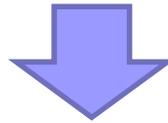# Integration of process mining in internal audit methodology

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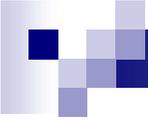
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Three main auditors skills

Increased number of stakeholders the IAFs have to serve with diverse expectations

Important skills in today environment

- ✓ Business acumen

- ✓ Technology and data interrogation

- ✓ Soft skills

Business acumen

is a <u>deep</u> and applicable understanding of the system of how a business achieve goals and objectives. It includes a thorough understanding of the levers that create value proposition to customers and it drives profitability, cash flow, and shareholder value

✓ Process mining (PM) techniques provide an <u>objective</u> understading of the real functioning of the AS-IS business process

✓ PM techniques offers the possibility to identify inconsistencies in business process in order to start BPI in order to improve the efficiency, effectivness of business process

Technology and data analysis

*IAFs should have the skills and use 'advanced' technologies to audit **big data** most effectively and efficiently in order to provide a more insightful audit*

Critical support factors for the effective use of PM in IAF:
1. Digital competencies of the Board of Directors (and AC) and the top executive team.
2. Adoption of similar technologies in other organizational departments (+)
3. Access to data (IAF should have a voice in IT project)
4. Collaboration with external consultant especially for small sized IAF

Soft skills

- ➢ Leadership of the CAE
- ➢ Building positive relationship with other organizational department (e.g. IT department)
- ➢ Communication
- ➢ Teamwork (e.g. data scientists and internal audit)
- ➢ Continuous learning (natural inquisitive)

PM and IAF METHODOLOGIES

Audit planning

Engagement Planning

Fieldwork

Reporting

Follow up

Audit plan

IPPF Input

➢ Understand company's strategic priorities, key business objectives and risks

➢ Identify and consider the expectations of key stakeholders

➢ Conduct a risk assessment at least annually

PM

➢ Identification of the most critical processes as a source to determine the priorities of internal auditing activities

➢ Identification of risk and control ineffectiveness for each process to rank them and determine the priorities

Engagement planning

The scope of the engagement must include consideration of relevant systems, records, personnel, and physical properties, including those under the control of third parties.

➢ Understand the functioning of the process to be audited (process discovery) (Activity, People, Timestamp, etc.)   GD1

➢ Undestand the functioning of ERP system

➢ Identify the most <u>notable</u> variants that highlight potential risks in a process in order to focus the analysis on these variant and conducted additional audit procedures on these variants

➢ Identify the control processes that seem inadequate (e.g. segregation of duty controls, payments made without approval) to plan the audit program.

GD1 Giuseppe D'Onza; 09/07/2019

Fieldwork

Internal auditors must identify sufficient, reliable, relevant, and useful information to achieve the engagement's objectives.

➢ Analyze the routing of transactions in the entire dataset instead of using only a selected sample from the data

➢ Provide a human-independent way of recording data

➢ It is an effective ways of conducting analytical procedures, conformance checking and the required walkthroughs of processes

➢ It can detect numerous anomalous transactions (e.g. *missing activities*) that traditional audit analytics techniques fail to discover, and the nature of event logs can assist auditors in preventing fraud in an early stage

Reporting

My particular ability does not lie in mathematical calculation, but rather in visualizing effects, possibilities, and consequences.

Communications must be accurate, objective, clear, concise, constructive, complete, and timely
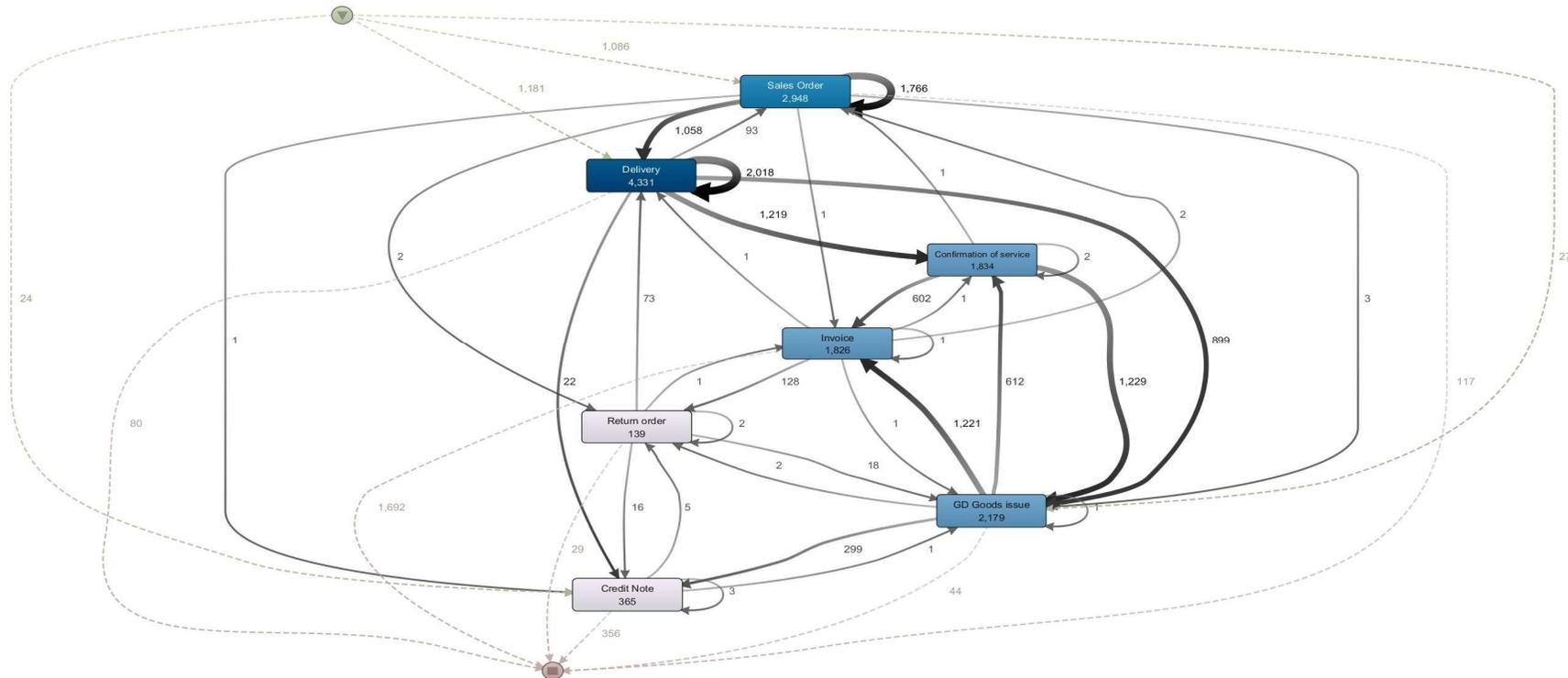
Follow up

The chief audit executive must establish a follow-up process to monitor and ensure that management actions have been effectively implemented or that senior management has accepted the risk of not taking action

➢ Reperforming PM to check the implementation of actions recommended

➢ Building KPIs (e.g. time) and monitoring the improvement of business process performance along time