **ADAPTIVE LEADERSHIP AND CRISIS PREPAREDNESS IN PUBLIC UNIVERSITIES IN KENYA: MODERATING EFFECT OF BUSINESS CONTINUITY PRACTICES**

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### **ABSTRACT**

This study examined the influence of adaptive leadership on crisis preparedness in Kenyan public universities, with business continuity practices as a moderating variable. The research addresses a critical gap in understanding how leadership approaches and organizational practices contribute to institutional resilience in the face of crises. The theoretical framework was grounded in High Reliability Organization Theory. The study employed a positivist philosophy and a survey research design, targeting all 35 public universities in Kenya as the unity of analysis. The study applied purposive sampling and selected six key participants from each university for the survey. The study achieved a response rate of 92% with the return of 193 questionnaires from 210 target respondents. The data was analysed using descriptive statistics and regression analysis. The study finding was that business continuity practices have significant moderating effect on the relationship between adaptive leadership and crisis preparedness by public universities in Kenya. The study concluded that the conceptual model of adaptive leadership as an independent variable and business continuity practices as a moderating variable and crisis preparedness as a dependent variable provides an integrated framework for enhancement of crisis preparedness in public universities in Kenya. The study recommends that University Management should invest in developing and implementing comprehensive business continuity practices. It is recommended that policy makers should allocate adequate resources for embedding crisis preparedness systems and processes including the continual implementation of business continuity practices in public universities. These practices should be integrated into the institution's strategic plans and regularly updated to reflect evolving risks and operational challenges. The deployment of appropriated technology is also important in embedding the crisis preparedness systems and processes in the organization and should be prioritized by practitioners and policy makers.

**Keywords:** *Adaptive Leadership, Crisis Preparedness & Public Universities in Kenya*

## 1.1 Introduction

Business Continuity Practices have become increasingly critical in today's volatile and uncertain business environment, serving as a cornerstone for organizational resilience and sustainability (Moşteanu, 2024). At the heart of these practices lies the continuity framework, a comprehensive structure that outlines how an organization prepares for, responds to, and recovers from disruptive events (Păunescu & Argatu, 2020). This framework typically encompasses a range of strategies, policies, and procedures designed to ensure that critical business functions can continue during and after a crisis (Sawalha, 2020). A robust continuity framework is adaptable, allowing organizations to respond effectively to various types of disruptions, from natural disasters to cyber-attacks and pandemics (Ranf et al., 2021). Central to the development of an effective continuity framework is the Impact Assessment process. This involves a systematic analysis of potential risks and their consequences on various aspects of the organization (Suresh et al., 2020). Impact assessments help organizations identify their most critical functions and resources, prioritize recovery efforts, and allocate resources more effectively during crises (Ali et al., 2023).

Plan Testing is another crucial component of Business Continuity Practices, ensuring that the strategies and procedures outlined in the continuity framework are practical and effective (Gooding et al., 2022). Regular testing helps identify gaps in the plan, familiarizes staff with emergency procedures, and builds confidence in the organization's ability to handle crises (Thanitbenjasith & Kamkankaew, 2023). These tests can range from tabletop exercises to full-scale simulations, each providing valuable insights and opportunities for improvement (Sharief, 2024). Equally important is Management Involvement in the business continuity process. Senior leadership plays a critical role in championing continuity initiatives, allocating necessary resources, and fostering a culture of preparedness throughout the organization (Haron et al., 2022). Effective management involvement ensures that business continuity is integrated into the organization's strategic planning and day-to-day operations, rather than being treated as an isolated function (Rayburn et al., 2021). This holistic approach to business continuity, encompassing a robust framework, thorough impact assessments, regular plan testing, and active management involvement, enables organizations to build resilience and maintain operational effectiveness in the face of unforeseen challenges (Wamburu et al., 2022).

Universities in Kenya form a critical component of the country's education system and are pivotal to its socio-economic development. Public universities are institutions of higher learning established by the Acts of parliament, regulated by the Commission for University Education and are maintained and supported by public funds. Public universities engage in teaching, research, and community outreach, contributing to Kenya's knowledge economy and workforce development. However, they face different challenges – public universities often struggle with overcrowding and underfunding, while private universities grapple with high tuition costs that can limit accessibility. Despite these challenges, Kenyan universities continue to play a crucial role in producing skilled graduates, conducting research, and contributing to national development goals as outlined in Kenya's Vision 2030.

## 1.2 Problem Statement

The crisis preparedness in Kenyan universities has emerged as a critical concern, given the dynamic business environment that is compounded ever evolving strategic risks, financial and economic risks, health, safety and environmental risks, legal and regulatory risks and political risks. There is also the technology risk manifested in cyber-attacks such as data breaches, ransomware, attacks on critical infrastructure and information technology disruptions are the biggest worry for organizations globally. In Kenya, the communication Authority of Kenya report indicates that between April and June 2024, the 1.1 billion cyber threat events were detected in the country being a 16.50% increase from the 971,440,345 threat events detected in the quarter (CAK, 2024). The public universities are equally vulnerable to such attacks they have potential of paralyzing online programs and operational activities. Such crisis will compromise educational quality, and in the long-term damage the reputation and competitiveness of public universities in Kenya. During Covid-19 pandemic institutions of higher learning were confronted with a crisis resulting lockdowns and movement restrictions that affected learning and its constant reminder on the need to develop effective and sustainable crisis and emergency planning as another crisis may happen (Rasiah & Guptan, 2020).

Many universities worldwide are likely to encounter significant problems in the event of crisis principally owing to lack of plan and program for crisis and one reason for this situation is unfamiliarity of senior management with risk management concepts in crises (Biparva, et al 2022). The uncertainties in business environment has put tremendous pressures on organizations to take measures to ensure continuity of operations and in the process business continuity has become a contemporary subject as enterprises plan to navigate through the unpredictable events and achieve a competitive advantage (Radjenovi & Zivkovic, 2022). It is therefore important to conceptualize the moderating effect of business continuity practices in crisis preparedness in public universities as business continuity is a critical ingredient in building resilience to crisis management. The Ministry of Education in Kenya has formulated the education sector disaster management policy that establishes mechanisms for coordinated disaster risk reduction intervention and management in learning institutions (Republic of Kenya, 2017). Studies are necessary to assess the effectiveness of the disaster management policy and provide empirical evidence on crisis preparedness in public universities

Despite the major and catastrophic risks confronting public universities in Kenya and being cognizant of the importance of crisis preparedness, significant gaps remain in the conceptual and contextual discourse. Conceptually, there is a lack of clarity on how adaptive leadership strategies can be effectively integrated into crisis preparedness frameworks in the unique context of Kenyan higher education (Oduol, 2021). While studies have explored crisis management in Western university settings (Moerschell & Novak, 2020), there is a dearth of research examining the applicability of these models in the Kenyan context, where resource constraints and cultural factors may necessitate different approaches (Agava et al., 2021). Contextually, several studies undertaken in Kenya have researched on the following constructs: emergence response, transformational

leadership, resilient leadership, crisis communication and performance in public universities, empirical evidence on adaptive leadership and crisis preparedness is scanty (Mwangi et al., 2024; Murage, 2022; Makoe, 2015; Sharief, 2024).

There is a lack of comparative studies examining how crisis preparedness varies across different types of Kenyan, and constituent colleges - each operating under distinct regulatory and resource environments (Ogunode & Musa, 2020). Therefore, this study sought to assess the influence of adaptive leadership and crisis preparedness by public universities in Kenya.

### **1.3 Specific Objective**

To establish the moderating effect of business continuity practices on the relationship between adaptive leadership and crisis preparedness by public universities in Kenya.

### **1.4 Research Hypothesis**

**H<sub>01</sub>:** Business continuity practices have no significant moderating effect on the relationship between adaptive leadership and crisis preparedness by public universities in Kenya

## **2.1 Theoretical Review**

### **2.1.1 High Reliability Organization (HRO) Theory**

High Reliability Organization (HRO) Theory was developed through the collaborative work of several researchers, most notably Karl Weick and Kathleen Sutcliffe, with significant contributions beginning in the 1980s and continuing through their seminal work in 2001. The theory emerged from studying organizations among them nuclear power plant and air traffic control that operate in high-risk environments yet maintain exceptionally low rates of accidents or catastrophic failures. HRO Theory posits that these organizations achieve high reliability through specific organizational practices and cultural attributes. Key principles of HRO Theory include: preoccupation with failure (constantly anticipating and analyzing potential risks), reluctance to simplify interpretations (embracing complexity and diverse perspectives), sensitivity to operations (maintaining awareness of frontline activities), commitment to resilience (developing capacities to detect, contain, and bounce back from errors), and deference to expertise (valuing expertise over hierarchical position in decision-making during crises). The theory argues that by embodying these principles, organizations can create a collective mindfulness that enables them to anticipate and adapt to unexpected events, thereby maintaining reliable performance even in volatile and complex environments. Research by Goniewicz and Hertelendy (2023) showed that resilient organizations manifest dimensions of adaptive leadership.

In the context of our study on business continuity practices and crisis preparedness in Kenyan universities, HRO Theory offers a robust framework for understanding and enhancing institutional resilience. It informs our research by providing a lens through which to examine how universities can develop and maintain effective business continuity practices in the face of potential crises. The theory's emphasis on anticipating failures aligns with the proactive nature of crisis preparedness, guiding our investigation into how universities can systematically identify and prepare for potential risks. HRO Theory's focus on operational sensitivity and commitment to resilience can inform our analysis of how universities maintain awareness of potential threats and develop the capacity to respond effectively to crises. The principle of deference to expertise is particularly relevant in the university context, where diverse domains of knowledge exist, and can guide our exploration of how institutions leverage this expertise in crisis management. By applying HRO

Theory to our study, we can gain insights into how Kenyan universities can adopt practices that enhance their ability to maintain core functions during crises, rapidly adapt to changing circumstances, and ultimately improve their overall crisis preparedness. This theoretical framework heled us assess the current state of business continuity practices in Kenyan universities and identify areas for improvement to achieve higher levels of organizational reliability and resilience.

### **2.1.2 Chaos Theory**

Edward Lorenz is credited as founder of the chaos theory in 1963 (Oestreicher, 2007). During the process of making computations related to approximations to predict weather and concluded that a small change in the initial condition has significant long-term implications. The author concluded that in nonlinear systems, multiplications during interaction processes amplify differences in an exponential way. In essence, the systems perform tasks in a nonlinear and unpredictable way owing to their inherent random behavior. The theory is premised on the proposition on when present determines the future, but the approximate present does not approximately determine the future and it is difficult therefore to accurately predict the patterns and outcomes of a chaotic system.

The theory has been applied in in the field of mathematics, media and social and philosophical discourse and in this instance; it is being applied in the arena of crisis management. Murphy (1996) conceptualized the linkages between principals of chaos theory and systems and expounded the thesis that chaos theory broadens the understanding of the behavior systems that do not unfold linearly in a predictable and conventional way. In furtherance of the chaos theory, Seeger (2002) contends that entities going through a crisis represent an ideal model of a chaotic system and those fields of risk management and communications are ideal for application of chaos theory. Though systems are inevitably random and predictable, chaos theory alludes to the assertion that chaotic systems can self-organize and self-renew with periods of order broken by sudden transformations (Sharpley & Speakman, 2019).

Chaotic situations ought to be confronted new attitudes, competencies and with a leadership that is aligned to the current reality. The leadership confronting a chaotic situation or crisis is well placed to confront and overcome the challenge. However, successful adaptation enables a living system to take the best from its past into the future (Heifetz et al, 2009). Application of the chaos theory in this study is essential in deepening the understanding of the practices and incremental tasks that need to be implemented in the organizations to enhance crisis preparedness and avoid chaotic system. Chaos theory and its Lorenz butterfly analogy effect when applied to the crisis preparedness construct has profound learnings that small lapses in crisis management systems and processes that are not managed properly by leadership can lead to significant consequences manifested in chaos phenomenon and crises in organizations.

## **2.2 Empirical Review**

Păunescu and Argatu (2020) conducted a comprehensive study on critical functions in ensuring effective business continuity management, providing valuable insights into how adaptive leadership principles can enhance organizational resilience. Their research, which examined Romanian companies but has implications for educational institutions, found that organizations with leaders who exhibited adaptive traits were more successful in implementing robust business continuity practices. These adaptive leaders were better able to identify critical functions, allocate resources efficiently, and foster a culture of preparedness throughout their organizations. The study

highlighted that adaptive leadership approaches, such as encouraging cross-functional collaboration and promoting flexible decision-making processes, were key factors in developing and maintaining effective business continuity practices. This research underscores the potential for adaptive leadership to serve as a catalyst for enhancing crisis preparedness through improved business continuity management.

Building on this foundation, Rayburn et al. (2021) explored the concept of future thinking continuity of learning in marketing education, providing valuable insights into how adaptive leadership can bridge the gap between business continuity practices and crisis preparedness in higher education settings. Their study, which focused on student perspectives during the COVID-19 pandemic, revealed that institutions led by adaptive leaders were more successful in maintaining educational continuity and preparing for future crises. These leaders demonstrated an ability to quickly pivot to new teaching modalities, implement flexible policies, and engage stakeholders in collaborative problem-solving. The research emphasized that adaptive leadership fostered a culture of innovation and resilience, enabling institutions to develop more comprehensive and effective business continuity practices. This, in turn, enhanced their overall crisis preparedness by creating a more agile and responsive organizational structure capable of adapting to rapidly changing circumstances.

Ranf et al. (2021) examined specific business continuity management practices during the COVID-19 pandemic crisis, shedding light on the critical role of adaptive leadership in implementing and sustaining these practices. Their study, which analyzed organizations across various sectors including education, found that institutions with leaders who exhibited adaptive qualities were more successful in navigating the complex challenges posed by the pandemic. These leaders were able to rapidly assess changing situations, reallocate resources effectively, and implement innovative solutions to maintain operational continuity. The research highlighted that adaptive leadership was particularly crucial in fostering a sense of collective responsibility for business continuity among staff members, which significantly enhanced the organization's overall crisis preparedness. This study provides compelling evidence for the synergistic relationship between adaptive leadership, effective business continuity practices, and enhanced crisis preparedness in complex organizational environments.

Sawalha (2020) conducted an in-depth analysis of business continuity management use and approach effectiveness, offering valuable insights into how adaptive leadership principles can enhance the implementation and efficacy of business continuity practices. The study, which examined organizations across various sectors, found that institutions led by adaptive leaders were more likely to adopt comprehensive and flexible business continuity management approaches. These leaders demonstrated an ability to anticipate potential disruptions, develop scenario-based contingency plans, and foster a culture of continuous improvement in crisis preparedness. The research emphasized that adaptive leadership was particularly effective in promoting cross-functional collaboration and knowledge sharing, which are critical components of robust business continuity practices. This study underscores the potential for adaptive leadership to serve as a catalyst for developing more resilient and crisis-ready organizations through the enhancement of business continuity practices.

Moerschell and Novak (2020) investigated the challenges of managing crises in university settings, with a particular focus on the role of leadership in aligning crisis management efforts. Their research revealed that universities led by adaptive leaders were better equipped to develop and implement comprehensive business continuity practices, which in turn enhanced their overall crisis

preparedness. These leaders demonstrated an ability to navigate the complex stakeholder landscape of higher education institutions, fostering collaboration between academic and administrative units to create more integrated and effective crisis response strategies. The study highlighted that adaptive leadership was crucial in promoting a culture of proactive risk management and continuous learning, which are essential elements of robust business continuity practices and crisis preparedness. This research provides compelling evidence for the interconnected nature of adaptive leadership, business continuity practices, and crisis preparedness in the unique context of higher education institutions, offering valuable insights for university administrators and policymakers seeking to enhance institutional resilience in the face of complex and unpredictable challenges.

Expanding on the role of adaptive leadership in crisis preparedness, Gooding et al. (2022) conducted a comprehensive synthesis of experiences across countries facing shocks, with implications for health system emergency preparedness and response. While their study focused on health systems, the findings have significant relevance for higher education institutions. The research revealed that organizations with adaptive leaders were more successful in strengthening partnerships and coordination for emergency preparedness. These leaders demonstrated an ability to foster collaborative relationships across different sectors, facilitate knowledge sharing, and promote flexible decision-making processes. The study emphasized that adaptive leadership was crucial in developing and implementing comprehensive business continuity practices that could respond to a wide range of potential crises. This research underscores the importance of adaptive leadership in creating resilient organizational systems capable of withstanding and recovering from various types of disruptions, highlighting its potential to enhance both business continuity practices and overall crisis preparedness in complex institutional environments like universities.

Ali et al. (2023) provided valuable insights into the integration of business continuity management (BCM) practices and organizational resilience in their systematic literature review. Although their study focused on small and medium enterprises, the findings have significant implications for higher education institutions. The research highlighted that organizations led by adaptive leaders were more successful in developing and implementing comprehensive BCM frameworks that enhanced overall organizational resilience. These leaders demonstrated an ability to anticipate potential disruptions, develop flexible response strategies, and foster a culture of continuous improvement in crisis preparedness. The study emphasized that adaptive leadership was particularly effective in promoting a holistic approach to BCM, integrating it into the organization's strategic planning and day-to-day operations. This research provides compelling evidence for the synergistic relationship between adaptive leadership, robust business continuity practices, and enhanced organizational resilience, offering valuable insights for university administrators seeking to improve their institutions' crisis preparedness.

Thanitbenjasith and Kamkankaew (2023) explored the integration of future thinking into crisis management in Thai higher education, providing valuable insights into the role of adaptive leadership in enhancing business continuity practices and crisis preparedness. Their research revealed that institutions led by adaptive leaders were more successful in anticipating future challenges and developing proactive strategies to address them. These leaders demonstrated an ability to foster a culture of innovation and continuous learning, encouraging stakeholders to engage in scenario planning and risk assessment activities. The study emphasized that adaptive leadership was crucial in promoting a forward-thinking approach to crisis management, which significantly enhanced the institution's overall preparedness. This research highlights the potential

for adaptive leadership to serve as a catalyst for developing more comprehensive and future-oriented business continuity practices, ultimately improving the institution's ability to navigate complex and unpredictable crises.

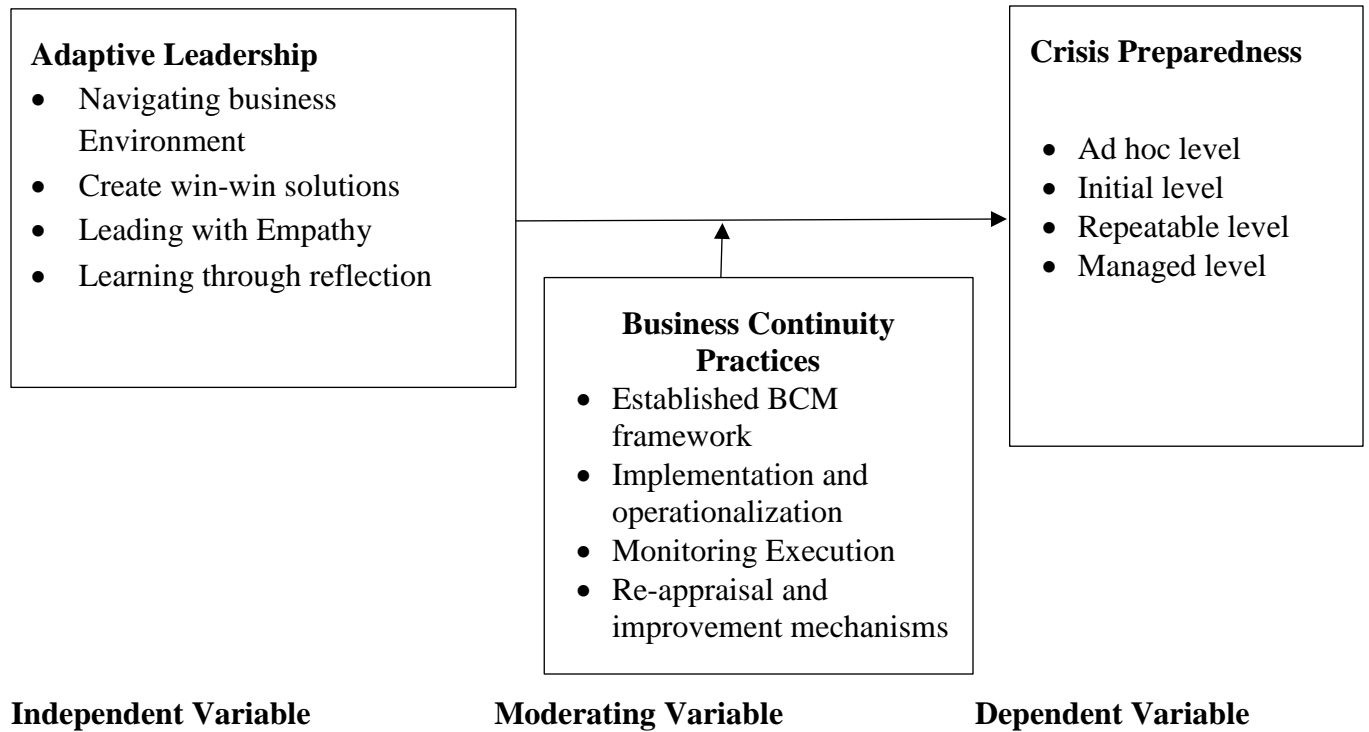
Haron et al. (2022) investigated the role of adaptive leadership in leading change during the COVID-19 endemic era, offering valuable insights into how this leadership approach can enhance business continuity practices and crisis preparedness. Their study, which examined organizations across various sectors including education, found that institutions led by adaptive leaders were more successful in navigating the transition from pandemic response to long-term adaptation. These leaders demonstrated an ability to balance short-term crisis management with long-term strategic planning, fostering organizational resilience through flexible and innovative approaches. The research highlighted that adaptive leadership was particularly effective in promoting a culture of continuous improvement in business continuity practices, encouraging regular review and refinement of crisis response strategies. This study provides compelling evidence for the crucial role of adaptive leadership in developing dynamic and responsive business continuity practices that can enhance an organization's overall crisis preparedness in the face of prolonged and evolving challenges.

Chughtai et al. (2023) explored the role of adaptive leadership in learning organizations and its impact on organizational innovations, providing insights that are highly relevant to the context of business continuity and crisis preparedness in higher education. Their research revealed that organizations led by adaptive leaders were more successful in fostering a learning culture that enhanced their ability to innovate and adapt to changing circumstances. These leaders demonstrated an ability to encourage experimentation, promote knowledge sharing, and facilitate collective problem-solving, all of which are crucial elements of effective business continuity practices and crisis preparedness. The study emphasized that adaptive leadership was particularly effective in promoting organizational agility and resilience, enabling institutions to respond more effectively to crises and unforeseen challenges.

## **2.4 Conceptual Framework**

The conceptual framework for this study, as illustrated in Figure 1, provides a visual representation of the hypothesized relationships between adaptive leadership, business continuity practices, and crisis preparedness in the context of Kenyan universities. This framework is grounded in the theoretical foundations and empirical evidence discussed in the literature review, offering a clear depiction of the study's key variables and their interrelationships. Figure 1 presents adaptive leadership as the independent variable, crisis preparedness as the dependent variable, and business continuity practices as a moderating variable. It is conceptualized that the application of the conceptualized model below will contribute to high reliability of the organization in terms of crisis preparedness in line with the propositions of the high reliability organization theory. Whereas failures in the conceptualized interactions in variables have a potential of precipitating chaos and crisis in the organization in line with the propositions of chaos theory





**Figure 1: Conceptual Framework**

### 2.5 Operationalization of the Variables

The study was informed by four variables: adaptive leadership as the independent variable, business continuity practices as the moderating variable and crisis preparedness as a dependent. Table 1 presents operationalization and measurement of the study variables.

**Table 1: Operationalization of the Variables**

Study Variables	Indicators	Measurement scale	Question	Author(s)
Independent Variable: Adaptive Leadership	-Navigating business Environment -Create win-win solutions -Leading with Empathy -Learning through reflection	Interval	Section B	Heifetz et al., 2009 Chua et al (2010)
Moderating Variable: Business Continuity Practices	-Established framework -Implementation and operationalization -Monitoring Execution -Re-appraisal and improvement mechanisms	Interval	Section C	Bobel, et al (2022) Gooding et al., 2022.
Dependent Variable: Crisis Preparedness	-Level of crisis preparedness -Ad hoc level -Initial level -Repeatable level -Managed level	Interval	Section E	Tjahjono (2017) Mahal & Narwani(2012)

### 3.1 Research Methodology

This study adopted a positivist research philosophy, which aligns with the realization of research objectives and testing of hypotheses. Positivism, as a philosophical stance, asserts that reality is objective and can be measured and understood through rigorous, scientific methods (Levitt et al, 2018).

This study employs a survey research design, which aligns with the positivist philosophy and the quantitative nature of the research objectives. Survey research is particularly well-suited for examining relationships between variables and testing hypotheses in large populations (Baden et al, 2022). This design allows for the systematic collection of standardized data from a representative sample of Kenyan universities, facilitating generalization of findings to the broader higher education sector.

The target population for this study comprises all public universities in Kenya. The list of registered 35 public universities in Kenya was obtained from the register of universities authorized to operate in Kenya as at June 2024(CUE, 2024). The study purposively selected six key heads of departments who interact with crisis management policies and processes from each university for the survey representing 210 respondents as shown in table 2.

**Table 2: Target population**

Selected Head of Department per University	Total Respondents
1.Registrar(Academic affairs)	35
2.Registrar(Administration	35
3.Head of Quality assurance	35
4.Head of ICT	35
5. Dean of Students	35
6. Director Finance	35
Total	210

The primary data collection instrument for this study was a structured questionnaire utilizing a Likert scale with agree-disagree format. The Likert scale is widely used in social science research due to its effectiveness in measuring attitudes, perceptions, and opinions (Joshi et al., 2015).

The data analysis for this study employed a combination of descriptive statistics and regression analysis to comprehensively examine the relationships between adaptive leadership, business continuity practices, and crisis preparedness. Descriptive statistics, including measures of central tendency (mean, median) and dispersion (standard deviation, range), was used to summarize and describe the basic features of the data collected from the Likert scale questionnaires. Regression analysis was utilized to assess moderation effect.

**Step 1: Direct Relationship**

This step tests the direct relationship between adaptive leadership and crisis preparedness:

$$Y = \beta_0 + \beta_1X + \varepsilon$$

Where:

Y = Crisis Preparedness

X = Adaptive Leadership

**Step 2: Main Effects**

This step introduces business continuity practices as an additional predictor:

$$Y = \beta_0 + \beta_1X + \beta_2Z + \varepsilon$$

Where:

Y = Crisis Preparedness

X = Adaptive Leadership

Z = Business Continuity Practices

**Step 3: Moderation Effect**

This final step includes the interaction term to test for the moderating effect of business continuity practices:

$$Y = \beta_0 + \beta_1X + \beta_2Z + \beta_3XZ + \varepsilon$$

Where:

Y = Crisis Preparedness

X = Adaptive Leadership

Z = Business Continuity Practices

XZ = Interaction term (Adaptive Leadership x Business Continuity Practices)

#### 4.1 Results and Findings

The researcher aimed to collect data from a sample of 210 respondents from public universities in Kenya. A total of 193 out of 210 targeted respondents completed the questionnaire. This translates to a response rate of 92%, which is adequate for a survey of this nature.

#### 4.2 Regression Analysis

The objective of this study was to establish the moderating effect of business continuity practices on the relationship between adaptive leadership and crisis preparedness by public universities in Kenya. To achieve this objective, hierarchical linear regression analysis was conducted in 3 steps. The results of the first step are presented in Table 3.

**Table 3: Regression Coefficients for Adaptive Leadership**

R	R Square	Adjusted R Square	Std. Error of the Estimate			
0.687	0.472	0.469	0.5663			
		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression		55.082	1	55.082	171.621	0.000
Residual		61.618	191	0.323		
Total		116.700	192			
		<b>Unstandardized B</b>	<b>Std. Error</b>	<b>Standardized Beta</b>	<b>t</b>	<b>Sig.</b>
(Constant)		0.724	0.224		3.232	0.001
Adaptive Leadership		0.677	0.052	0.687	13.100	0.022

In the first step, the model explains 47.2% of the variance in crisis preparedness (R-square = 0.472). The ANOVA results (F = 171.621, p= 0.000<0.05) confirm the model's statistical significance, indicating that adaptive leadership significantly predicts crisis preparedness. The coefficient analysis shows a positive and significant relationship (B = 0.677, p = 0.022<0.05), with each unit increase in adaptive leadership associated with a 0.687 unit increase in crisis preparedness.

The second step of the hierarchical regression included both adaptive leadership and business continuity practices as predictors of crisis preparedness, as shown in Table 4.

**Table 4: Regression for Adaptive Leadership and Business Continuity Practices**

<b>Model Summary</b>						
<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>			
0.741	0.549	0.544	0.5241			
<b>ANOVA</b>						
	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>	
Regression	64.068	2	32.034	116.572	0.000	
Residual	52.632	190	0.277			
Total	116.700	192				
<b>Coefficients</b>						
	<b>Unstandardized B</b>	<b>Std. Error</b>	<b>Standardized Beta</b>	<b>t</b>	<b>Sig.</b>	
(Constant)	0.453	0.201		2.254	0.025	
Adaptive Leadership	0.493	0.055	0.501	8.964	0.027	
Business Continuity Practices	0.356	0.054	0.368	6.593	0.000	

The results indicate that the inclusion of business continuity practices significantly improved the model's explanatory power. The R-square value increased to 0.549, meaning that together, adaptive leadership and business continuity practices account for 54.9% of the variance in crisis preparedness. The ANOVA results ( $F = 116.572, p < 0.05$ ) confirm that this model is statistically significant. Both predictors show significant positive relationships with crisis preparedness: adaptive leadership ( $B = 0.493, \beta = 0.501, p = 0.027$ ) and business continuity practices ( $B = 0.356, \beta = 0.368, p < 0.05$ ). These findings suggest that while adaptive leadership remains a strong predictor, business continuity practices also play a substantial role in enhancing crisis preparedness in Kenyan universities.

The third step of the hierarchical regression introduced the interaction term between adaptive leadership and business continuity practices to test for moderation effects, as presented in Table 5.

**Table 5: Regression for Adaptive Leadership and Business Continuity Practices and Interaction Term**

<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>			
0.796	0.634	0.628	0.4742			
	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>	
Regression	73.987	3	24.662	109.612	0.000	
Residual	42.713	189	0.226			
Total	116.700	192				

	Unstandardized B	Std. Error	Standardized Beta	t	Sig.
(Constant)	0.586	0.192		3.052	0.003
Adaptive Leadership	0.412	0.059	0.412	6.983	0.000
Business Continuity Practices	0.389	0.056	0.408	6.946	0.000
Interaction (AL x BCP)	0.075	0.031	0.112	2.419	0.017

The inclusion of the interaction term led to a significant increase in the model's explanatory power. The R-square value progressed from 0.472 in the first step (adaptive leadership alone), to 0.549 in the second step (adaptive leadership and business continuity practices), and finally to 0.634 in the third step (including the interaction term). This represents a total R-square change of 0.162 (16.2%) from the first to the final step. Specifically, the addition of business continuity practices in the second step accounted for an increase of 0.077 (7.7%), while the interaction term in the third step contributed an additional 0.085 (8.5%) to the explained variance in crisis preparedness. This progression demonstrates that both the main effect of business continuity practices and its interaction with adaptive leadership contribute significantly to explaining the variance in crisis preparedness beyond adaptive leadership alone.

The significance of the moderation effect is further supported by the p-value of the interaction term ( $p = 0.017$ ), which is below the conventional threshold of 0.05. This suggests that the interaction between adaptive leadership and business continuity practices significantly influences crisis preparedness at the 95% confidence level. The positive coefficient of the interaction term ( $B = 0.075$ ) indicates that the effect of adaptive leadership on crisis preparedness becomes stronger as the level of business continuity practices increases.

Moreover, both main effects remain significant in this model: adaptive leadership ( $B = 0.412$ ,  $p < 0.05$ ) and business continuity practices ( $B = 0.389$ ,  $p < 0.05$ ). The overall model is highly significant ( $F = 109.612$ ,  $p < 0.05$ ), explaining 63.4% of the variance in crisis preparedness. These findings provide robust evidence that business continuity practices moderate the relationship between adaptive leadership and crisis preparedness in Kenyan universities, enhancing the positive impact of adaptive leadership on crisis preparedness as business continuity practices improve.

#### 4.4 Discussion of Findings

The objective of this study was to establish the moderating effect of business continuity practices on the relationship between adaptive leadership and crisis preparedness by public universities in Kenya. The analysis was conducted through a three-step hierarchical regression model. In the first step, the direct relationship between adaptive leadership and crisis preparedness was examined. The results showed a significant positive relationship ( $\beta = 0.677$ ,  $p < 0.05$ ), with adaptive leadership explaining 47.2% of the variance in crisis preparedness ( $R^2 = 0.472$ ). The second step introduced business continuity practices as an additional predictor. Both adaptive leadership ( $\beta = 0.493$ ,  $p < 0.05$ ) and business continuity practices ( $\beta = 0.356$ ,  $p < 0.05$ ) showed significant positive relationships with crisis preparedness. The addition of business continuity practices increased the explained variance to 54.9% ( $R^2 = 0.549$ ). The third step incorporated the interaction term between adaptive leadership and business continuity practices to test for moderation. The interaction term was found to be significant ( $\beta = 0.075$ ,  $p < 0.05$ ), indicating a moderating effect. The final model explained 63.4% of the variance in crisis preparedness ( $R^2 = 0.634$ ).

These findings align with previous research. For instance, Păunescu and Argatu (2020) found that organizations with strong adaptive leadership and robust business continuity practices were more resilient in crisis situations. Similarly, Rayburn et al. (2021) highlighted the importance of integrating adaptive leadership approaches with business continuity planning in higher education settings. Rasiah & Guptan (2020) researched on Business continuity plans in higher education industry in Malaysia and avers that higher education institutions should establish effective and sustainable academic continuity plans and that policy makers and the government ought to display resilience and leadership in crisis management.

The significant moderating effect of business continuity practices suggests that they enhance the positive impact of adaptive leadership on crisis preparedness. This is consistent with the work of Ranf et al. (2021), who emphasized the synergistic relationship between leadership approaches and business continuity management during crises. Based on these findings, we reject the null hypothesis ( $H_{01}$ ) which stated that business continuity practices have no significant moderating effect on the relationship between adaptive leadership and crisis preparedness by public universities in Kenya and accept the alternative hypothesis that business continuity practices have significant moderating effect on the relationship between adaptive leadership and crisis preparedness. The results provide strong evidence that business continuity practices do indeed moderate this relationship, enhancing the positive impact of adaptive leadership on crisis preparedness as business continuity practices improve.

## **5.1 Conclusions**

It is concluded that business continuity practices have significant moderating effect on the relationship between adaptive leadership and crisis preparedness by public universities in Kenya. The study builds on the proposition that business continuity practices serve as a crucial moderating factor in strengthening the relationship between adaptive leadership and crisis preparedness. Universities that integrate robust business continuity practices can further enhance their readiness for crises. This highlights the importance of not only leadership but also the implementation of well-structured continuity plans in ensuring that universities can maintain operations and recover effectively from disruptions. Together, adaptive leadership as an independent variable, business continuity practices as a moderating variable and crisis preparedness as dependent variable provides an integrated framework and model for improving crisis preparedness by public universities in Kenya.

## **6.1 Recommendations**

The study recommends that University administrators should invest in developing and implementing comprehensive business continuity practices. These practices should be integrated into the institution's strategic plans and regularly updated to reflect evolving risks and operational challenges. University leaders should ensure that continuity plans are regularly revised and tested, with adequate resources allocated to maintain business continuity plans. By combining strong adaptive leadership dimensions with robust continuity frameworks, university administrators and leadership teams will enhance the overall resilience of their institutions and improve their ability to manage crises effectively. It is recommended that policy makers should allocate adequate resources for embedding crisis preparedness systems and processes including the continual implementation of business continuity practices in public universities. Provision of sufficient resources will facilitate periodic testing and exercising of business continuity plans and thus build confidence amongst the leadership teams on organizational resilience and crisis preparedness in a

dynamic business environment. Policy makers ought to incorporate the conceptual model of adaptive leadership, business continuity practices and crisis preparedness in the crisis management framework as this will provide a wholistic, sustainable and integrated approach to crisis management. It is also plausible for practitioners to ensure that guidelines for appointment of crisis management teams are developed and that their training curriculum incorporate aspects of adaptive leadership, business continuity practices and crisis management perspectives. Universities have an opportunity to re-design risk and disaster courses targeting crisis management teams by incorporating findings of this study. The deployment of appropriate technology is also important in embedding the crisis preparedness systems and processes in the organization and should be prioritized by practitioners and policy makers. There is need to undertake studies on the possible intervening variables that have a mediating effect on adaptive leaders for purposes of building on the body of knowledge on adaptive leadership, business continuity practices and crisis preparedness.



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