

Data Analytics

How data analytics can help Internal Audit better understand risk

The evolution of technology within the power and utilities industry is fueling demand to strategically leverage IT systems and data

Pressures from multiple stakeholders are driving the use of data and technology to address risks in new ways. Increases in capital project costs, growing regulatory pressure, ever more sophisticated billing systems, and the merging of legacy IT infrastructure with new systems have created an environment characterized by increased risk as well as increased opportunity. Smart grid investments and other technology driven initiatives have exponentially increased the amount of data available to management. Operations, finance, legal, regulatory, and internal audit can leverage this data to drive efficiencies and improvements in compliance, billings, outage management, business operations, energy delivery, trading, and many other areas.

Internal audit departments have a unique opportunity to leverage data analytics to identify risks and provide insights to the business. While it is management's responsibility to ensure that risks are appropriately mitigated, internal audit can focus its use of data analytics to hone in on areas or transactions where controls do not exist or are not operating effectively.

Better mining data

Many utility internal audit departments are using data analytics in industry-agnostic areas such as expenditures, payroll and accounts payable. These areas are highly transactional and policy driven and can be ripe for cost recovery. Other industry-specific areas such as billing, capital projects and work order management are also transaction

intensive and could present cost benefits or additional revenue opportunities.

With the advent of advanced billing systems, a deep CIS skill set can allow internal audit to mine billing data to identify operational trends leading to credits, cancelled or recalculated bills; pinpoint billing errors; and independently assess key incentive metrics. In the wholesale trading, data analytics can be used to confirm trader limits, patterns within certain traders and any exceptions not monitored by deal trade systems.

Data analytics can also be used to mine for cost recovery in contract compliance related to capital spend. These reviews can sometimes partially or fully underwrite the cost of the analytics program by identifying recoverable costs.

Internal audit departments can become better at identifying areas for more advanced analytics opportunities as they gain experience with data analytics. As an analytics or continuous auditing program matures, analytics can drive evaluation of areas of increased risk exposure during the audit planning process. In addition, analytics can be used to drill down and test transactions, data sets, and processes once the risk areas are identified.

How PwC can help

We have a number of developed scripts and analytics repositories, classified by business process, which can be leveraged by internal audit teams using a risk-based approach. Internal audit groups can benefit by working with a variety of departments, including compliance, supply chain, risk management, tax and accounting, to increase their stature as a business advisor and unlock the value of the data the business maintains.

We can help internal audit departments bridge the experience gap by providing the expertise and technology to perform turnkey assessments or supplement department data analysis skill sets. PwC's extensive experience in the power and utilities industry, combined with our deep data analytics resources, can quickly add value to internal audit engagements. Companies will benefit by leveraging our experience with legacy utility information systems and data stores, combined with emerging technologies such as smart grid.

Unauthorized trades review

Client's challenge

A large electric utility's deal capture system lacked sufficient exception reporting. Although access restrictions prevented unauthorized users from executing deals, there was no method of determining whether authorized users executed deals in an unauthorized trade book.

PwC solution

Using Audit Command Language (ACL), we linked trading data from the deal capture system to HR employee data and an authorized trader listing (including specific book authorizations). This allowed us to identify deal transactions that were

executed by traders using inappropriate access for further review and follow up.

Impact on client's business

Using data analytics tools allowed us to conduct real-time monitoring of controls that previously we were unable to monitor, resulting in improved security and reduced risk.

Contractor outage time analysis

Client's challenge

A large electric utility had a system that tracked contractor time, but no tool was available to compare related hours, especially overtime, with plant outage calendars to determine whether reported contractor hours seemed reasonable.

PwC solution

Using ACL, we linked data from the time tracking system to a plant outage calendar and developed a graph to chart the results. This allowed management to monitor contractor overtime incurred during expected times of high volume work, as is the case with outages, or if there were bands of contractor overtime that occurred during times when low work volume was planned. Additional checks were made against the data to determine if overtime was charged when there was less than 40 hours of regular time charged per week.

Impact on client's business

Using data analytics tools resulted in cost savings and areas of potential recovery for the client. In addition, internal audit developed an ongoing tool that management could use to monitor its contractors on an ongoing basis. This operational data proved very valuable to management and was outside their expectations of the audit.

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To have a deeper conversation about any of the issues in this paper, please contact:

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