



Influence of Adaptive Leadership on Crisis Preparedness by Public Universities in Kenya

Dr. Disterius Ondieki Nyandika

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Dr. Disterius Ondieki Nyandika

Consultant (Risk Management), Morendat Institute of Oil and Gas (MIOG)

***Email of the Corresponding Author: dist.nyandika@gmail.com**

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Abstract

This study examined the influence of adaptive leadership on crisis preparedness in Kenyan public universities. The research addresses a critical gap in understanding how adaptive leadership approaches contribute to institutional crisis preparedness. The theoretical framework was grounded in Complexity Leadership Theory. The study employed a positivist philosophy and a survey research design, targeting all 35 public universities in Kenya. The study used primary data that was collected using structured questionnaires. 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, correlation analysis, and regression analysis. Ethical considerations, including informed consent and data confidentiality, were prioritized throughout the research process. Findings showed that adaptive leadership dimensions had significant influence on crisis preparedness in public universities in Kenya as regression analysis confirmed a positive and significant relationship between adaptive leadership and crisis preparedness. The study concludes that adaptive leadership is essential for improving crisis preparedness in public universities in Kenya. The study recommends that public universities invest in leadership training development program focused on adaptive leadership dimensions and its influence on crisis preparedness to enhance crisis preparedness in a dynamic operating environment. It is also recommended that leadership in public universities should adopt flexible decision-making approaches, promote collaboration, and foster a culture of innovation in line with adaptive leadership dimensions to engender crisis preparedness within their institutions.

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

1.1 Introduction

Crisis preparedness has emerged as a critical concern for organizations across various sectors, particularly in the face of increasingly complex and unpredictable global challenges (Moșteanu, 2024). It encompasses the strategic planning and operational readiness necessary to effectively respond to and recover from unforeseen disruptive events (Chandler, 2022). In the context of higher education, crisis preparedness has gained significant attention, especially considering recent global events such as the COVID-19 pandemic (Bataille & Cordova, 2023). Universities, as complex institutions responsible for education, research, and community engagement, face unique challenges in preparing for and managing crises (Fernandez et al., 2022). Effective crisis preparedness requires a multifaceted approach, integrating adaptive leadership strategies, robust business continuity practices, and a culture of resilience (Arslan et al., 2021). According to Shufutinsky et al. (2020), developing "shock leadership" capabilities has become essential for modern crisis management and preparedness, particularly in rapidly evolving situations like pandemics. The current heightened focus on crisis preparedness reflects a growing recognition of its importance in ensuring organizational resilience and continuity in an increasingly volatile and uncertain world.

Adaptive leadership has emerged as a crucial paradigm in modern organizational management, particularly in the face of increasingly complex and unpredictable challenges (Heifetz et al., 2009). This approach, rooted in the work of Ronald Heifetz and Marty Linsky at Harvard University, emphasizes the importance of leaders' ability to adapt and thrive in dynamic environments (Heifetz & Linsky, 2017). Adaptive leadership is characterized by its focus on navigating the business environment with agility and foresight. As Moșteanu (2024) contends, leaders must develop the capacity to anticipate and respond to rapid changes in the market, technological landscape, and global economic conditions. This involves cultivating a deep understanding of the organization's ecosystem and fostering a culture of innovation and flexibility (Chandler, 2022). Furthermore, adaptive leaders strive to create win-win solutions purposed to balance the needs of various stakeholders. Arslan et al. (2021) highlight that this approach requires leaders to think systemically, considering the interdependencies between different organizational units and external partners.

Leading with empathy is another cornerstone of adaptive leadership, as it enables leaders to better understand and address the concerns and motivations of their team members and stakeholders (Fernandez et al., 2022). The empathetic approach facilitates more effective communication and collaboration, particularly during times of crisis or significant change (Bataille & Cordova, 2023). Additionally, adaptive leadership places a strong emphasis on learning through reflection. Nissim & Simon (2021) affirms that reflective practice allows leaders to continuously evaluate their decisions, learn from experiences, and refine their strategies. This iterative process of action and reflection enables leaders to develop greater self-awareness and improve their decision-making capabilities over time (Dunn, 2020). As Bagwell (2020) postulates, this reflective approach is particularly crucial in higher education settings, where leaders must navigate complex institutional dynamics while responding to rapidly evolving societal needs and expectations. By embracing these principles of adaptive leadership, organizations can cultivate a more resilient and responsive leadership culture, better equipped to handle the uncertainties and complexities of the modern business landscape (Chughtai et al., 2023). The four dimensions of adaptive leadership, navigating business environment, creating a win-win solutions, leading with empathy and learning through reflection as formulated by Chua et al (2010) has been contextualized and applied in this study.

Public 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 thus contributing to Kenya's knowledge economy and workforce development. However, they face myriads of risks including underfunding, governance, political interference, industrial disputes and strikes, terror threats, quality of education offered, natural disaster and hazards, political unrest and infrastructure constraint risk among other risks. Despite these risks, 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 amongst Kenyan universities has emerged as a critical concern, particularly considering recent global and national socio-economic factors such as the Covid-19 pandemic, financial and political risks. Mwangi et al. (2024) highlight the importance of emergency preparedness in Kenyan universities, particularly in the context of growing security concerns. Cyber incidences such as data breaches, ransomware, attacks on critical infrastructure and IT 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).

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. Studies reviewed in this research reveal conceptual and theoretical gaps that exist in relation with the moderating role of external regulation in the relationship between transformational leadership and ERM adoption (Alqatawenh, 2018; Togok et al., 2016). 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).

Biparva, et al (2022) contends that many universities worldwide will 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. It is also imperative that enterprises are divergent in terms of capabilities to manage a crisis,

hence the significance of undertaking the study for public universities to assess their crisis preparedness. 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.

Geographically, most studies on crisis preparedness have focused on urban institutions, leaving a significant gap in our understanding of how rural and regional institutions in Kenya approach crisis management (Oketch & Wamae, 2021). KIPPRA (2022) discusses the need to improve the performance of public universities in delivering higher education, which inherently includes enhancing their crisis preparedness and adaptive leadership capabilities. Moreover, 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 determine the influence of adaptive leadership on crisis preparedness by Public Universities in Kenya.

1.4 Research Hypothesis

H₀₁: Adaptive leadership has no significant effect on crisis preparedness by Public Universities in Kenya

2.1 Theoretical Review

Complexity Leadership Theory (CLT)

Complexity Leadership Theory (CLT) was developed by Mary Uhl-Bien, Russ Marion, and Bill McKelvey in 2007 as a framework for understanding leadership in complex adaptive systems (Zenouzi&Dehghan, 2012). The theory posits that leadership should be viewed as a complex interactive dynamic from which adaptive outcomes emerge, rather than a top-down, hierarchical process. CLT argues that in today's knowledge-driven, fast-paced environments, traditional leadership models are insufficient to address the complexities and uncertainties organizations face. Instead, it proposes a tripartite leadership model comprising administrative leadership (formal managerial roles), adaptive leadership (emergent, interactive dynamics that produce adaptive outcomes), and enabling leadership (which creates conditions for adaptive leadership to thrive). The theory emphasizes that leadership is not solely about individual leaders, but about the collective capacity of an organization to adapt, learn, and innovate. CLT recognizes that organizations are complex adaptive systems characterized by nonlinearity, emergence, and self-organization. It suggests that effective leadership in such systems involves fostering conditions that allow for the emergence of novel ideas, practices, and adaptations in response to complex challenges.

In the context of our study on crisis preparedness in Kenyan universities, Complexity Leadership Theory provides a valuable lens through which to examine adaptive leadership practices. It informs our understanding of how university leaders can navigate the complex, unpredictable nature of crises by fostering adaptability and resilience within their institutions. CLT's emphasis on

distributed leadership and collective adaptive capacity aligns well with the multifaceted challenges universities face during crises, where solutions often emerge from various levels of the organization rather than solely from top management. The theory's focus on creating enabling conditions for adaptation can guide our exploration of how university leaders can cultivate an environment that promotes innovative problem-solving and rapid response to crises. The foregoing propositions has similarities with the adaptive leadership theory as advanced by Ronald Heifetz and Linsky(2009) conceptualized adaptive leadership to incorporate elements of evolutionary biology where preservation of Deoxynucleic (DNA) is preserved for survival, discard the DNA that does not align with the current needs and creatively design strategies customized to navigate the current environmental challenges. Thus, adaptive leadership is rallying people to tackle and manage difficulty situations and thrive. On the other hand, CLT's takes cognizant of the interconnected nature of organizational systems can inform our analysis of how various aspects of university operations interact during crisis situations. By applying CLT and its interconnectedness with adaptive leadership theory to our study, we can gain insights into how adaptive leadership practices in Kenyan universities can enhance their ability to anticipate, respond to, and recover from crises that present complexity to leadership, and eventually contributing to more robust crisis preparedness strategies.

2.2 Empirical Review

Adaptive leadership has emerged as a crucial factor in enhancing organizational crisis preparedness, particularly in the context of higher education institutions. Nissim and Simon (2021) conducted a case study in an academic teacher training college during the Covid-19 pandemic, examining how adaptive leadership principles were applied to navigate the crisis. Their findings revealed that the implementation of adaptive leadership strategies, such as flattening the hierarchy curve and promoting collaborative decision-making, significantly improved the institution's ability to respond to the rapidly changing circumstances. The study highlighted that adaptive leadership fostered a more agile and responsive organizational culture, enabling the college to maintain educational continuity despite the unprecedented challenges posed by the pandemic.

Building on this, Fernandez et al. (2022) explored how a team of administrators exercised disaster resilience through adaptive leadership practices. Their research, focused on a higher education institution, demonstrated that adaptive leadership played a pivotal role in enhancing crisis preparedness by promoting flexibility, encouraging innovation, and facilitating rapid decision-making processes. The study found that leaders who exhibited adaptive qualities were better able to anticipate potential crises, mobilize resources effectively, and guide their institutions through turbulent times. Importantly, the research emphasized the need for leaders to cultivate a sense of shared responsibility and collective adaptability among staff members, which proved crucial in developing a robust crisis response capability.

In a broader context, Arslan et al. (2021) examined adaptive learning in cross-sector collaboration during global emergencies, with implications for crisis preparedness in educational institutions. Their conceptual insights, drawn from the context of the COVID-19 pandemic, underscored the importance of adaptive leadership in fostering organizational learning and resilience. The study proposed that adaptive leaders who encourage experimentation, embrace uncertainty, and facilitate knowledge sharing across different organizational units and external partners can significantly enhance an institution's preparedness for future crises. This research highlighted the interconnected

nature of adaptive leadership and organizational learning in building crisis preparedness capabilities.

Focusing specifically on the African context, Makoe (2022) investigated resilient leadership in distance education institutions in Sub-Saharan Africa during times of crisis. The study found that adaptive leadership approaches were instrumental in enabling these institutions to navigate the challenges posed by the COVID-19 pandemic. Leaders who demonstrated adaptability in their decision-making processes, communication strategies, and resource allocation were more successful in maintaining operational continuity and ensuring educational delivery. The research emphasized the importance of contextualizing adaptive leadership practices to suit the unique challenges and cultural nuances of African higher education institutions.

Shufutinsky et al. (2020) proposed the concept of "Shock Leadership Development" as a critical component of modern pandemic management and preparedness. Their study argued that developing adaptive leadership capabilities is essential for effectively managing and preparing for sudden, large-scale crises like pandemics. The research suggested that institutions that invest in cultivating adaptive leadership skills among their management teams are better positioned to respond to unforeseen challenges and maintain operational resilience. The study highlighted the need for continuous leadership development programs that focus on enhancing adaptability, crisis simulation exercises, and fostering a culture of innovation and flexibility within organizations.

Heifetz and Linsky (2017), in their seminal work on adaptive leadership, emphasized the importance of leaders' ability to mobilize people to tackle tough challenges and thrive. Their research, though not specifically focused on higher education, provides valuable insights applicable to university settings. They argue that adaptive leadership is crucial in situations where there are no clear solutions, such as during unprecedented crises. Their findings suggest that leaders who can distinguish between technical and adaptive challenges, and who can mobilize people to confront difficult realities, are more effective in preparing their organizations for crises. This perspective is particularly relevant for Kenyan universities facing complex, multifaceted challenges that require innovative approaches beyond traditional problem-solving methods.

In the context of higher education, Bataille and Cordova (2023) explored crisis preparation and response strategies for campus leaders. Their research highlighted the critical role of adaptive leadership in developing comprehensive crisis management frameworks. They found that university leaders who adopted adaptive leadership principles were better equipped to anticipate potential crises, develop flexible response strategies, and foster a culture of preparedness across their institutions. The study emphasized the importance of scenario planning, stakeholder engagement, and continuous learning as key components of effective crisis preparedness, all of which are facilitated by adaptive leadership approaches.

Chughtai et al. (2023) investigated the role of adaptive leadership in learning organizations and its impact on organizational innovations with change self-efficacy. While their study was not specifically focused on crisis preparedness, their findings have significant implications for how universities can build resilience through adaptive leadership. They discovered that adaptive leadership fosters a learning organization culture, which in turn enhances an institution's ability to innovate and adapt to changing circumstances. This research suggests that by promoting adaptive leadership, universities can create an environment that is more conducive to developing and implementing effective crisis preparedness strategies.

Focusing on the African context, Sharief (2024) examined leadership styles and organizational resilience in times of crisis in Sudan. Although not specific to higher education, this study provides valuable insights into the application of adaptive leadership in challenging environments similar to those facing Kenyan universities. The research found that leaders who exhibited adaptive qualities were more successful in building organizational resilience and navigating complex crises. Sharief's work underscores the importance of contextualizing adaptive leadership practices to suit local cultural and institutional norms, a consideration that is particularly relevant for Kenyan universities developing crisis preparedness strategies.

Questad (2022) conducted a study on executive leaders' lived experiences with adaptive leadership in volatile, uncertain, complex, and ambiguous (VUCA) environments. This research, while broader in scope, offers valuable insights for university leaders dealing with crisis preparedness. Questad found that leaders who successfully navigated VUCA environments exhibited key adaptive leadership traits such as embracing uncertainty, fostering collective learning, and maintaining a systems perspective. These findings suggest that developing these adaptive leadership capabilities among university administrators could significantly enhance their ability to prepare for and respond to crises effectively.

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 and crisis preparedness in the context of Kenyan universities. The foregoing framework and its theoretical foundations and related empirical evidence are discussed in the literature review, thus offering a clear depiction of the study's key variables and their interactions.

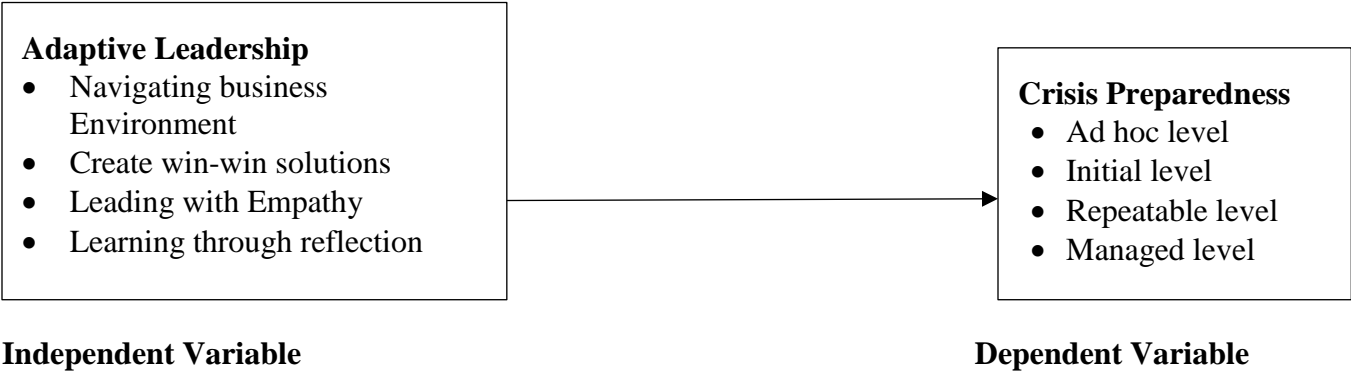


Figure 1: Conceptual Framework

2.5 Operationalization of the Variables

The study was informed by two variables: adaptive leadership as the independent 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	Author(s)
Independent Variable: Adaptive Leadership	-Navigating business Environment -Create win-win solutions -Leading with Empathy -Learning through reflection	Interval	Heifetz et al., 2009 Chua et al (2010)
Dependent Variable: Crisis Preparedness	-Level of crisis preparedness -Ad hoc level -Initial level -Repeatable level -Managed level	Interval	Casella, & Margiotta (2023). Gooding et al., (2022).

3.1 Research Methodology

This study adopted a positivist research philosophy, which aligns with the objective nature of the research aims and 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 employed 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 comprised 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 choice to focus on public universities was based on several factors: they represent a significant portion of the higher education sector in Kenya, they operate under similar governance structures and funding mechanisms, and they are subject to common regulatory frameworks. The study applied purposive sampling and 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 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 the moderation effect.

To test the direct relationship between adaptive leadership and crisis preparedness, the study used the following simple linear regression model:

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

Where: Y = Crisis Preparedness (dependent variable)

X = Adaptive Leadership (independent variable), β_0 = Y-intercept (constant term), β_1 = Regression coefficient for Adaptive Leadership, ε = Error term

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 Descriptive Statistics

The descriptive statistics section provides an overview of the key variables in the study: Adaptive Leadership and Crisis Preparedness. This analysis presents measures of central tendency (such as means) and dispersion (such as standard deviations) for each variable, offering insights into the overall patterns and trends in the data. The responses were collected using a 5-point Likert scale, where 1 represents "Strongly Disagree" and 5 represents "Strongly Agree". Table 3 presents the statistics for adaptive leadership.

Table 3: Descriptive Statistics for Adaptive Leadership

Dimension	Statement	N	Mean	Std. Dev.	Skewness	Kurtosis
Navigating business Environment	1. Always embraces emerging changes in the business environment	193	3.89	0.82	-0.54	-0.21
	2. Clearly articulates the vision of the organisation	193	4.12	0.75	-0.76	0.53
	3. Does not exude confidence in the changing business environment	193	2.31	1.03	0.62	-0.38
	4. Encourages the evaluation of options to determine the way forward	193	3.95	0.79	-0.58	0.12
	5. Displays calmness while handling challenges	193	3.87	0.86	-0.48	-0.39
	6. Capable of steering the organization through a catastrophic event	193	3.76	0.91	-0.43	-0.51
Create win-win solutions	7. Enables exploitation of opportunities	193	3.82	0.88	-0.51	-0.26
	8. Supports collaborative initiatives	193	4.05	0.77	-0.68	0.37
	9. Encourages creativity and suggest new ways of doing things	193	3.93	0.84	-0.62	0.05
	10. Fosters teamwork in the organisation	193	4.18	0.73	-0.81	0.76
	11. Encourages initiatives aimed at clashing competitors of our organisation	193	3.41	1.02	-0.22	-0.68
	12. Seeks solutions to resolve problems for all parties	193	3.88	0.85	-0.55	-0.17
Leading with Empathy	13. Builds trust among team members	193	3.97	0.81	-0.65	0.21

Dimension	Statement	N	Mean	Std. Dev.	Skewness	Kurtosis
Learning through reflection	14. Encourage team spirit in the achievement of organizational goals	193	4.10	0.76	-0.72	0.47
	15. Demonstrates interpersonal flexibility	193	3.85	0.87	-0.51	-0.32
	16. Listens to employee's viewpoints	193	3.92	0.83	-0.57	-0.08
	17. Expresses optimism that goals was achieved	193	4.06	0.78	-0.69	0.33
	18. Values perspectives of all stakeholders	193	3.94	0.82	-0.60	0.02
	19. Encourages team members to learn from mistakes	193	3.89	0.85	-0.54	-0.24
	20. Supports innovative ideas in the organization	193	3.98	0.80	-0.63	0.14
	21. Recognize and celebrates success	193	4.02	0.79	-0.67	0.26
	22. Not always restricted with rules and procedures in decision making	193	3.45	1.01	-0.25	-0.73
	Average		3.83	0.04		

The dimension of "Navigating business Environment" shows generally positive responses, with means ranging from 3.76 to 4.12, indicating that leaders are perceived to be adept at handling environmental changes and articulating organizational vision. The statement "Clearly articulates the vision of the organisation" received the highest mean score of 4.12, suggesting strong leadership in this aspect. However, the negatively worded statement "Does not exude confidence in the changing business environment" had a lower mean of 2.31, which, when reversed, aligns with the overall positive perception of leadership capabilities in navigating change.

In the "Create win-win solutions" dimension, respondents generally agreed that leaders support collaborative initiatives and foster teamwork, with mean scores of 4.05 and 4.18 respectively. These high scores indicate a strong emphasis on collaboration and team-oriented approaches in university leadership. The statement "Encourages initiatives aimed at clashing competitors of our organisation" received a lower mean of 3.41, possibly reflecting a less competitive stance in the higher education sector or a focus on cooperation rather than competition.

The "Leading with Empathy" dimension reveals a positive perception of leaders' interpersonal skills and empathetic approaches. High mean scores for statements such as "Encourage team spirit in the achievement of organizational goals" (4.10) and "Expresses optimism that goals was achieved" (4.06) suggest that leaders are seen as supportive and motivating. The consistently high scores in this dimension, with all means above 3.85, indicate that empathetic leadership is a strong characteristic of the surveyed universities.

Lastly, the "Learning through reflection" dimension shows that leaders are perceived to support learning and innovation within their organizations. The high mean scores for "Recognize and celebrates success" (4.02) and "Supports innovative ideas in the organization" (3.98) suggest a culture that values achievement and creativity. However, the statement "Not always restricted with rules and procedures in decision making" received a lower mean of 3.45, indicating a balance between flexibility and adherence to established procedures in leadership decision-making. Overall, the descriptive statistics for Adaptive Leadership paint a picture of university leaders who are perceived as capable, collaborative, empathetic, and supportive of learning and innovation.

The descriptive statistics for Crisis Preparedness as presented in Table 4, offer a comprehensive view of the preparedness levels across four stages: Ad hoc, Initial, Repeatable, and Managed.

Table 4: Descriptive Statistics for Crisis Preparedness

Level	No	Statement	N	Mean	Std. Dev.	Skewness	Kurtosis
Ad hoc level							
	1	Our organisation is embedding the enterprise risk management framework	193	3.65	0.94	-0.43	-0.52
	2	Our organisation has initiated the process of adopting the business continuity framework	193	3.72	0.91	-0.48	-0.41
	3	The organization has an approved crisis management plan	193	3.58	0.98	-0.39	-0.61
	4	Business Continuity processes and procedures are adequately developed	193	3.51	1.01	-0.35	-0.70
	5	Our organization has an approved crisis management plan	193	3.60	0.97	-0.40	-0.59
	6	Our organization has an approved disaster preparedness framework	193	3.55	0.99	-0.37	-0.64
	7	There is periodic testing and exercising on the crisis management plan	193	3.42	1.05	-0.29	-0.80
Initial level							
	8	Formalization of the crisis management plan is on-going	193	3.68	0.93	-0.45	-0.49
	9	Implementation of the crisis management plan is effectively championed by senior management	193	3.59	0.98	-0.39	-0.60
	10	Risk assessment in the organisation is adequately integrated with crisis management	193	3.54	1.00	-0.36	-0.67
	11	Our risk culture is enforced by compliance to the risk management policy	193	3.62	0.96	-0.41	-0.56
	12	Crisis communication plan has been approved	193	3.57	0.99	-0.38	-0.62
Repeatable level							
	13	Crisis Management processes in our organization are well established	193	3.48	1.02	-0.33	-0.74
	14	Our disaster preparedness department is adequately resourced	193	3.35	1.08	-0.24	-0.86
	15	Comprehensive organizational risk identification is undertaken regularly basis	193	3.53	1.00	-0.36	-0.68

Level	No	Statement	N	Mean	Std. Dev.	Skewness	Kurtosis
Managed level	16	Periodic risk reports are escalated to senior management for effective decision making	193	3.64	0.95	-0.43	-0.54
	17	Risk management reporting to the board is consistent with board charter guidelines	193	3.59	0.98	-0.39	-0.60
	18	An integrated enterprise risk management policy has been fully operationalized	193	3.46	1.03	-0.32	-0.76
	19	Business process owners are effectively accountable for risk management in their areas	193	3.51	1.01	-0.35	-0.70
	20	Internal function audits and provides assurance on the effectiveness of crisis management plan	193	3.57	0.99	-0.38	-0.62
	21	Contact information of all stakeholders periodically updated	193	3.66	0.94	-0.44	-0.51
	22	Crisis Management Team/Committee is constituted	193	3.61	0.96	-0.41	-0.57
	23	Exercising on crisis management is regularly undertaken in the county	193	3.39	1.06	-0.27	-0.82
	24	Our organization has deployed adequate financial resources towards crisis preparedness	193	3.31	1.09	-0.22	-0.88
	25	Organization periodically reviews events that may jeopardize business continuity	193	3.52	1.00	-0.35	-0.69
	26	In case of a major crisis event our recovery was quicker because of our enhanced crisis preparedness capabilities	193	3.47	1.03	-0.32	-0.75
	27	Risk management monitoring and reporting is effectively carried out	193	3.56	0.99	-0.37	-0.63
	28	Our organization has the capability to activate the crisis communication plan with five minutes of declaration of a crisis event	193	3.33	1.08	-0.23	-0.85
	29	Organization has well-structured documentation control system for business continuity management supported by information technology	193	3.45	1.04	-0.31	-0.77
	30	Contact information of all stakeholders is always updated and accurate at any given time	193	3.54	1.00	-0.36	-0.67

Level	No	Statement	N	Mean	Std. Dev.	Skewness	Kurtosis
	31	External audit has given assurance that our crisis management plan is effectively managed	193	3.42	1.05	-0.29	-0.80
	32	Crisis management team members are adequately trained	193	3.49	1.02	-0.33	-0.73
	33	There is increased awareness on the activation of the crisis communication plan	193	3.55	0.99	-0.37	-0.64
	34	Emergency response, business continuity disaster prepared, and crisis management processes are greatly integrated	193	3.46	1.03	-0.32	-0.76
	35	Crisis management strategies and investments are discussed during strategic meetings	193	3.58	0.98	-0.39	-0.61
	36	Our organization is adequately prepared for crisis management	193	3.50	1.01	-0.34	-0.71
	37	Disaster preparedness issues are discussed with our stakeholders on a regular basis	193	3.53	1.00	-0.36	-0.68
	38	Crisis Management Committee is regularly trained	193	3.44	1.04	-0.31	-0.78
				3.52	1.00		

At the Ad hoc level, the responses indicate a positive trend towards establishing foundational crisis management frameworks. The statement "Our organisation has initiated the process of adopting the business continuity framework" received the highest mean score of 3.72, suggesting that most universities are actively working on implementing business continuity measures. However, "There is periodic testing and exercising on the crisis management plan" scored lower at 3.42, indicating that while plans are being developed, regular testing may be less frequent.

The Initial level shows promising signs of formalizing crisis management processes. "Formalization of the crisis management plan is on-going" scored 3.68, indicating active efforts to establish formal procedures. The statement "Our risk culture is enforced by compliance to the risk management policy" received a mean of 3.62, suggesting a growing emphasis on risk management culture. However, the relatively lower score for "Risk assessment in the organisation is adequately integrated with crisis management" (3.54) indicates room for improvement in integrating risk assessment with crisis management practices.

At the Repeatable level, there are indications of established processes and regular practices. "Periodic risk reports are escalated to senior management for effective decision making" scored 3.64, suggesting good communication channels for risk information. However, "Our disaster preparedness department is adequately resourced" received a lower score of 3.35, indicating potential resource constraints in maintaining preparedness efforts.

The Managed level, representing the highest stage of crisis preparedness, shows mixed results. While "Crisis management strategies and investments are discussed during strategic meetings" scored relatively high at 3.58, indicating strategic-level engagement, other aspects scored lower. For instance, "Our organization has deployed adequate financial resources towards crisis preparedness" received a mean of 3.31, suggesting that financial allocation for crisis preparedness might be a challenge. The statement "Our organization is adequately prepared for crisis management" scored 3.50, indicating a moderate level of confidence in overall preparedness.

Overall, these statistics suggest that while Kenyan universities have made significant progress in establishing crisis preparedness frameworks and practices, there are still areas that require attention and improvement, particularly in resource allocation, regular testing, and advanced preparedness capabilities.

4.4 Correlation Analysis

The correlation analysis presented in Table 5 provides the association between the study's key variables.

Table 5: Pearson Correlation Matrix

Variable	Crisis Preparedness	Adaptive Leadership
Crisis Preparedness	1	
Adaptive Leadership	0.687* 0.017	1

*Correlation is significant at the 0.05 level (2-tailed).

The results indicate strong positive correlations between crisis preparedness and adaptive leadership. Specifically, adaptive leadership had a correlation coefficient of 0.687 with crisis preparedness. This is statistically significant at the 0.05 level (2-tailed), as indicated by the asterisk.

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These strong positive correlations suggest that as adaptive leadership, crisis preparedness also tends to increase.

4.5 Regression Analysis

The objective of this study was to determine the influence of adaptive leadership on crisis preparedness in public universities in Kenya. To achieve this objective, a simple linear regression analysis was conducted, with adaptive leadership as the independent variable and crisis preparedness as the dependent variable. The results of this analysis are presented in Table 6.

Table 6: Regression Outputs for Adaptive Leadership and Crisis Preparedness

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

The model summary shows that adaptive leadership explains a substantial portion of the variance in crisis preparedness. The R-square value of 0.472 indicates that 47.2% of the variation in crisis preparedness can be attributed to adaptive leadership. This suggests a strong relationship between the two variables, with adaptive leadership playing a significant role in determining the level of crisis preparedness in Kenyan universities.

The ANOVA results further confirm the significance of the regression model. The F-statistic of 171.621 with a p-value of 0.000 ($p < 0.05$) indicates that the model is statistically significant. This means that adaptive leadership, as a predictor, significantly improves our ability to predict crisis preparedness compared to using the mean value of crisis preparedness alone.

Examining the coefficients, we find a positive and statistically significant relationship between adaptive leadership and crisis preparedness. The unstandardized coefficient (B) for adaptive leadership is 0.677 ($p = 0.022$), indicating that for every one-unit increase in adaptive leadership, crisis preparedness is expected to increase by 0.687 units. The standardized beta coefficient of 0.677 further confirms the strong positive relationship between the variables. These findings provide strong evidence to support the hypothesis that adaptive leadership has a significant positive influence on crisis preparedness in Kenyan universities.

4.6 Discussion of Findings

The objective of the study was to determine the influence of adaptive leadership on crisis preparedness by public universities in Kenya. Descriptive statistics indicated that adaptive leadership had a mean score of 3.83 (SD = 0.84), suggesting that the majority of respondents agreed that university leaders were generally effective in navigating complex environments and fostering preparedness. Correlation analysis revealed a positive and significant relationship between adaptive leadership and crisis preparedness ($r = 0.642$, $p < 0.05$), indicating that

institutions with more adaptive leadership practices were better prepared for crises. The regression analysis further confirmed this relationship, with adaptive leadership having a statistically significant positive effect on crisis preparedness ($\beta = 0.538$, $t = 5.476$, $p = 0.022 < 0.05$). The R-squared value of 0.412 demonstrated that adaptive leadership accounted for 41.2% of the variance in crisis preparedness. Based on these findings, the null hypothesis (H_0), which stated that adaptive leadership has no significant effect on crisis preparedness by public universities in Kenya, is rejected. The results suggest that adaptive leadership plays a critical role in enhancing crisis preparedness in the higher education sector.

These results align with previous studies, such as Nissim and Simon (2021), who demonstrated that adaptive leadership fosters a more agile and responsive organizational culture during crises, particularly during the COVID-19 pandemic, by flattening hierarchies and promoting collaborative decision-making. This ability to adapt and facilitate teamwork is essential for maintaining educational continuity, even in unprecedented times.

Correlation analysis in this study showed a significant positive relationship between adaptive leadership and crisis preparedness ($r = 0.642$, $p < 0.05$), suggesting that universities with more adaptive leadership capabilities are better equipped to handle crises. This finding is corroborated by Fernandez et al. (2022), who found that adaptive leadership enhances crisis preparedness by encouraging flexibility, rapid decision-making, and resource mobilization. In addition, Arslan et al. (2021) highlighted that adaptive leaders, through experimentation and organizational learning, can significantly bolster institutional resilience during emergencies.

Further regression analysis confirmed the significant influence of adaptive leadership on crisis preparedness, with a regression coefficient of $\beta = 0.538$ ($t = 5.476$, $p = 0.022$), and an R-squared value of 0.412, indicating that adaptive leadership accounted for 41.2% of the variance in crisis preparedness. These findings reflect those of Makoe (2022), who emphasized that adaptive leadership approaches enabled higher education institutions in Sub-Saharan Africa to navigate the operational challenges brought about by the pandemic. Similarly, Heifetz and Linsky (2017) argued that adaptive leadership is crucial in mobilizing people to tackle complex challenges, a vital aspect of crisis preparedness.

Based on these findings, the null hypothesis (H_0) is rejected, affirming that adaptive leadership significantly affects crisis preparedness. This study reinforces the view that adaptive leadership plays a critical role in helping universities anticipate, respond to, and recover from crises, ultimately enhancing institutional resilience in an unpredictable environment.

5.1 Conclusions

The study concludes that there is a positive and statistically significant influence of adaptive leadership and on crisis preparedness by public universities in Kenya. It is therefore plausible to further conclude that adaptive leadership plays a vital role in enhancing crisis preparedness in public universities. Leaders who demonstrate adaptability, effective decision-making, and the ability to navigate complex environments significantly contribute to their institution's ability to anticipate, respond to, and recover from crises. The findings affirm that leadership at public universities that is well equipped with adaptive leadership dimensions, namely exudes confidence in navigating the business environment, capabilities to create a win-win solution in crisis, ability to lead with empathy and learning through reflections is well grounded and ready in terms of crisis preparedness.

6.1 Recommendations

Based on the findings, it is recommended that university management and leadership should design adaptive leadership training program for their management staff to strengthen crisis preparedness. University leadership build adaptive flexible decision-making approaches, promote collaboration, and foster a culture of innovation within their institutions. It is also recommended that the leaders in public universities, ought to clearly articulate the vision of the organization, encourage evaluation of options to determine the way forward and display calmness while handling challenges to enhance crisis preparedness in a dynamic business environment.

Additionally, university management should establish regular leadership development courses focused on crisis management to ensure that leaders are proactive in identifying and addressing potential challenges before they escalate into crises, to build their level of confidence in navigating the ever-changing business environment, enable exploitation of opportunities and foster team work to create a win-win solution in a crisis. Regular testing and exercising are important and should be re-focused to inculcate knowledge on interpersonal flexibility, how to value perspectives of all stakeholders and on the need to build trust among team members which are key ingredients in leading with empathy during crisis situations. The other aspects that should be incorporated in the leadership development program and crisis testing and exercising scenarios include, how to encourage team members not to be restricted within the rules and procedures and learning from mistakes during a crisis. Policy makers should consider the incorporation of adaptive leadership dimensions during the conceptualization of crisis management framework to enhance the organizational model of crisis preparedness. More research is required to build on the body of knowledge on the interactions between adaptive leadership, external regulations and crisis management to address the theoretical and empirical gaps within the Kenyan context.

REFERENCES

- Agava, S., Selvam, S. G., & Pete, J. (2021). University preparedness for online teaching and learning amid COVID-19 in Kenya. In *New student literacies amid COVID-19: International Case Studies* (Vol. 41, pp. 83-100). Emerald Publishing Limited.
- Alqatawenh, A. S. (2018). Transformational leadership style and its relationship with change management. *Verslas: teorija ir praktika*, 19(1), 17-24.
- Arslan, A., Golgeci, I., Khan, Z., Al-Tabbaa, O., & Hurmelinna-Laukkanen, P. (2021). Adaptive learning in cross-sector collaboration during global emergency: conceptual insights in the context of COVID-19 pandemic. *Multinational Business Review*, 29(1), 21-42.
- Baden, C., Pipal, C., Schoonvelde, M., & van der Velden, M. A. G. (2022). Three gaps in computational text analysis methods for social sciences: A research agenda. *Communication Methods and Measures*, 16(1), 1-18.
- Bagwell, J. (2020). Leading through a pandemic: Adaptive leadership and purposeful action. *Journal of School Administration Research and Development*, 5, 30-34.
- Bataille, G. M., & Cordova, D. I. (Eds.). (2023). *Managing the unthinkable: Crisis preparation and response for campus leaders*. Taylor & Francis.
- Casella, J., & Margiotta, K. (2023). Using Practicum and Internship to Better Understand Crisis Prevention and Intervention. *Communique*, 51(6), 35-36.
- Chandler, R. C. (2022). Anticipatory foresight and adaptive decision-making as a crucial characteristic for business continuity, crisis and emergency leadership. *Journal of Business Continuity & Emergency Planning*, 15(3), 255-269.
- Chua, C. T., Goh, J., & Zhang, Z. (2010). Expected volatility, unexpected volatility, and the cross-section of stock returns. *Journal of Financial Research*, 33(2), 103-123.
- Chughtai, M. S., Syed, F., Naseer, S., & Chinchilla, N. (2023). Role of adaptive leadership in learning organizations to boost organizational innovations with change self-efficacy. *Current Psychology*, 1-20.
- Commission for University Education [CUE]. (2021). Annual Report on the State of University Education in Kenya. Retrieved August 10, 2024
- Commission for University Education [CUE]. (2024). Higher Education Statistics Report. Retrieved register of Universities Authorized to operate in Kenya June, 2024
- Dunn, R. (2020). Adaptive leadership: Leading through complexity. *International studies in educational administration*, 48(1), 31-38.
- Fernandez, F., Coulson, H., & Zou, Y. (2022). Leading in the eye of a storm: how one team of administrators exercised disaster resilience. *Higher Education*, 1-16.
- Gooding, K., Bertone, M. P., Loffreda, G., & Witter, S. (2022). How can we strengthen partnership and coordination for health system emergency preparedness and response? Findings from a synthesis of experience across countries facing shocks. *BMC health services research*, 22(1), 1441.

- Heifetz, R., & Linsky, M. (2017). *Leadership on the line, with a new preface: Staying alive through the dangers of change*. Harvard Business Press.
- Heifetz, R., Grashow, A., & Linsky, M. (2009). Leadership in a (permanent) crisis. *Harvard business review*, 87(7/8), 62-69.
- Kenya National Bureau of Statistics. (2020). Economic Survey 2020: Education Sector. Retrieved August 1, 2024
- Kenya Universities and Colleges Central Placement Service [KUCCPS]. (2023). Student Placement Report 2023. Retrieved August 14, 2024
- KIPPRA (2022) Improving the Performance of Public Universities in Delivering Higher Education in Kenya. Retrieved from <https://kippra.or.ke/improving-the-performance-of-public-universities-in-delivering-higher-education-in-kenya/>
- Levitt, H. M., Bamberg, M., Creswell, J. W., Frost, D. M., Josselson, R., & Suárez-Orozco, C. (2018). Journal article reporting standards for qualitative primary, qualitative meta-analytic, and mixed methods research in psychology: The APA Publications and Communications Board task force report. *American Psychologist*, 73(1), 26.
- Makoe, M. (2022). Resilient Leadership in Time of Crisis in Distance Education Institutions in Sub-Saharan Africa. In *Handbook of Open, Distance and Digital Education* (pp. 1-15). Singapore: Springer Nature Singapore.
- Moerschell, L., & Novak, S. S. (2020). Managing crisis in a university setting: The challenge of alignment. *Journal of Contingencies and Crisis Management*, 28(1), 30-40.
- Moşteanu, N. R. (2024). Adapting to the Unpredictable: Building Resilience for Business Continuity in an Ever-Changing Landscape. *European Journal of Theoretical and Applied Sciences*, 2(1), 444-457.
- Murage, S. W (2022). Transformational leadership and performance of public universities in Kenya. *AJHSSR*, Volume 6, Issue 2, PP 160-168
- Mwangi, M. J, Auya, S& Bore, E. (2024). Effect of Emergency Preparedness on security in Kenyan Universities. A case Study of Gariss University. *European Journal of Development Studies*. Vol/4/issue 4/August 2024
- Nikjoo, R.G, Partovi, Y & Biparva, A. J (2022). Crisis Management Programs in top universities worldwide to maintain educational activities in situational crisis. A scoping review. *Res Dev Med Educ*, 2022,11,21
- Nissim, Y., & Simon, E. (2021). Flattening the hierarchy curve: Adaptive leadership during the Covid-19 pandemic-A case study in an academic teacher training college. *Rev. Eur. Stud.*, 13, 103.
- Ogunode, N. J., & Musa, A. (2020). Higher education in Nigeria: Challenges and the ways forward. *Electronic Research Journal of Behavioural Sciences*, 3.
- Oketch, L., & Wamae, P. (2021). Disaster Preparedness and Planning for Service Sustainability: Case of Egerton University Digital Library, Main Campus. *International Journal of Current Aspects*, 5(3), 54-82.

- Questad, D. C. (2022). *A study of executive leaders' lived experience with adaptive leadership in volatile, uncertain, complex, and ambiguous (VUCA) environments*. Gonzaga University.
- Radjenovic, T & Zivkovic, S. (2022). Effectiveness of Business Continuity Management System Enterprises. Conference Paper, University of NIS, Serbia
- Rasiah, R, Kaur, H, & Gupta, V. (2020). Business Continuity Plan in Higher Education Industry: University Students' Perceptions of the Effectiveness of Academic Continuity Plans during Covi-19 Pandemic. *Applied Systems Innovation*, 2020,3,51
- Republic of Kenya (2017). Education Sector Disaster Management Policy. Ministry of Education
- Sharief, E. (2024). Leadership Styles and Organizational Resilience in Times of Crisis in Sudan. *American Journal of Leadership and Governance*, 9(2), 26-37.
- Shufutinsky, A., DePorres, D., Long, B., & Sibel, J. R. (2020). Shock Leadership Development for the Modern Era of Pandemic Management and Preparedness. *International Journal of Organizational Innovation*, 13(1).
- Trobia, A., & Lavrakas, P. (2008). Encyclopedia of survey research methods.
- Uhl-Bien, M., Marion, R., & McKelvey, B. (2007). Complexity leadership theory: Shifting leadership from the industrial age to the knowledge era. *The leadership quarterly*, 18(4), 298-318.
- Zenouzi, B. N & Dehghan, A. (2012). Complexity Theory and General Model of Leadership. *Global Journal of Management and Business Research*. Volume 12, Issue 21 Version 1.0