Grant Thornton's journey with KNIME

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Grant Thornton

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Agenda

- Why GT with KNIME

  - Choosing KNIME

  - Why it works in consultancy

  - Why it works in finance

- Adoption in the firm

  - Ease of installation

  - Resources available (Teams channel, community, service desk)

  - Hackathon

  - Internal website

  - Lunch and learn

  - Graduates, new joiners – future accountant

  - End result – 900 users, related stats on certification

- Success stories

  - Internal tools

  - Client products

- Whats next?

  - More collaboration with KNIME and partners

  - **Questions**

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Choosing KNIME

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The ask

" We wanted a tool we could use to improve our internal processes and also as a tool for our clients.

It was important this tool has a low barrier to entry and a mature support network "

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Why we are using KNIME at GT

Analytic Depth

- Complete range of analytic techniques
- Choice to use any tools, scripts or techniques
- Low code/no code environment, appropriate for all skill levels

A Complete Platform

- Build, deploy and manage, all in a single platform.
- No integration friction for lower total cost of ownership and faster time-to-value

Enterprise Scale

- Centralised administration for data privacy and security
- Flexible deployment: On-prem, In the Cloud.

Open-source for Future-Proof

Community-driven innovation means that KNIME is always on the bleeding edge of modern data science. 10,000+ analytics blueprints enable users to quickly join and learn from a community of data scientists from other industry-leading organizations.

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KNIME in consultancy

It is a tool that lends itself to quick and understandable development

- Accessibility
- Understandable, intuitive interface
- Versatility
- Prototyping
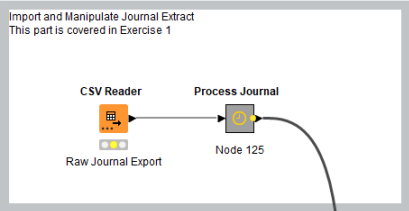- System agnostic

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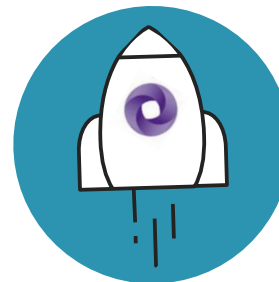
KNIME in finance

Lends itself perfectly to the finance function

- Clear, auditable processes
- Logging of events
- Consistent workflows, central management
- Massive community
- Proof of concepts pre-built

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KNIME in finance

Import and Manipulate Journal Extract
This part is covered in Exercise 1

CSV Reader

Process Journal

Raw Journal Export

Node 125

Activity I: Import and Process Trial Balance
Read the trial_balance.csv file. You can find it in the data folder.
Create a column Negative Balance as the negative of the Balance column
Use a Rule Engine node to assign negative values to the Balance column if the Type is Debit. Use the following formula
$Type$ = "Debit" => $Negative Balance$
TRUE => $Balance$

Activity II: Join Trial Balance to Journals
Use a Joiner node to join the Trial Balance data with the Journal data from Exercise 1.
Use the Account Name as joining columns
Perform a right outer join, in order to also include the rows from the trial balance that do not have a match in the journal table.

Activity III: Calculate Difference
Create a new column Difference, containing the difference between the Net column of the Journal and the Balance column.
Note: You can do this operation with a Math Formula or a Column Expression node.

Activity IV: Polish Table
Use a Column Filter node to remove the unnecessary columns. The columns you need are
Account Name
Net
Balance
Difference
Rename the columns as follows
Net -> Jnl Value
Balance -> TB Value
Resort the columns in the following order: Account Name, Jnl Value, TB Value, Difference.

CSV Reader

Math Formula

Rule Engine

Trial Balance

Make a negative balance column

Let Credits have positive balance and Debits have negative balance

Joiner

Join Trial Balance to Journals

Column Expressions

Calculate difference between Trial Balance and Net Journal Amount

Column Filter

Column Renamer

Column Resorter

Remove Unecessary Columns

Rename Columns

Re-order Columns

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Other finance flows

Given the vast number of nodes, and modular nature, you can make some pretty amazing tools

- **Large population audit sampling**

  o Encapsulating complex Python script in reusable Component that is easy to use for non-technical users

- **Salary reporting**

  o Reusable workflow for processing client payroll data producing results for Statutory Gender Pay Gap report in Power BI

- **Invoice OCR processing front-end**

  o Processing and sending zipped PDF invoices to Azure OCR for data extraction and collecting results.

- **Churn prediction**

  o Training and application of predictive models prediction of customer attrition in a subscription business.

- **Anomaly detection**

  o Anomaly detection for a large insurance client based on clustering and predictive modelling.

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Adoption in the firm

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Making KNIME available across our firm

Ease of installation – clear access

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Creating our internal community

Channels and support

KNIME Channel   Posts   Files   KNIME Learning   KNIME Certification   +

Improve your KNIME skills with a new LinkedIn Learning course

You can now improve your **KNIME** skills directly on LinkedIn with the new course "Low Code/No-Code Data Literacy with KNIME: From Basic to Advanced".

The course covers **KNIME** Analytics Platform L1 and L2 level content and can be accessed by anyone who has an active LinkedIn Learning subscription.

Completion of the course is rewarded with a LinkedIn Learning certification

Click here to check out the course

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Reply

Internal website

Internal advertisement

Hackathon – Machine Learning in Minutes!

Red or White wine from chemical analysis

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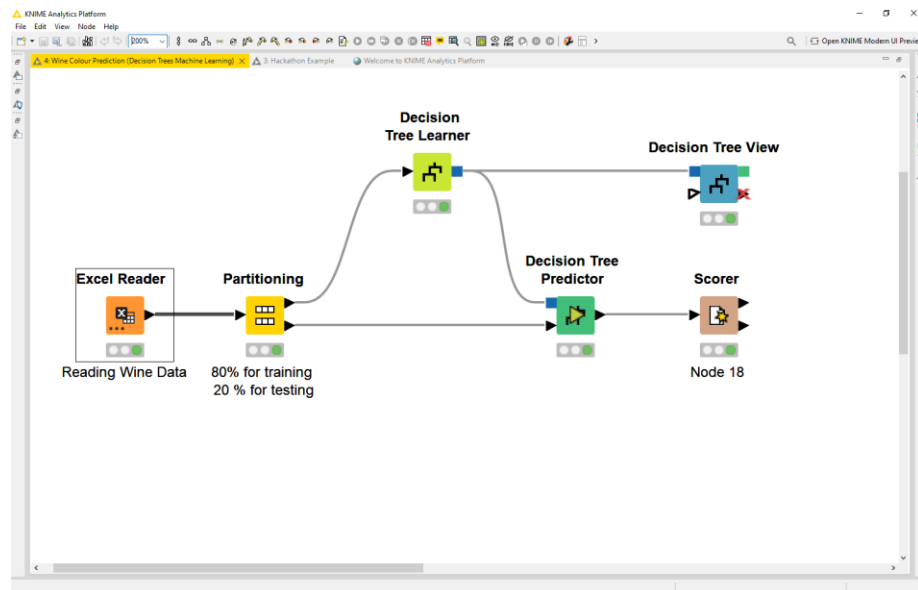
Graduate and new joiners

Future accountant

KNIME Community Hub

Place to search and share

- Workflows
- Nodes
- Components
- Extensions

https://hub.knime.com

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KNIME and GT now

Adoption statistics

- 900 users at GT
- High training adoption
    - L1: 231
    - L2: 64
    - L3: 15
    - L4: 8
- Certifications
    - L1: 38
    - L2: 7
- Posts on Teams and Yammer channels
    - >1000
- KNIME based events
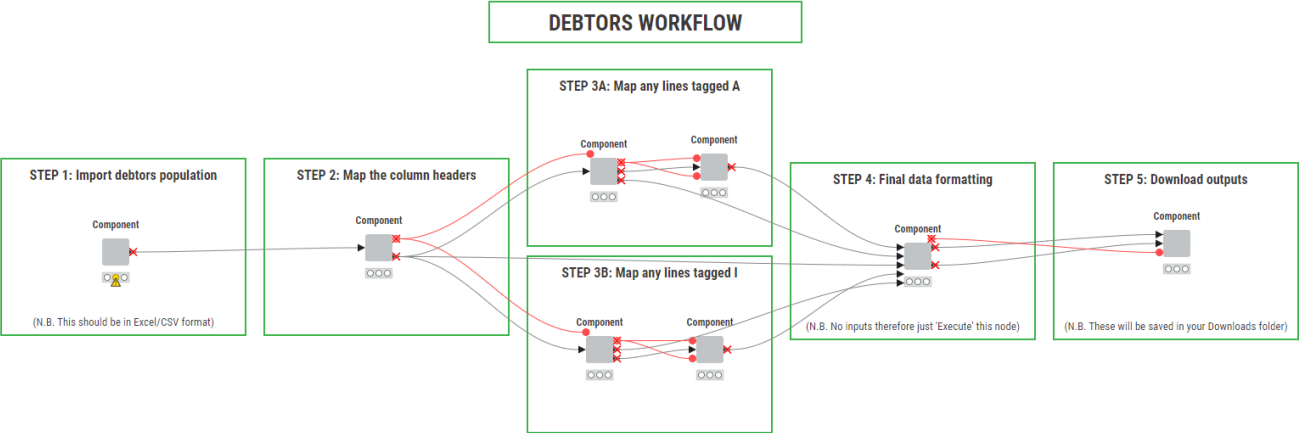   - 15 this year

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Success stories

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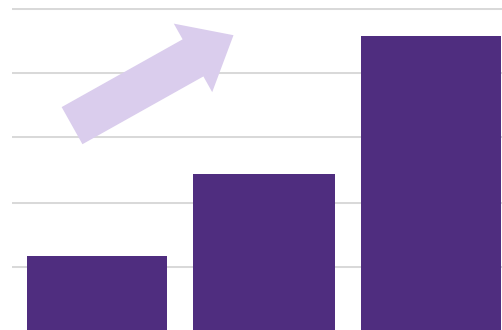
Internal optimisation

Head of Digital Audit

" Our standardised KNIME workflows have been used 688 times by our auditors in just the last two months, saving an estimated 2,272 hours of time!"

Time-saving through Automation of Finance Function

Client within the Childcare industry

The client needed help to automate their Finance Function, streamlining their process automation to improve efficiency.

Task

1. Automation of the Accountancy software to Reporting tool trial balance and P&L loads using KNIME from transaction to reporting

2. Accounts receivable task: Match bank statement lines to billpayers using KNIME. This was previously done by manually reconciling each line.

3. Accounts payable task: Generate journal lines from Excel invoices for suppliers using KNIME. This does away with the manual process of matching each invoice line to an account code.

Result

1. The report extraction only takes a few minutes, compared to hours.

2. For Accounts receivable, KNIME now auto-matches ~50% lines, thus reducing the number of manual reconciliations.

3. For Accounts payable, the manual process of matching each invoice line to an account code has been eliminated, saving hours of time.
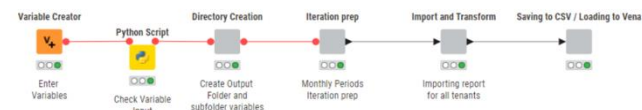
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Reconciling VAT charge data for an online retailer

Client: Online Retail Company

Our client was overcharged VAT on their children's clothing items over a four-year period. They needed Grant Thornton's Specialist Services, specifically the Digital expertise to analyse their data and identify savings opportunities.
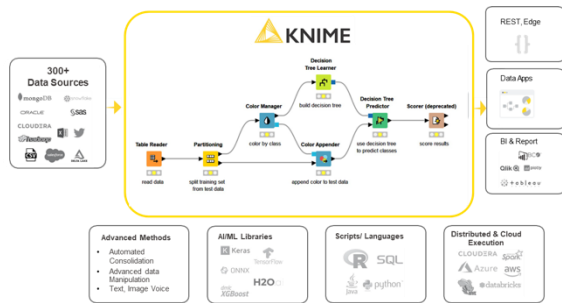
Task

The analysis of our client's VAT charges in their invoice data sought to verify if any items were overcharged, not complying with HMRC's zero rated policy. With 20 million lines of data, this required a powerful tool that could process and analyse savings opportunities in a sustainable and repeatable manner.

Action

Using KNIME as an ETL tool (extract transform and load), our experts built a repeatable workflow that filtered and refined the immense amount of data into multiple categorised datasets. By connecting Power BI within KNIME, the refined data was analysed to identify VAT liabilities with a high probability of incorrect application.

Result

25,000 items were identified as overcharged which resulted in **>£100,000** of VAT repayment back for our client.

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Case study
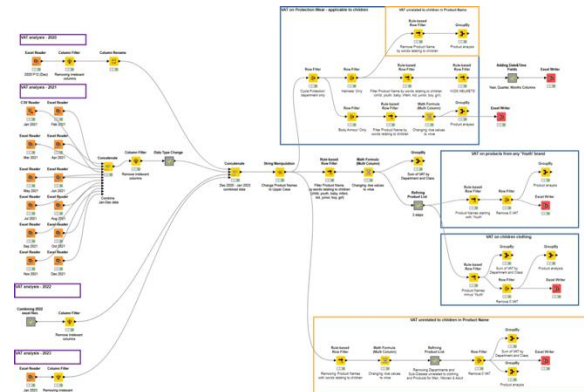
Marketing Data Machine Learning

Multi-Site Education Provider

An international multi-site education provider wanted to explore how they could extract useful information from their existing records of interactions with actual and potential customers for one of their sites.

They looked to us for guidance as to how best to predict future enrolment based on data points relating to potential customers.

Task

Identify a machine learning approach that could help to predict enrollment based on customer features. Note how that could be used to dictate future marketing campaigns.

Result

A workflow that tested different machine learning algorithms to assess capability in predicting enrolment

The workflow produced useful results from the dataset provided and allowed to us to focus on XGBoost as the most appropriate algorithm to use in this context.

Using the workflow to help the client predict future enrolment and cashflow and analysis on the customer profile that is likely to enrol.

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Case study
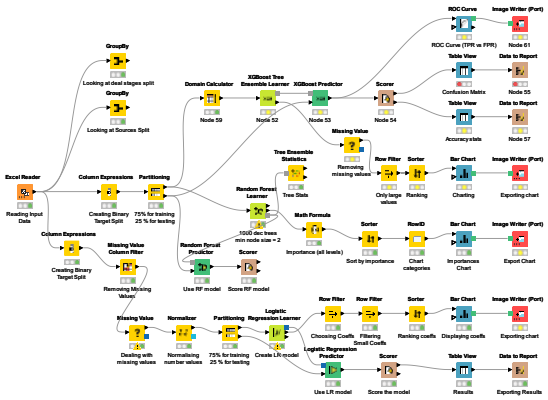
Finance Reconciliation Automation

Large On-line Retailer

A large on-line retailer needed to automate the monthly reconciliation process for millions of orders and payments from multiple sales channels in multiple currencies, replacing an existing manual excel-based process.

They needed to free up valuable resources who spent days every month manually completing a process, as well as needing to improve the quality and repeatability of the existing workflow.

They also wanted a quick implementation with the capability to adapt the workflow in-house.

Task

The client came to us looking for guidance to help solve the recurring problem of improving an existing, time-consuming manual finance reconciliation process. They needed a quick solution that did not require unnecessary changes to their existing environment.

Result

The workflow that we developed (in a few days) with them saved 2 days per month in finance resource, freeing them up for more valuable work. This automation also improved consistency and improved the auditability of the process.

In addition to solving their specific requirement at pace and economically, we introduced them to a new way of improving their processes that could be reused in-house, without the need to call on external resources for any changes.
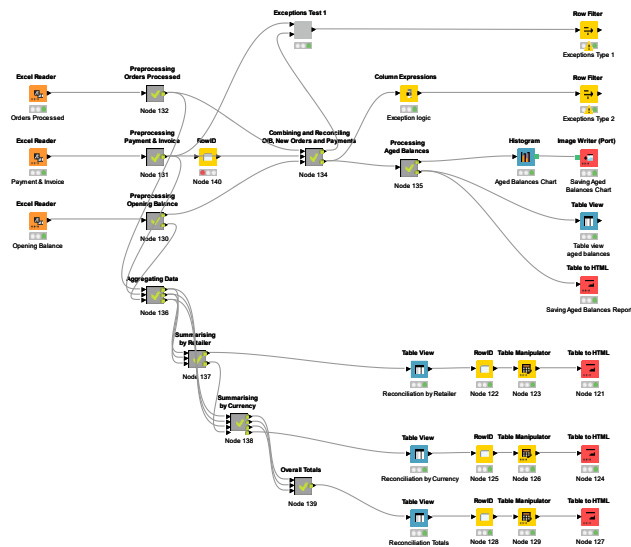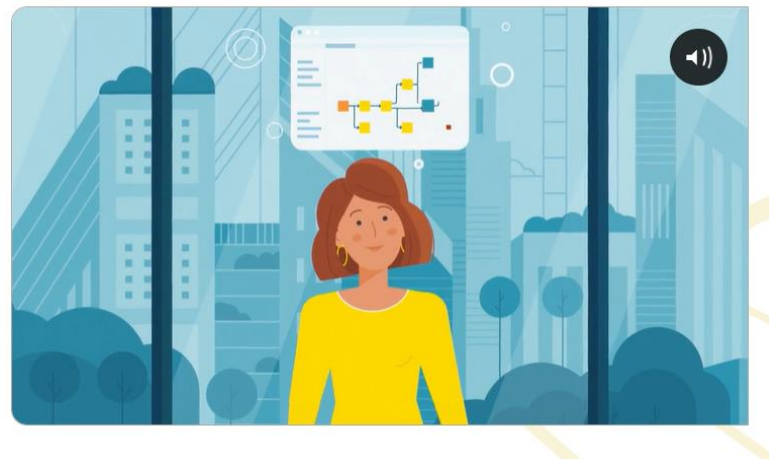
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Whats next on the journey

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Collaboration and development

KNIME Business Hub

Enterprise software for scaling data impact

Get in touch   Pricing

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