



# Exploring Artificial Intelligence and RPA as Enabling Technologies in Audit

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## Presentation Outline:

- Data analytics driven audits
- Use-case background
- What led us to use AI
- Illustration of the use-case
- Advantages of using data analytics in audit





# DA Permeates Every Phase of the Audit

**Planning**

- Preliminary Analytical Review
- Risk Assessment Procedures

**Conducting**

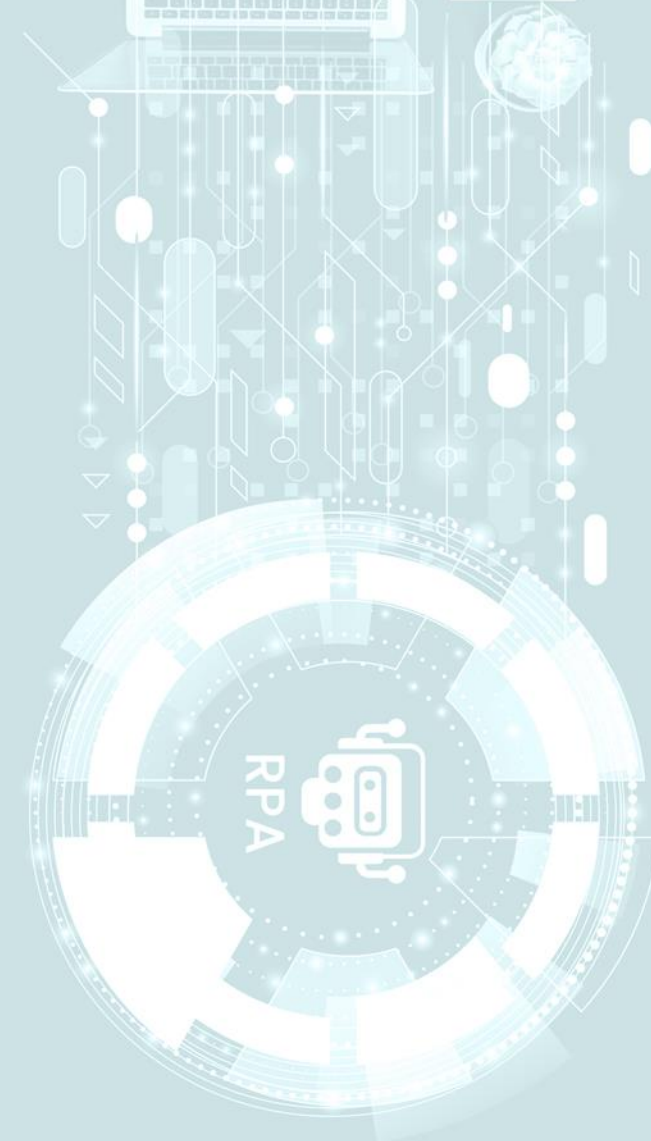
- HR Analytics
- Goods & Services Analytics

**Reporting**

- Analytical Review
- Final Accounts Procedures

## Revenue Use Case : From Gold Transactions Fee

- The use case was conceived during the audit execution phase.
- Consultation with the financial auditors.
- The DA team then identified ways to bridge the gap between technology and traditional procedures, utilizing the following technologies:
  - Analytical Process Software – Using in-house Smart Platform
  - Artificial Intelligence – Using Optical Character Recognition (OCR)
  - Automation – Using Robotic Processing Automation (RPA)





# What led us here? Identifying Pain Points:



**Pain Point 1:** Comparing the sheet information to the actual amount received from image-based receipts.  
> **Solved using AI - OCR**

**Pain Point 2:** Analyzing information over **330** sheets  
On monthly basis.  
> **Solved using RPA**



# Sample of Data Used:

(2) Identifier to sum actual transactions by party

(3) Helps determine how much transaction fee should be earned per party

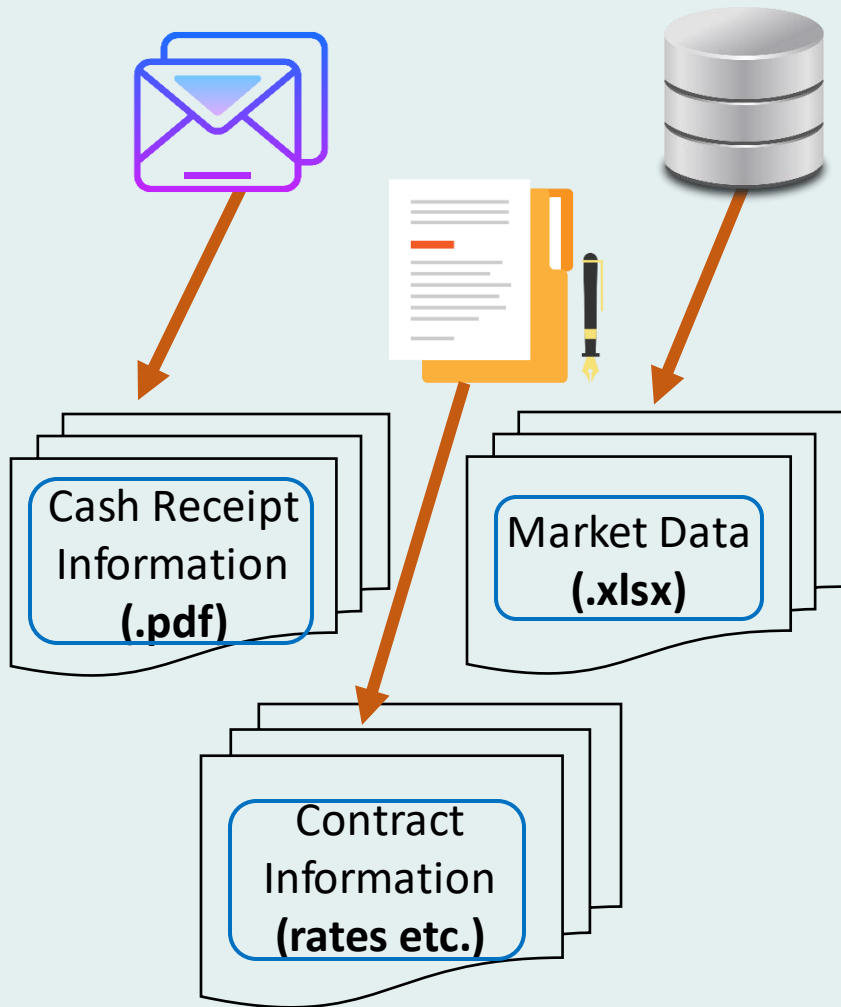
Market Statistics Date	Market Type	Instrument Type	Contract Identifier	Expiry date	Previous settlement Price	Closing Price	Number of Contracts Traded
6-Jan-21	NORMAL	FUTURES	Entity 1	15-Jan-21	0	0	0
6-Jan-21	NORMAL	FUTURES	Entity 1	15-Jan-21	130.12	110.34	0
6-Jan-21	NORMAL	FUTURES	Entity 1	19-Feb-21	130.12	110.34	0
6-Jan-21	NORMAL	FUTURES	Entity 2	28-Jan-21	0	0	0
6-Jan-21	NORMAL	FUTURES	Entity 2	25-Feb-21	0	0	0
6-Jan-21	NORMAL	FUTURES	Entity 2	28-Jan-21	501.25	350	0
6-Jan-21	NORMAL	FUTURES	Entity 2	25-Feb-21	503.55	405	0
6-Jan-21	NORMAL	FUTURES	Entity 2	25-Mar-21	505.9	492	0
6-Jan-21	NORMAL	FUTURES	Entity 3	28-Jan-21	0	0	0
6-Jan-21	NORMAL	FUTURES	Entity 3	25-Feb-21	0	0	0
6-Jan-21	NORMAL	FUTURES	Entity 3	28-Jan-21	2803.95	2250	0
6-Jan-21	NORMAL	FUTURES	Entity 3	25-Feb-21	2816.9	2187	0
6-Jan-21	NORMAL	FUTURES	Entity 3	25-Mar-21	2829.9	2772	0
6-Jan-21	NORMAL	FUTURES	Entity 4	15-Mar-21	0	-0.04	0
6-Jan-21	NORMAL	FUTURES	Entity 4	15-Mar-21	0	0	0
6-Jan-21	NORMAL	FUTURES	Entity 4	15-Mar-21	0	0	0
6-Jan-21	NORMAL	FUTURES	Entity 4	14-Jun-21	0	0	0
6-Jan-21	NORMAL	FUTURES	Entity 4	14-Jun-21	0	0	0
6-Jan-21	NORMAL	FUTURES	Entity 4	13-Sep-21	0	0	0
6-Jan-21	NORMAL	FUTURES	Entity 5	15-Mar-21	77.81	77.82	22
6-Jan-21	NORMAL	FUTURES	Entity 5	14-Jun-21	77.85	76.73	0
6-Jan-21	NORMAL	FUTURES	Entity 5	13-Sep-21	77.89	73.05	0

▶ ... MARKETSTATS-20210105 MARKETSTATS-20210106 MARKETSTATS-20210107 MARKETSTA1 ... (+) : ◀

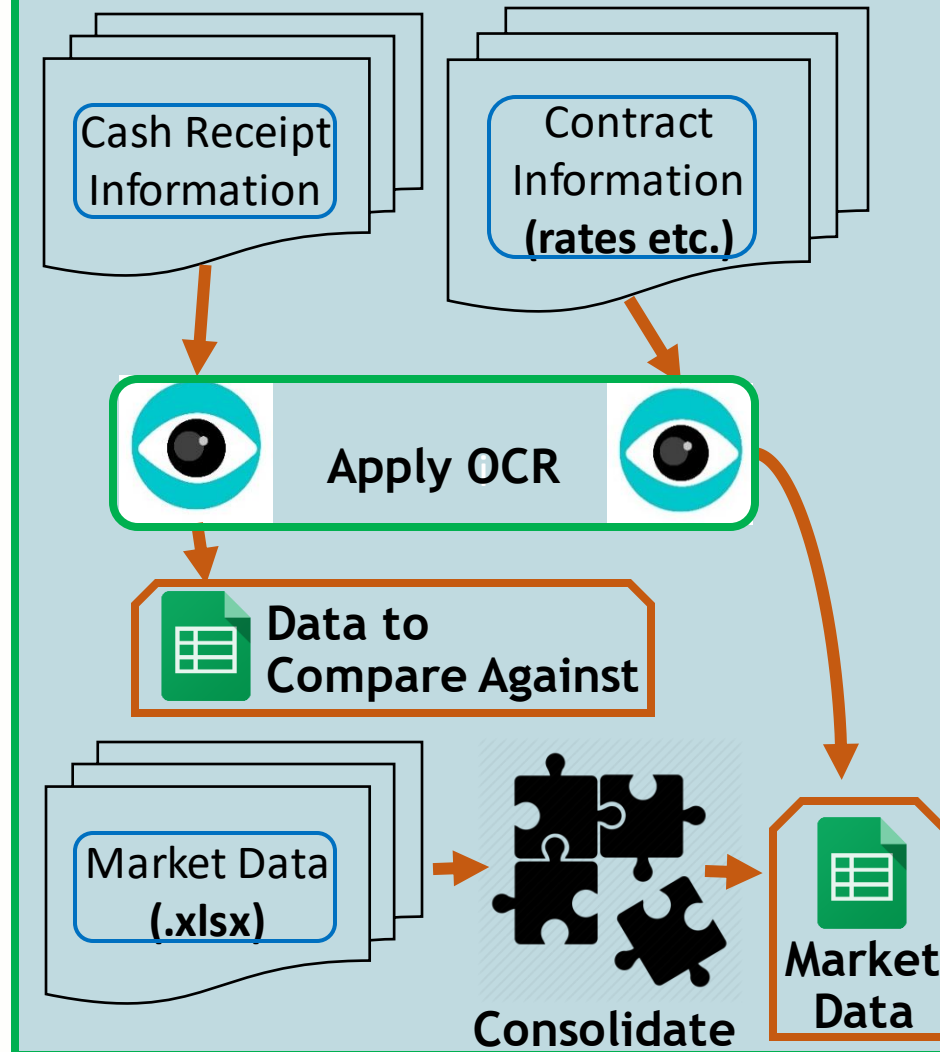
(1) Market Statistics are divided by days.

# Transaction Fee Recalculation Illustrated:

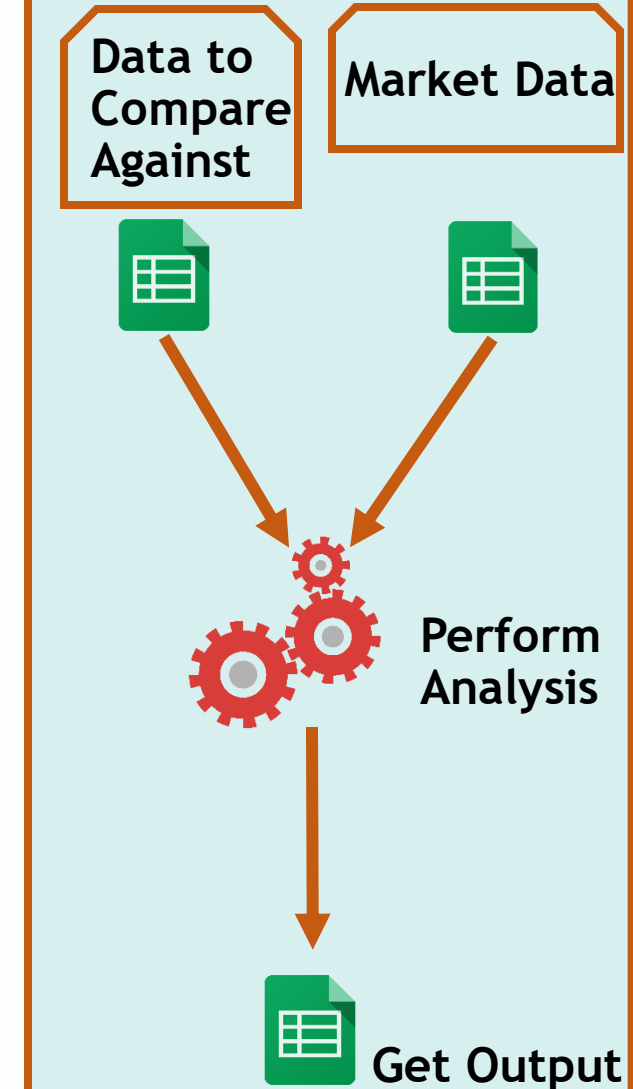
## Step 0: Get Data



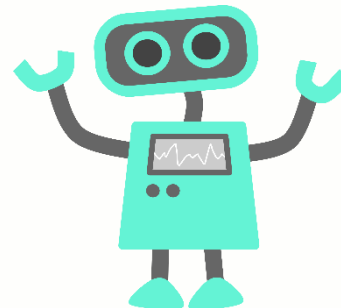
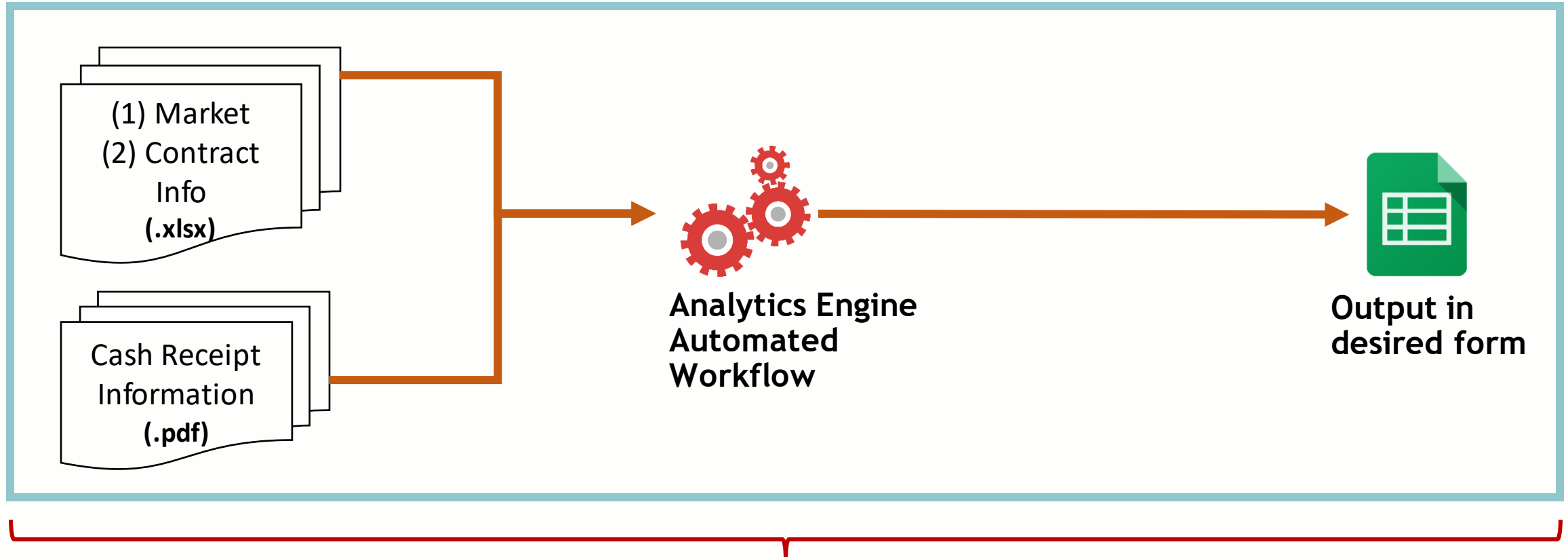
## Step 1: Data Cleaning & Transformation



## Step 2: Analysis & Output



# Transaction Fee Recalculation Post-Automation:



*Entire process is run by RPA bot.*



# Revenue Use Case : From Gold Transactions Fee - Overall

**The Goal:** Recalculation of the transactions fees and compare it to the actual receivedAutomate .



**Work Done:** A workflow was built to aggregate the data and match it with the actuals using **OCR** technology. This process was automated to roll-forward on a monthly basis using **RPA**.



**Result:** Lost in government revenue.





## Advantages :

- Achieve higher level of assurance
- Gain deeper insights
- Increased efficiency

Example of the **RPA** Workflow:

