

Process Mining Project

1. Objectives

This project will apply process mining techniques to evaluate internal control effectiveness. The objectives of the process mining project are as follows:

- (1) Determine the required controls/business processes
- (2) Separate the controls into two categories: (A) the controls that the SAP system already has, and (B) the controls that are not in the SAP system
- (3) List the controls that are not in the SAP system, but can be evaluated using process mining techniques
- (4) Apply process mining to the log data obtained from the SAP system to evaluate the effectiveness of internal control

2. Planned Research Approach

The research team will review an overview of different risks and controls for three business processes: (1) revenue, (2) inventory, and (3) purchasing, as well as common risks and controls for journal entries. The risks, or “What Could Go Wrong,” are listed and linked to mitigating controls. The controls are grouped into three types: (1) application control, (2) IT-dependent manual control, or (3) manual preventative control. These categories will be used as a basis for the other two business processes.

The team will compile a matrix of controls to risks in order to provide a better understanding of the most common and important controls for that business process. The researchers realize that there may be many manual controls that involve management or auditors “reviewing” a certain aspect of the business process, which may cause difficulties relying only on enterprise resource planning (ERP) data. As a result, the next step would be to focus on the most appropriate business process that would allow the researcher to apply their methodology. They will also gain an understanding of the ERP system to determine what is needed in terms of data or controls.

The research teams will begin their analysis using process mining techniques once they have formalized the business processes and controls.