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Root cause analysis in IT control failures: A risk advisory perspective

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Root Cause Analysis (RCA) is pivotal in addressing IT control failures by identifying the underlying causes of incidents and implementing solutions to prevent recurrence. These failures often stem from human errors, process inefficiencies, or technological gaps, posing significant risks to compliance, security, and operational integrity. With advancements in Artificial Intelligence (AI), organizations can enhance RCA methodologies, enabling deeper insights and faster resolutions.

AI-powered tools, such as machine learning algorithms and natural language processing, revolutionize RCA by automating the analysis of vast data sets, identifying patterns, and predicting potential control failures. For example, anomaly detection algorithms can pinpoint unusual behaviors in IT systems, while text analytics can extract actionable insights from audit logs and incident reports. These capabilities not only accelerate RCA but also enhance accuracy, reducing the likelihood of overlooking critical contributing factors.

The integration of AI in RCA fosters collaboration across teams, as interactive dashboards and visualizations allow stakeholders to identify systemic weaknesses comprehensively. By leveraging AI, organizations can simulate potential risks, test corrective actions in virtual environments, and optimize solutions before deployment.

Case studies reveal tangible benefits of this approach, such as a 30% reduction in recurring incidents and improved compliance metrics. AI-driven RCA also supports continuous learning by updating risk models based on evolving organizational and technological landscapes, ensuring sustained resilience.

Incorporating RCA into IT governance frameworks, enhanced by AI, empowers organizations to proactively manage risks, improve operational efficiency, and strengthen control environments. This fusion of human expertise and AI-driven insights enables a future-ready approach to risk advisory, ensuring robust IT systems capable of withstanding the challenges of a dynamic digital ecosystem.

Image



Biography

Shiksha Rout is a Seasoned Risk Professional who is a Big4 veteran in the Risk Advisory practice and has extensive experience within various industries providing advanced risk assessment and compliance frameworks across a diverse client portfolio, including financial services, banking, healthcare, fintech, and other critical industries. As a CISA and CRISC-certified professional, Shiksha has conducted multi-regional risk engagements, serving clients across Canada, Mexico, Chile, India, the UAE, Saudi Arabia, Qatar, Kuwait, Oman, Egypt, Cyprus, Iraq, Jordan, Lebanon, and Singapore.

Her technical expertise spans core enterprise technologies such as Oracle ERP, Flexcube core banking, SAP, SWIFT payment systems, FTS Paymentsafe, ServiceNow, Windows OS, and SQL database management. Shiksha excels in adapting to client-specific proprietary systems, ensuring seamless integration into existing IT landscapes while maintaining high standards in security controls, system compliance, and audit processes.

Shiksha led end-to-end audit cycles, covering planning, execution, and reporting, along with key project management tasks like resourcing,

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budgeting, and client communications. She performed QA reviews to ensure audit consistency with regulatory frameworks and conducted control deficiency assessments, root cause analysis, and risk evaluations. Shiksha provided internal control assessments to identify IT gaps, advising on enhancements and regulatory updates. Her expertise includes specialized audit support for system implementations, data migrations,

and testing of critical controls such as segregation of duties, privileged access, and change management.

Apart from her technical expertise, she actively mentors High School and Undergraduate Students via the D-180 mentorship's program under her company's wing since 2018.