Internal Audit & Data Analytics

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Changing Role of Internal Audit – An Industry Perspective

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Change

- What has changed:
  - High volumes
  - Complexities
  - Increased reliance on automated systems
  - Compliance requirements
- What needs to be changed:
  - Volume or sample to be checked
  - Documentation, standard and processes
  - Techniques of collection and evaluation of audit evidence

Data Analysis

A process of *inspecting, cleaning, transforming,* and *modeling* data with the goal of highlighting useful information, suggesting conclusions and support decision making

The data analysis that can be done depends on the data gathering that was done

Data Analysis – Type and Process

Types

Quantitative Data

Categorical Data

Qualitative Data

Process

Data Cleaning

Data Quality

Analysis

Stages of Data Analysis

Ad-hoc
- To get familiar with data
- Consumes significant time to verify / document data
- To identify risk prone areas in business

Repeatable
- Capturing analytics logic from individuals to DA tools
- Perform same tests on similar data

Centralized
- Establishing a central repository for repeatable DA programs and standard data files
- DA applications are scheduled to run against centralized data on regular basis or on demand

Continuous Monitoring
- Fully automated
- Embedded directly into production systems

Why – Data Analysis

To obtain usable and useful information

Describe and summarize the data

Identify relationship between variables

Compare Variables

Identify the difference between variables

Forecast outcomes

Controls Objectives - Payroll

- No vacation / sick leave in last three years

- Dramatic increase or decrease gross salaries of employees

- Employees with same address and contact numbers

- Salary payment to separated employees

- Cadre wise boundary controls for salary payments to employees

Controls Objectives - Payroll

Employees receiving mutually exclusive benefits

Employees having common PAN, salary account

PAN verification – 4th and 5th Digit Test

Terminated / separated employees having access to business applications

Employees terminated without notice pay - recovery

Controls Objectives - Procurement

Segregation of duties – PR and PO creation, PO and GRN creation, PO creation and authorization

Compliance with Company Guidelines

Procurement more than purchase requisition / without requisition

Material rate variations

Delivery dates expired but materials not delivered

Controls Objectives - Procurement

Open Purchase Orders – Delivery dates expired

Vendor wise order analysis

Big orders to new vendors

Procurement against deleted requisitions

Purchase orders dates before delivery dates – regularization

Controls Objectives – Vendor Masters

Common name / address/ PAN / bank of vendors

Frequent changes in vendors or contractors banking accounts

Vendor masters created on Sunday / Holiday

Vendor masters having alternate payee

Vendor masters without addresses

Controls Objectives – Vendor Masters

Match vendor bank accounts with employees

Dramatic increase or decrease in total number of invoices from contractors / vendors

Vendor invoices without delivery note reference

Pattern of adjustments to accounts payables for goods returned

Sequential vendor invoice numbers and gaps in invoice numbers

Controls Objectives – Vendor Invoicing

Invoicing Party Modification at invoice booking stage, mismatch in vendor as per PO and invoice

Duplicate Invoices booked – Same amount, invoice number and quantity

Invoice booking more than GRN quantity and value

Payment terms modification at invoice booking stage

Sequential vendor invoice numbers and gaps in invoice numbers