

Automating expense reimbursements

Reduce time spent collecting, analyzing, and managing employee expenses.

Every organization has an accounting department, which (among other things) is responsible for monitoring and controlling company expenses. Accounting teams need to ensure that expenses are booked correctly. In companies where employees are traveling or have many expenses, collecting and managing these can be a time intensive and mundane job – including plenty of copying and pasting within Excel.

Each month, travel and event expenses are collected, summarized, and analyzed in order to match costs with successful sales. Previously, the accounting manager gathered Excel files from every employee and copied and pasted these in to a global Excel file. When the repository of these Excel files was moved to a shared folder (OneDrive), it was discovered that the data blending abilities of KNIME could be used to create the summary and, with the Table to PDF node, create a very simple expenses report. An Excel template has been defined with proper picklists (standard values) in order to simplify accounting file filling by each employee. A team of data scientists creates a KNIME workflow that can be deployed as an analytical application in the KNIME WebPortal. The one prerequisite: the machine running the workflow (desktop or server) needs access to the shared folder containing the Excel file. The Accounting Manager selects the starting folder i.e. "2019", which contains different subfolders (one for each month) with the Excel files of each employee and the summary Excel files, generated from the previously executed workflow. The most recent summary Excel file is identified and split from the other files while individual Excel files, using the Copy/Move Files node, are renamed as "_processed.xlsx" in order to avoid future reprocessing. After concatenating all the individual accounting files, the workflow appends the resulting table to the split summary Excel file and writes a new summary Excel file with the process date in the name. Lastly, a simple PDF report is sent to the HR manager with a list of all the reimbursements.



Guide

Download Excel file and PDF reports

Accounting Management

Download processing file. PDF reports are also send via e-mail to the accounting manager.

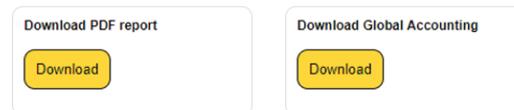


Fig. 1: Download page

Results:

The global accounting Excel file is updated within a few seconds every time the workflow runs - which is once a month. At the same time, a summary of the total reimbursements is sent to the HR manager and Managing Director. This results in:

- Time savings from a couple of hours to a couple of minutes, as well as repetitive operations.
- Avoidance of mismatches due to copy and paste.

Accounting Management

The workflow works with a folder hierarchy as Year -> Months collecting all the Excel file archived in the Months subfolder and appending the resulting table to a Global Excel file located in the "Year" folder. For this example, Excel files are located in workflow.file/data/accounting/2019 and months subfolders. Furthermore, expenses are reorganized in order to prepare a monthly PDF report.

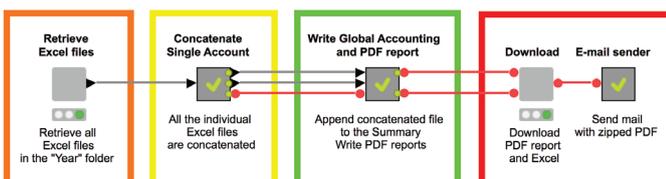


Fig. 2: High-level KNIME workflow

KNIME Analytics Platform is used to collect and summarize employee expenses. Nodes like Excel Reader, Excel Writer, Table to PDF, and Copy/Move make the work of an accounting manager easier and less prone to errors. The workflow, deployed via KNIME Server, is available as an analytical application in the KNIME WebPortal. It provides a simple interface for users to enter expenses. The executed workflow automatically generates the required reports.

Try it out for yourself!

This workflow is available on the KNIME Hub:
tinyurl.com/knime-automatic-reimbursements

