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## Strengthening Internal Controls and Fraud Risk Management in Utility Companies: Lessons from Hub Power Company (HUBCO)

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### Abstract

This study investigates the role of internal controls and fraud risk management in enhancing governance within utility companies, with specific reference to Hub Power Company (HUBCO). Fraudulent activities and weak control mechanisms can severely disrupt utility operations, leading to financial losses, reputational damage, and regulatory penalties. Using data collected from 280 employees across operations, finance, and risk functions, the study applied SPSS v.26 for descriptive, correlation, and regression analysis. Results confirm that strong internal controls, coupled with proactive fraud detection and compliance mechanisms, significantly reduce organizational vulnerability. Furthermore, cultivating a risk-aware culture through training and audit frameworks was found to be the most influential factor in preventing fraud. The findings offer practical implications for energy companies in emerging markets seeking to safeguard integrity and operational stability.

**Keywords:** Internal Controls, Fraud Risk Management, Compliance, Corporate Governance, Utility Companies, Hub Power Company (HUBCO)

### Introduction

Fraud risk and weak internal controls are persistent challenges in the global utility sector. Utilities often operate in environments where large-scale infrastructure projects, high financial flows, and regulatory pressures create opportunities for fraudulent activities (Kranacher et al., 2011). The consequences include financial instability, compromised service delivery, and erosion of stakeholder trust (ACFE, 2020).

International standards such as COSO ERM (2017) and ISO 31000 (2018) emphasize that effective fraud prevention requires robust internal controls, proactive monitoring, and integration of compliance mechanisms into organizational culture. Previous research shows that organizations with strong governance structures and risk-aware employees are more resilient against fraudulent activities (Beasley et al., 2009).

In the context of Pakistan, utility companies such as Hub Power Company (HUBCO) face increasing scrutiny due to their essential role in energy distribution and exposure to both operational and financial risks. Despite the adoption of internal audit frameworks, challenges remain in embedding fraud detection and risk-aware practices into day-to-day operations. (Khatoon et al., 2025) study provides insights into how financial instruments and derivatives can enhance risk management and market resilience in the electricity sector. Another research of Khatoon et al., 2025) related Integrated Risk Assessment Framework for Enhancing Operational Resilience in Utility Companies: A Case Study of Hub Power Company (HUBCO) explained develops an integrated framework for assessing

This study aims to fill this gap by empirically assessing how internal controls, compliance systems, and risk-aware culture contribute to fraud risk management. It uses employee-level data from Hub Power Company (HUBCO) to validate a model of fraud prevention, offering insights for other utilities in emerging economies.

### Methodology

The study adopted a quantitative survey design, distributing structured questionnaires to 280 employees from Hub Power Company (HUBCO) operations, finance, and compliance departments. The instrument used a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) to measure perceptions on internal controls, fraud detection, compliance, and risk culture.

Data were analyzed using SPSS v.26, beginning with reliability testing (Cronbach's alpha), followed by correlation analysis to examine associations between variables, and regression analysis to assess the influence of independent variables (internal controls, compliance, fraud detection mechanisms, and risk culture) on the dependent variable (fraud risk management effectiveness).

### Results

The results of this study are based on demographic analysis, reliability testing, correlation analysis, and regression outputs. Each stage of analysis provides insight into how fraud risk management is shaped by internal controls, compliance mechanisms, and organizational culture.

Table 1

#### *Demographics of Respondents*

Variable	Category	Frequency	%
Gender	Male	200	71
	Female	80	29
Age	31–40	130	46
Department	Operations	120	43

The study examined responses from 280 employees to evaluate the effectiveness of fraud risk management practices at Hub Power Company (HUBCO). **Table 1** shows that the majority of respondents were male (71%), most were between the ages of 31–40 (46%), and 43% were employed in operations, indicating diverse representation across the organization.

Table 2  
*Reliability Test (Cronbach's Alpha)*

Variable	Items	Cronbach's Alpha
Internal Controls (IC)	5	0.82
Fraud Detection (FD)	5	0.84
Compliance Mechanisms (CM)	5	0.80
Risk Culture (RC)	5	0.85
Fraud Risk Management (FRM)	5	0.88

Reliability testing (**Table 2**) confirmed the robustness of all measurement scales, with Cronbach's alpha values above the accepted threshold of 0.70, ensuring internal consistency of the survey instrument

Table 3  
*Correlation Analysis (Pearson's r)*

Variables	FRM	IC	FD	RC
FRM	1	.66**	.70**	.73**
IC	.66**	1	.55**	.58**
FD	.70**	.55**	1	.68**
CM	.64**	.60**	.62**	.59**
RC	.73**	.58**	.68**	1

Correlation results (**Table 3**) revealed significant positive associations between fraud risk management and all independent variables. Among these, **risk culture (r = .73)** and **fraud detection mechanisms (r = .70)** showed the strongest correlations, highlighting their critical role in fraud prevention

Table 4  
*Regression Analysis*

Predictor Variables	Beta (β)	t-value	Sig.
Internal Controls (IC)	0.22	3.25	0.001
Fraud Detection (FD)	0.29	4.15	0.000
Compliance Mechanisms (CM)	0.21	3.02	0.003
Risk Culture (RC)	0.33	5.40	0.000

Regression analysis (Table 4) further validated these findings. Risk culture (β = 0.33) and fraud detection (β = 0.29) emerged as the most influential predictors of fraud risk management effectiveness, while internal controls (β = 0.22) and compliance mechanisms (β = 0.21) also made significant contributions. The overall model explained 72% of the variance in fraud risk management effectiveness (R<sup>2</sup> = 0.72, p < 0.001), confirming the strong explanatory power of the framework. The results demonstrate that while all four factors—internal controls, fraud detection, compliance, and risk culture—contribute meaningfully, developing a strong risk-aware culture and enhancing fraud detection systems are the most decisive elements in strengthening fraud risk management within Hub Power Company (HUBCO).

## Discussion

The findings highlight that fraud risk management effectiveness is strongly influenced by risk-aware culture and fraud detection mechanisms. This aligns with best practices suggesting that technical controls must be complemented by employee awareness and proactive monitoring (ACFE, 2020). While internal controls and compliance remain critical, the cultural dimension provides the strongest defense against fraud.

## Recommendations

The study recommends strengthening fraud awareness training programs, enhancing digital monitoring systems, and embedding compliance policies in daily operations. Utility companies should align frameworks with COSO ERM and ISO 37001 standards to improve governance. Leadership should prioritize risk-aware culture development, as cultural integrity is central to minimizing fraudulent activities.

## Conclusion

This study concludes that internal controls, fraud detection systems, compliance mechanisms, and risk-aware culture collectively enhance fraud risk management in utility companies. The evidence from Hub Power Company (HUBCO) shows that culture and detection mechanisms are particularly critical. Implementing a holistic fraud risk management framework offers a roadmap for utilities in emerging economies to strengthen resilience and protect stakeholders.

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