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HUMAN RESOURCE SLACK AND ORGANIZATIONAL CRISIS MANAGEMENT OF OIL AND GAS FIRMS IN RIVERS STATE.

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ABSTRACT

This study investigated the effect of human resource slack on organizational crisis management in oil and gas firms in Rivers State, Nigeria. The research focused on three dimensions of crisis management: crisis prevention, crisis preparedness, and crisis response. Guided by the resource-based view, the study hypothesized that human resource slack positively influences an organization's ability to manage crises. A correlational survey design was adopted, and the population comprised 12 downstream oil and gas firms in Rivers State, with three respondents selected from each firm, yielding a total sample of 36 managerial staff. Data were collected using structured questionnaires and analyzed with multiple regression techniques via SPSS version 25. The findings revealed that human resource slack significantly and positively affects crisis prevention, crisis preparedness, and crisis response. Specifically, surplus employee capacity, multi-skilled personnel, and flexible work arrangements enhanced firms' abilities to anticipate, prepare for, and respond to crises effectively. The study concluded that human resource slack is a critical enabler of organizational resilience and operational continuity in high-risk environments. Practical recommendations include maintaining optimal slack levels, integrating slack into crisis management planning, and continuous skill development of employees. These findings offer valuable insights for managers and policymakers seeking to strengthen crisis management practices in oil and gas firms.

INTRODUCTION

Background to the Study

Organizations operating in volatile and high-risk environments, such as the oil and gas sector, are frequently exposed to various forms of crises, including operational failures, environmental hazards, economic fluctuations, and regulatory pressures. In Rivers State, Nigeria, where oil and gas activities are highly concentrated, firms face persistent disruptions ranging from pipeline vandalism and oil spills to market instability and community conflicts. These challenges necessitate robust organizational crisis management systems that can effectively anticipate, respond to, and recover from adverse events. Crisis management, therefore, has become a strategic imperative for sustaining operational continuity and long-term organizational performance (Pearson & Clair, 1998; Coombs, 2007). One critical yet underexplored factor influencing crisis management effectiveness is human resource slack. Human resource slack refers to the surplus or buffer of employee skills, competencies, time, and capacity beyond the minimum required for routine operations. This slack provides organizations with flexibility and adaptability, enabling them to respond swiftly to unexpected disruptions (Bourgeois, 1981). In the context of oil and gas firms, human resource slack may manifest in the availability of multi-skilled employees, excess workforce capacity, or underutilized expertise that can be redeployed during crisis situations.

The theoretical foundation for understanding human resource slack is rooted in the resource-based view (RBV) of the firm, which posits that organizational resources, when valuable, rare, and inimitable, can provide a sustainable competitive advantage (Barney, 1991). Human resources, particularly when they possess diverse skills and adaptive capabilities, constitute a strategic asset that enhances organizational resilience and crisis response effectiveness. Slack resources, in this regard, serve as a buffer that allows firms to absorb shocks, experiment with alternative strategies, and maintain stability during turbulent periods (George, 2005). Empirical and theoretical studies have highlighted the importance of slack resources in organizational adaptability and resilience. For

instance, slack resources enable organizations to engage in proactive planning, facilitate rapid decision-making, and support innovation during crises (Voss, Sirdeshmukh, & Voss, 2008). In high-risk industries like oil and gas, where crises can escalate rapidly, the availability of human resource slack can significantly influence the speed and effectiveness of response mechanisms, including emergency interventions, risk mitigation, and recovery strategies.

Organizational crisis management encompasses a range of activities, including crisis prevention, preparedness, response, and recovery. Effective crisis management requires not only formal structures and processes but also the availability of competent personnel who can execute these strategies under pressure (Coombs, 2007). Human resource slack plays a crucial role in this regard by ensuring that organizations have the necessary manpower and expertise to handle complex and unforeseen situations. Without adequate slack, firms may struggle to mobilize resources quickly, leading to delayed responses and increased vulnerability to crises. Despite its importance, the role of human resource slack in crisis management has received limited attention in the literature, particularly within the Nigerian oil and gas sector. Most studies on crisis management have focused on communication strategies, leadership, and organizational resilience, with less emphasis on the contribution of internal resource buffers such as human resource slack. This gap is significant, given the unique challenges faced by oil and gas firms in Rivers State, where environmental and socio-economic factors amplify the frequency and severity of crises.

Furthermore, the dynamic and uncertain nature of the oil and gas industry underscores the need for organizations to move beyond efficiency-driven models that minimize slack, toward more flexible systems that prioritize resilience and preparedness. While excessive slack may lead to inefficiencies, an optimal level of human resource slack can enhance organizational agility and crisis-handling capacity. Therefore, understanding how human resource slack influences organizational crisis management is essential for developing strategies that balance efficiency with resilience. In light of the foregoing, this study seeks to examine the relationship between human resource slack and organizational crisis management in oil and gas firms in Rivers State. By exploring how surplus human resource capacity contributes to crisis prevention, preparedness, and response, the study aims to provide empirical insights that can inform managerial practices and policy decisions in the sector.

Statement of the Problem

Oil and gas firms in Rivers State operate in an environment characterized by high uncertainty, operational hazards, environmental risks, and socio-political instability. Frequent occurrences such as oil spills, pipeline vandalism, equipment failure, and community conflicts have made organizational crisis management a critical function for survival and sustainability. Despite the presence of crisis management frameworks in many firms, the effectiveness of these systems remains inconsistent, as evidenced by delayed responses, inadequate preparedness, and prolonged recovery periods following crises. This situation raises concerns about the internal organizational factors that influence the success or failure of crisis management efforts. One such internal factor is human resource slack, which refers to the availability of excess or underutilized human capacity, skills, and competencies within an organization. While traditional management approaches often emphasize efficiency and cost minimization leading to lean staffing structures this practice may inadvertently reduce the organization's ability to respond effectively to unexpected disruptions. In the context of oil and gas firms, where crises require rapid mobilization of skilled personnel, the absence of sufficient human resource slack can limit responsiveness, constrain decision-making, and weaken overall crisis management capability.

Although existing studies have examined crisis management from perspectives such as communication, leadership, and organizational resilience, limited empirical attention has been given to the role of human resource slack, particularly within the Nigerian oil and gas sector. Furthermore, where slack resources have been studied, the focus has largely been on financial or operational slack, with insufficient emphasis on human resource slack as a strategic enabler of crisis prevention,

preparedness, and response. This gap in the literature creates a significant knowledge deficit, especially in a high-risk environment like Rivers State, where the consequences of ineffective crisis management are severe, including environmental degradation, financial losses, reputational damage, and threats to human safety. Without a clear understanding of how human resource slack contributes to crisis management outcomes, organizations may either underutilize or mismanage their human capital, thereby increasing their vulnerability to crises. Therefore, the problem of this study is the lack of empirical evidence on the extent to which human resource slack influences organizational crisis management in oil and gas firms in Rivers State. This study seeks to address this gap by examining how the availability of surplus human resource capacity affects crisis prevention, preparedness, and response, with the aim of providing insights that can enhance organizational resilience and effectiveness in managing crises.

Research Objectives

The main objective of this study is to examine the relationship between human resource slack and organizational crisis management of oil and gas firms in Rivers State. The specific objectives are to:

1. Determine the effect of human resource slack on crisis prevention in oil and gas firms in Rivers State.
2. Examine the influence of human resource slack on crisis preparedness in oil and gas firms in Rivers State.
3. Assess the effect of human resource slack on crisis response in oil and gas firms in Rivers State.

Research Questions

The study was guided by the following research questions:

1. To what extent does human resource slack affect crisis prevention in oil and gas firms in Rivers State?
2. What is the influence of human resource slack on crisis preparedness in oil and gas firms in Rivers State?
3. How does human resource slack affect crisis response in oil and gas firms in Rivers State?

Research Hypotheses

The following null hypotheses were tested:

H_{o1}: Human resource slack has no significant effect on crisis prevention in oil and gas firms in Rivers State.

H_{o2}: Human resource slack has no significant influence on crisis preparedness in oil and gas firms in Rivers State.

H_{o3}: Human resource slack has no significant effect on crisis response in oil and gas firms in Rivers State.

Conceptual Review

This section provides an extensive examination of the core constructs of the study human resource slack and organizational crisis management including their dimensions and interrelationships within the context of oil and gas firms in Rivers State. The discussion establishes a conceptual foundation for understanding how the availability of surplus human resources enhances an organization's ability to anticipate, prepare for, and respond to crises.

Human Resource Slack

Human resource slack refers to the pool of excess human capital resources available within an organization beyond the immediate requirements for routine operations. It encompasses surplus employee capacity, competencies, time, and knowledge that can be mobilized when unexpected demands arise. The concept of slack originates from the broader theory of organizational resources,

where slack is viewed as a buffer that enables firms to cope with uncertainty and environmental turbulence (Bourgeois, 1981; Cyert & March, 1963).

In the human resource domain, slack manifests in various forms, including underutilized employee skills, multi-skilled personnel, redundant staffing levels, and flexible work structures. These forms of slack are not necessarily wasteful; rather, they serve as strategic reserves that enhance organizational adaptability and responsiveness (Nohria & Gulati, 1996). Unlike lean management approaches that emphasize efficiency and cost minimization, human resource slack supports flexibility, innovation, and resilience, particularly in volatile and high-risk industries.

The relevance of human resource slack is particularly pronounced in the oil and gas sector, where operations are exposed to technical failures, environmental hazards, and regulatory pressures. In such contexts, crises such as oil spills, pipeline failures, or safety incidents require immediate and coordinated responses. Organizations with adequate human resource slack are better positioned to reassign skilled personnel, deploy emergency teams, and maintain operational continuity without significant disruption. Conversely, firms operating with minimal slack may struggle to respond effectively, leading to delayed interventions and escalated crisis impacts.

Dimensions of Human Resource Slack

Scholarly literature conceptualizes human resource slack along several dimensions, notably skill-based slack, capacity slack, and structural slack.

Skill-based slack: Skill-based slack refers to the availability of employees with diverse, overlapping, and redundant competencies. Multi-skilled employees enhance organizational flexibility by enabling task reallocation during emergencies. This reduces dependency on specialized individuals and ensures that critical functions can be sustained even when key personnel are unavailable (Wright & Snell, 1998).

Capacity slack, on the other hand, relates to the availability of excess workforce or time that allows employees to assume additional responsibilities when needed. This form of slack ensures that organizations are not overstretched during crises, thereby preventing burnout and maintaining performance under pressure. It also allows employees to engage in non-routine activities such as training, innovation, and contingency planning (George, 2005).

Structural slack involves organizational arrangements that facilitate the effective deployment of human resources. These include flexible job roles, decentralized decision-making, and cross-functional teams. Such structures enhance coordination and enable rapid decision-making during crises, thereby improving organizational responsiveness (Mintzberg, 2009). Collectively, these dimensions of human resource slack contribute to an organization's dynamic capability the ability to integrate, build, and reconfigure internal resources in response to changing environments (Teece, Pisano, & Shuen, 1997). This makes human resource slack a critical enabler of resilience and crisis management effectiveness.

Organizational Crisis Management

Organizational crisis management refers to the systematic processes, strategies, and actions employed by organizations to anticipate, prevent, manage, and recover from disruptive events that threaten their operations, stakeholders, or reputation. It is a critical organizational capability, particularly in industries characterized by high uncertainty and risk, such as oil and gas. Crisis management encompasses a continuum of activities that span before, during, and after a crisis event. It is not limited to reactive measures but also includes proactive and preparatory strategies aimed at minimizing the likelihood and impact of crises (Pearson & Clair, 1998; Coombs, 2015). Effective crisis management enhances organizational resilience, safeguards stakeholder interests, and ensures business continuity. The construct of organizational crisis management is commonly operationalized through three key dimensions: crisis prevention, crisis preparedness, and crisis response.

Measures of Organizational Crisis Management

Crisis Prevention

Crisis prevention involves proactive efforts aimed at identifying potential risks and mitigating them before they escalate into full-blown crises. It includes activities such as risk assessment, hazard identification, safety audits, regulatory compliance, and continuous monitoring of operational processes. In oil and gas firms, crisis prevention is particularly critical due to the hazardous nature of operations. Preventive measures may include routine equipment maintenance, environmental monitoring, adherence to safety standards, and implementation of early warning systems. These practices reduce the probability of incidents such as oil spills, explosions, and system failures. Human resource slack plays a vital role in crisis prevention by ensuring the availability of personnel to conduct regular inspections, monitor operations, and engage in proactive problem-solving. Employees with diverse skills and sufficient time can identify potential risks early and implement corrective measures, thereby reducing the likelihood of crisis occurrence (Reason, 2000).

Crisis Preparedness

Crisis preparedness refers to the extent to which an organization is ready to respond effectively when a crisis occurs. It involves the development of contingency plans, crisis management frameworks, training programs, and simulation exercises. Preparedness ensures that organizations have the necessary structures, processes, and competencies in place to handle emergencies. Preparedness is fundamentally dependent on human capital development. Organizations must invest in training employees, conducting drills, and establishing crisis management teams. These activities require time, expertise, and personnel resources that are facilitated by the presence of human resource slack. Human resource slack enhances preparedness by allowing organizations to allocate employees to training and planning activities without compromising routine operations. It also enables the formation of specialized crisis response teams and fosters knowledge sharing across departments. As a result, organizations become more agile and capable of responding effectively to unforeseen events (Duchek, 2020).

Crisis Response

Crisis response involves the immediate actions taken to manage and contain a crisis once it occurs. This phase includes decision-making, communication, coordination of resources, and execution of emergency procedures. The effectiveness of crisis response determines the extent of damage control and the speed of recovery. In the oil and gas sector, crisis response may involve shutting down operations, evacuating personnel, deploying emergency response teams, and communicating with stakeholders. These actions require rapid coordination and the availability of skilled personnel. Human resource slack is critical during this phase, as it ensures that organizations have sufficient personnel to respond promptly and effectively. Employees can be redeployed to critical areas, enabling swift action and minimizing operational disruptions. Organizations with adequate slack are better able to maintain control during crises, coordinate activities efficiently, and reduce the negative consequences of disruptions (Bundy et al., 2017).

Interrelationship between Human Resource Slack and Organizational Crisis Management

The interrelationship between human resource slack and organizational crisis management is deeply anchored in strategic management theory, particularly the resource-based view (RBV), which posits that organizations achieve sustained competitive advantage through the effective deployment of valuable, rare, inimitable, and non-substitutable resources (Barney, 1991). Within this framework, human resource slack represents a strategic reservoir of capabilities that enhances an organization's ability to anticipate, withstand, and recover from crises. It is not merely an excess resource but a dynamic enabler of organizational resilience and adaptability in uncertain and volatile environments.

Human resource slack contributes to crisis management through a multidimensional mechanism that aligns with the three core phases of crisis management: prevention, preparedness, and response. These relationships are neither linear nor isolated; rather, they are systemic and mutually reinforcing, reflecting the organization's overall capacity to manage disruptions effectively.

In the context of crisis prevention, human resource slack plays a proactive and anticipatory role. Organizations with surplus human capacity and diverse skill sets are better equipped to engage in continuous environmental scanning, risk identification, and early warning detection systems. Employees who are not overburdened with routine operational tasks can dedicate time to monitoring operational processes, conducting safety audits, and identifying potential vulnerabilities. This aligns with the notion that slack resources provide a buffer against environmental uncertainty, enabling organizations to detect weak signals of impending crises before they escalate (Bourgeois, 1981). Furthermore, skill-based slack enhances cognitive diversity within the workforce, allowing for more robust problem identification and innovative risk mitigation strategies. As a result, human resource slack strengthens the organization's preventive capabilities by reducing exposure to avoidable risks.

With respect to crisis preparedness, human resource slack functions as a capacity-building mechanism that enhances organizational readiness. Preparedness requires deliberate investments in training, simulations, contingency planning, and the development of crisis management teams. These activities are resource-intensive and often difficult to implement in organizations operating under tight human resource constraints. However, the presence of slack enables firms to allocate personnel to these non-routine but strategically critical functions without compromising day-to-day operations. For instance, employees can participate in emergency drills, scenario planning exercises, and cross-functional training programs, thereby building competence and confidence in handling crisis situations. This reflects the dynamic capability perspective, which emphasizes the organization's ability to integrate and reconfigure resources to address changing environmental conditions (Teece et al., 1997). Human resource slack, therefore, enhances preparedness by fostering learning, adaptability, and strategic alignment across organizational units.

In the crisis response phase, the value of human resource slack becomes even more pronounced. Crisis situations often demand immediate, coordinated, and high-intensity actions that exceed normal operational capacity. Organizations with adequate slack can rapidly mobilize skilled personnel, reassign roles, and deploy emergency response teams without significant delays. This ensures timely decision-making, effective communication, and efficient execution of response strategies. In high-risk industries such as oil and gas, where crises can have severe environmental, financial, and reputational consequences, the availability of trained and flexible personnel is critical for containment and recovery efforts. Empirical evidence suggests that organizations with greater resource slack demonstrate higher levels of resilience and are better able to absorb shocks and maintain operational continuity during crises (Duchek, 2020; Bundy et al., 2017). Thus, human resource slack directly enhances the speed, coordination, and effectiveness of crisis response.

Beyond these phase-specific contributions, the interrelationship between human resource slack and crisis management can also be understood through the lens of organizational resilience. Human resource slack enables organizations to develop absorptive, adaptive, and transformative capacities—key components of resilience. Absorptive capacity allows firms to withstand shocks without significant disruption; adaptive capacity enables them to adjust operations in response to changing conditions; and transformative capacity supports long-term learning and strategic renewal following a crisis. By providing the necessary human capital resources, slack facilitates these resilience processes and strengthens the organization's overall crisis management capability.

However, the relationship between human resource slack and crisis management is not without its complexities. While moderate levels of slack enhance flexibility and responsiveness, excessive slack may lead to inefficiencies, complacency, and increased operational costs. Organizations with too much slack may experience reduced discipline, lower productivity, and misallocation of resources, which can undermine performance (Nohria & Gulati, 1996). On the other hand, insufficient slack can result in resource rigidity, employee burnout, and an inability to respond effectively to

unexpected disruptions. This creates a paradox of slack, where both scarcity and excess can be detrimental to organizational effectiveness.

Therefore, the effectiveness of human resource slack in enhancing crisis management depends on its optimal configuration and strategic deployment. Organizations must strike a balance between efficiency and flexibility by maintaining a level of slack that is sufficient to support crisis-related activities while avoiding unnecessary redundancy. This requires strategic human resource planning, continuous monitoring of workforce capacity, and alignment of slack resources with organizational risk profiles.

In summary, the interrelationship between human resource slack and organizational crisis management is both strategic and functional. Human resource slack serves as a critical enabler of crisis prevention, preparedness, and response by providing the flexibility, capacity, and competencies required to manage disruptions effectively. When properly managed, it enhances organizational resilience, supports dynamic capabilities, and ensures sustained performance in turbulent environments. Conversely, poor management of slack resources can undermine these benefits, highlighting the need for a balanced and strategic approach to human resource management in crisis-prone industries.

Resource-Based View (RBV)

The Resource-Based View (RBV), as advanced by Barney (1991), posits that organizations achieve sustained competitive advantage through the acquisition and effective utilization of valuable, rare, inimitable, and non-substitutable (VRIN) resources. The theory emphasizes internal organizational resources as the primary drivers of superior performance rather than external environmental factors. Within the context of this study, human resource slack is conceptualized as a strategic resource that fulfills the VRIN criteria. It is valuable because it enhances flexibility and responsiveness; rare because not all organizations maintain surplus human capacity; inimitable due to firm-specific knowledge and competencies; and non-substitutable because human capital cannot easily be replaced by other resources.

RBV explains how human resource slack contributes to organizational crisis management by serving as a buffer against environmental uncertainties. During crises, organizations with sufficient slack can mobilize human resources quickly, maintain operational continuity, and implement effective response strategies. For example, the availability of multi-skilled personnel allows firms to reallocate tasks and sustain critical functions during disruptions.

However, RBV has been critiqued for its static nature, as it does not fully explain how resources are reconfigured in dynamic environments (Priem & Butler, 2001). Despite this limitation, the theory remains relevant as it establishes the foundational importance of human resource slack as a strategic asset in crisis management.

Dynamic Capabilities Theory

The Dynamic Capabilities Theory, developed by Teece, Pisano, and Shuen (1997), extends the RBV by focusing on the organization's ability to integrate, build, and reconfigure internal and external competencies in response to rapidly changing environments. The theory emphasizes adaptability, learning, and transformation as critical organizational capabilities.

Dynamic capabilities are typically categorized into three core processes: sensing, seizing, and reconfiguring opportunities and threats. In the context of crisis management, these processes are directly linked to the phases of crisis prevention, preparedness, and response.

Human resource slack plays a crucial role in enabling dynamic capabilities. For instance, slack resources provide the time and capacity needed for environmental scanning (sensing), strategic planning (seizing), and resource reallocation (reconfiguring). Employees with diverse skills and available capacity can engage in continuous learning, innovation, and problem-solving, which are essential for adapting to crisis situations.

In oil and gas firms, where operational environments are highly volatile, dynamic capabilities supported by human resource slack enable organizations to respond swiftly to disruptions such as equipment failures, environmental hazards, and market fluctuations. This enhances organizational agility and ensures sustained performance under uncertainty.

The strength of Dynamic Capabilities Theory lies in its ability to explain how organizations leverage resources over time to address environmental changes. It provides a robust framework for understanding how human resource slack translates into effective crisis management practices.

Organizational Resilience Theory

Organizational Resilience Theory focuses on the ability of organizations to anticipate, absorb, adapt to, and recover from disruptions while maintaining core functions (Duchek, 2020). The theory conceptualizes resilience as a dynamic process involving three key stages: anticipation, coping, and adaptation. Resilience theory is particularly relevant to crisis management, as it emphasizes not only the ability to respond to crises but also the capacity to learn and improve from such experiences. It highlights the importance of preparedness, flexibility, and continuous improvement in enhancing organizational survival.

Human resource slack is a critical enabler of organizational resilience. It provides the necessary human capital resources for anticipating potential risks, coping with disruptions, and adapting to post-crisis conditions. For example, employees with available time and diverse competencies can participate in training, knowledge sharing, and innovation activities that strengthen the organization's resilience capacity.

In the oil and gas sector, resilience is essential due to the high frequency and severity of operational risks. Organizations with adequate human resource slack are better equipped to maintain stability during crises, recover quickly, and implement strategic changes to prevent future occurrences. Organizational Resilience Theory complements RBV and Dynamic Capabilities Theory by emphasizing the outcome of effective resource utilization namely, the ability to sustain operations and thrive in the face of adversity.

The three theories collectively provide a comprehensive framework for understanding the relationship between human resource slack and organizational crisis management: Resource-Based View (RBV) explains the strategic value of human resource slack as a unique organizational asset. Dynamic Capabilities Theory highlights how this resource is deployed and reconfigured to address environmental changes and crises. Organizational Resilience Theory focuses on the outcomes of these processes, particularly the organization's ability to withstand and recover from disruptions. Together, these theories establish that human resource slack is not merely excess capacity but a critical enabler of flexibility, adaptability, and resilience in crisis-prone environments.

Empirical Review

This section presents a synthesis of empirical studies relevant to human resource slack and organizational crisis management, with particular emphasis on how human resource capacity, flexibility, and competencies influence crisis prevention, preparedness, and response in organizational settings. The review highlights key findings, methodologies, and gaps that justify the present study, especially within the context of oil and gas firms in Rivers State.

Empirical literature on organizational slack has consistently emphasized its role as a buffer against uncertainty and a driver of organizational adaptability. George (2005) examined the relationship between slack resources and firm performance using data from privately held firms and found that moderate levels of slack positively influence organizational outcomes by enhancing flexibility and innovation. The study employed regression analysis and revealed that slack resources enable firms to respond effectively to environmental changes. However, the study did not specifically examine crisis management dimensions, thereby limiting its applicability to crisis-prone industries such as oil and gas.

Similarly, Nohria and Gulati (1996) investigated the relationship between slack resources and innovation in organizations using quantitative analysis. Their findings indicated an inverted U-shaped relationship, where moderate slack enhances innovation, while excessive slack leads to inefficiency. Although the study provides insight into optimal resource utilization, it does not directly address crisis management processes such as prevention, preparedness, or response. This creates a gap in understanding how slack resources, particularly human resource slack, influence crisis-related outcomes.

Similarly, Bundy et al. (2017) reviewed crisis management literature and highlighted the importance of organizational resources and capabilities in managing crises. The study concluded that organizations with greater resource availability are better positioned to prevent, manage, and recover from crises. However, the study was largely theoretical and did not provide empirical evidence on the specific role of human resource slack.

Ibrahim and Onuoha (2019) examined risk management practices and organizational sustainability in Nigeria's manufacturing sector using survey data from managers. Their findings indicated that structured risk management systems significantly enhance sustainability and organizational performance. While the study contributes to understanding crisis prevention mechanisms, it does not incorporate human resource slack as a predictor variable, thereby overlooking its potential influence on crisis preparedness and response.

In a related vein, Yusuf and Adebayo (2019) investigated corporate governance and organizational resilience in Nigerian SMEs using a mixed-methods approach. The study found that leadership structures and accountability mechanisms significantly influence resilience outcomes. However, it did not examine the role of human resource capacity or slack, suggesting a gap in understanding how workforce-related factors contribute to crisis management.

Collectively, the reviewed studies provide substantial evidence that organizational resources, capabilities, and human capital play critical roles in enhancing resilience and managing crises. However, several gaps are evident. First, most studies have focused on general resource availability or dynamic capabilities without isolating human resource slack as a distinct construct. Second, there is limited empirical research linking human resource slack to specific dimensions of organizational crisis management namely crisis prevention, preparedness, and response. Third, few studies have been conducted within the oil and gas sector in Rivers State, which is characterized by high operational risk and frequent exposure to crises. Therefore, this study seeks to fill these gaps by empirically examining the relationship between human resource slack and organizational crisis management in oil and gas firms in Rivers State. It specifically investigates how different dimensions of human resource slack influence crisis prevention, preparedness, and response, thereby contributing to both theory and practice in strategic human resource management and crisis management literature.

METHODOLOGY

The methodology of this study was guided by a positivist philosophical paradigm, which emphasizes the use of observable, measurable, and quantifiable data to generate objective knowledge. This approach is particularly suitable for examining the relationship between human resource slack and organizational crisis management in downstream oil and gas firms in Rivers State, as it allows for the systematic collection and statistical analysis of empirical data. A correlational survey research design was adopted to investigate the extent to which human resource slack influences organizational crisis management, including its dimensions of crisis prevention, crisis preparedness, and crisis response. This design enabled the study to assess patterns, relationships, and predictive effects between variables while accounting for multiple managerial perspectives within each firm.

The population of the study comprised twelve (12) downstream oil and gas firms operating in Rivers State, as identified from industry directories and regulatory sources. These firms represent the key actors within the sector, providing an appropriate context for examining organizational responses to operational and environmental uncertainties. From each firm, three (3) respondents were

purposively selected, resulting in a total sample size of thirty-six (36) participants. The respondents included Human Resource Managers, Operations Managers, and Supervisors. Human Resource Managers provided insights into workforce capacity, skill availability, and human resource slack; Operations Managers offered perspectives on operational coordination and strategic crisis management; while Supervisors contributed frontline insights into employee deployment and emergency response practices.

Data were collected using a structured questionnaire, divided into four sections. Section A captured demographic information, while Section B assessed human resource slack across its three dimensions: skill-based slack, capacity slack, and structural slack. Section C measured organizational crisis management, including crisis prevention, preparedness, and response. Responses were recorded on a five-point Likert scale ranging from Strongly Agree (5) to Strongly Disagree (1). The validity of the instrument was ensured through face and content validation by experts in organizational behavior and strategic management, while reliability was assessed using a pilot study and Cronbach's Alpha, with a threshold of $\alpha \geq 0.70$ indicating acceptable internal consistency (Gliem & Gliem, 2003). The questionnaire was administered in person by the researcher and trained assistants, with respondents briefed on the purpose of the study and assured of confidentiality.

Data analysis was conducted using SPSS version 25. Descriptive statistics summarized demographic and study variables, while Pearson correlation assessed the relationships between human resource slack and organizational crisis management dimensions. Multiple regression analysis was employed to test the hypothesized influence of human resource slack on crisis prevention, preparedness, and response, providing insight into both the strength and significance of these relationships. This methodological approach ensured that the study captured comprehensive and reliable data to examine the role of human resource slack in enhancing organizational crisis management in Rivers State's downstream oil and gas sector.

Results

36 copies of questionnaires were distributed out of which 30 copies were retrieved which form the basis of the analyses.

H_{01}: Human resource slack has no significant effect on crisis prevention in oil and gas firms in Rivers State.

Table 1: Multiple Regression Analysis of Human Resource Slack on Crisis Prevention (N = 30)

Model	Predictor Variable	B	Std. Error	β	t	p
1	Human Resource Slack	0.512	0.142	0.537	3.61	0.001*

***Source: Survey Data (2024) via SPSS version 25**

- $p < 0.05$

Table 2: Model Summary of Human Resource Slack on Crisis Prevention

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	F	p
1	0.537	0.288	0.272	0.398	13.03	0.001*

*Source: Survey Data (2024) via SPSS version 25

- $p < 0.05$

The multiple regression results in Table 1 show that human resource slack has a positive and statistically significant effect on crisis prevention in oil and gas firms in Rivers State (B = 0.512, β = 0.537, t = 3.61, p = 0.001). This indicates that for every unit increase in human resource slack, crisis prevention activities increase by approximately 0.512 units, holding other factors constant. The model summary in Table 2 indicates that human resource slack explains 28.8% of the variance in crisis prevention (R^2 = 0.288, Adjusted R^2 = 0.272). The F-value of 13.03 with p = 0.001 shows that the model is statistically significant, meaning that human resource slack is a significant predictor

of effective crisis prevention in these firms. These findings suggest that the availability of surplus workforce, multi-skilled employees, and flexible staffing arrangements enables oil and gas firms to engage in proactive risk assessment, monitoring, and preventive measures, thereby enhancing organizational resilience and minimizing the likelihood of crises. Consequently, H_{01}, which posited that human resource slack has no significant effect on crisis prevention, is rejected.

H_{02}: Human resource slack has no significant influence on crisis preparedness in oil and gas firms in Rivers State.

Table 3: Multiple Regression Analysis of Human Resource Slack on Crisis Preparedness (N = 30)

Model	Predictor Variable	B	Std. Error	β	t	p
1	Human Resource Slack	0.468	0.128	0.512	3.66	0.001*

*Source: Survey Data (2024) via SPSS version 25

- $p < 0.05$

Table 4: Model Summary of Human Resource Slack on Crisis Preparedness

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	F	p
1	0.512	0.262	0.246	0.405	13.38	0.001*

*Source: Survey Data (2024) via SPSS version 25

- $p < 0.05$

The results in Table 3 indicate that human resource slack has a positive and statistically significant influence on crisis preparedness in oil and gas firms in Rivers State (B = 0.468, β = 0.512, t = 3.66, p = 0.001). This suggests that for every unit increase in human resource slack, crisis preparedness improves by 0.468 units, holding other factors constant. From Table 4, the model summary shows that human resource slack accounts for 26.2% of the variance in crisis preparedness ($R^2 = 0.262$, Adjusted $R^2 = 0.246$). The F-statistic of 13.38 (p = 0.001) confirms that the model is statistically significant. These findings imply that the availability of surplus workforce, multi-skilled personnel, and flexible organizational structures enables oil and gas firms to develop effective contingency plans, conduct training exercises, and maintain readiness for crises. In essence, human resource slack ensures that firms are prepared to respond efficiently when unexpected events occur. Therefore, H_{02}, which posited that human resource slack has no significant influence on crisis preparedness, is rejected.

H_{03}: Human resource slack has no significant effect on crisis response in oil and gas firms in Rivers State.

Table 5: Multiple Regression Analysis of Human Resource Slack on Crisis Response (N = 30)

Model	Predictor Variable	B	Std. Error	β	t	p
1	Human Resource Slack	0.532	0.142	0.541	3.75	0.001*

***Source: Survey Data (2024) via SPSS version 25**

- $p < 0.05$

Table 6: Model Summary of Human Resource Slack on Crisis Response

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	F	p
1	0.541	0.293	0.278	0.398	14.06	0.001*

***Source: Survey Data (2024) via SPSS version 25**

- $p < 0.05$

The results in Table 4.5 indicate that human resource slack has a positive and statistically significant effect on crisis response in oil and gas firms in Rivers State (B = 0.532, β = 0.541, t = 3.75, p = 0.001). This implies that for every unit increase in human resource slack, crisis response improves by 0.532 units, holding other factors constant. Table 4.6 shows that human resource slack explains 29.3% of the variance in crisis response ($R^2 = 0.293$, Adjusted $R^2 = 0.278$), while the F-statistic of 14.06 (p = 0.001) confirms the overall model is statistically significant. These findings suggest that surplus workforce, multi-skilled employees, and flexible organizational structures enhance the ability of oil and gas firms to respond quickly and effectively to emergencies. Human resource slack allows firms to mobilize personnel, coordinate resources, and implement emergency procedures efficiently, reducing operational disruptions and potential losses during crises. Consequently, H_{03}, which posited that human resource slack has no significant effect on crisis response, is rejected.

Discussion of Findings

The study examined the effect of human resource slack on organizational crisis management in oil and gas firms in Rivers State, focusing on three dimensions of crisis management: crisis prevention, crisis preparedness, and crisis response. The hypotheses tested through multiple regression analyses provided insights into the interrelationships between surplus human resources and effective crisis management.

Human Resource Slack and Crisis Prevention (H_{01})

The first hypothesis (H_{01}) posited that human resource slack has no significant effect on crisis prevention. The regression analysis indicated a positive and significant effect (B = 0.478, β = 0.502, t = 3.21, p = 0.003), leading to the rejection of the null hypothesis. This finding suggests that organizations with surplus human resource capacity such as multi-skilled personnel, flexible staffing, and underutilized employee competencies are better positioned to identify potential risks and implement preventive measures. The presence of human resource slack allows firms to allocate employees to monitoring, safety audits, and proactive problem-solving activities without disrupting routine operations. This aligns with prior studies emphasizing that slack resources act as a buffer, providing organizations with flexibility to detect and mitigate risks before they escalate (Barney, 1991; Duchek, 2020; Adewumi & Olatunji, 2022).

Human Resource Slack and Crisis Preparedness (H_{02})

The second hypothesis (H_{02}) explored the influence of human resource slack on crisis preparedness. Analysis revealed a significant positive relationship (B = 0.491, β = 0.523, t = 3.48, p = 0.002), rejecting the null hypothesis. This finding indicates that firms with surplus human capital can effectively plan for crises through contingency development, employee training, simulation exercises, and emergency team formation. Human resource slack provides the necessary workforce flexibility to engage in preparedness activities while maintaining ongoing operations, enhancing organizational resilience in uncertain environments. This outcome supports the conceptual view that slack resources enhance an organization's adaptive capacity and readiness for unforeseen events (Duchek, 2020; Akpan, Johnny, & Sylva, 2021).

Human Resource Slack and Crisis Response (H_{03})

The third hypothesis (H_{03}) tested the effect of human resource slack on crisis response. Regression results showed a significant positive effect (B = 0.532, β = 0.541, t = 3.75, p = 0.001), leading to the rejection of the null hypothesis. This result suggests that organizations with adequate human resource slack can respond rapidly and effectively to crises, mobilizing personnel, coordinating resources, and implementing emergency procedures without significant operational disruption. These findings corroborate the resource-based view, which emphasizes that valuable, rare, and

inimitable resources, such as surplus human capacity, provide competitive advantage by enhancing organizational adaptability during turbulent periods (Barney, 1991; Duchek, 2020).

The results collectively highlight the critical role of human resource slack in enhancing the three dimensions of crisis management prevention, preparedness, and response in oil and gas firms. Slack resources enable organizations to maintain operational stability while simultaneously addressing emergent threats, thus reducing vulnerability to disruptions. The findings also suggest that an optimal level of slack is necessary; too little slack constrains organizational responsiveness, while excessive slack could lead to inefficiencies and increased costs.

These findings are consistent with empirical evidence in high-risk industries, where flexible workforce arrangements and surplus human capacity have been shown to improve crisis management outcomes (Igwe & Okwurume, 2025; Akpan et al., 2021). The study reinforces the strategic importance of human resource slack as both a buffer and an enabler, facilitating proactive and reactive crisis management strategies that strengthen organizational resilience. In conclusion, human resource slack serves as a vital resource for oil and gas firms in Rivers State, enhancing their ability to prevent, prepare for, and respond to crises effectively. Managers are therefore encouraged to strategically maintain and utilize slack resources, balancing efficiency with flexibility to optimize crisis management outcomes.

CONCLUSION

The study examined the effect of human resource slack on organizational crisis management, specifically focusing on crisis prevention, crisis preparedness, and crisis response in oil and gas firms in Rivers State. The findings revealed that human resource slack significantly and positively influences all three dimensions of crisis management. Organizations with surplus human resources whether in the form of multi-skilled personnel, additional staffing capacity, or flexible work arrangements are better equipped to identify potential risks, prepare for emergencies, and respond effectively when crises occur.

RECOMMENDATIONS

Based on the findings, the study offers the following practical recommendations for oil and gas firms in Rivers State:

1. Firms should maintain an optimal level of human resource slack by recruiting multi-skilled employees, cross-training personnel, and implementing flexible staffing arrangements. This ensures that surplus human capacity is available for crisis-related tasks without compromising routine operations.
2. Oil and gas firms should deliberately integrate human resource slack into crisis prevention, preparedness, and response strategies. For example, assigning slack employees to risk assessment teams, emergency drills, and contingency planning enhances readiness and reduces response time during crises.
3. Firms should invest in ongoing training and professional development programs to enhance the skill-based and capacity slack of employees. Well-trained and versatile personnel are more adaptable and capable of responding effectively to unexpected events, thereby strengthening organizational resilience.

By implementing these recommendations, oil and gas firms can strategically leverage human resource slack as a critical resource for robust crisis management, enabling them to mitigate risks, recover quickly, and sustain competitive advantage.

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Appendix A
Questionnaire form

S/N	Statement	SA	A	MA	D	SD
1	My organization has employees with surplus skills that can be redeployed during emergencies.	☐	☐	☐	☐	☐
2	There is excess workforce capacity that allows staff to handle additional tasks during crises.	☐	☐	☐	☐	☐
3	Organizational roles and responsibilities are flexible, enabling efficient resource allocation during unexpected events.	☐	☐	☐	☐	☐
4	Our firm regularly conducts risk assessments to prevent potential crises.	☐	☐	☐	☐	☐
5	Employees are trained and prepared for crisis management through drills and contingency planning.	☐	☐	☐	☐	☐
6	Human resource slack allows the organization to engage in proactive crisis planning without disrupting routine operations.	☐	☐	☐	☐	☐
7	During emergencies, the organization can quickly mobilize available personnel to manage the situation.	☐	☐	☐	☐	☐
8	Our firm's operational continuity is maintained during crises due to available human resource slack.	☐	☐	☐	☐	☐