SAI Innovations Framing Webinar

August/2022
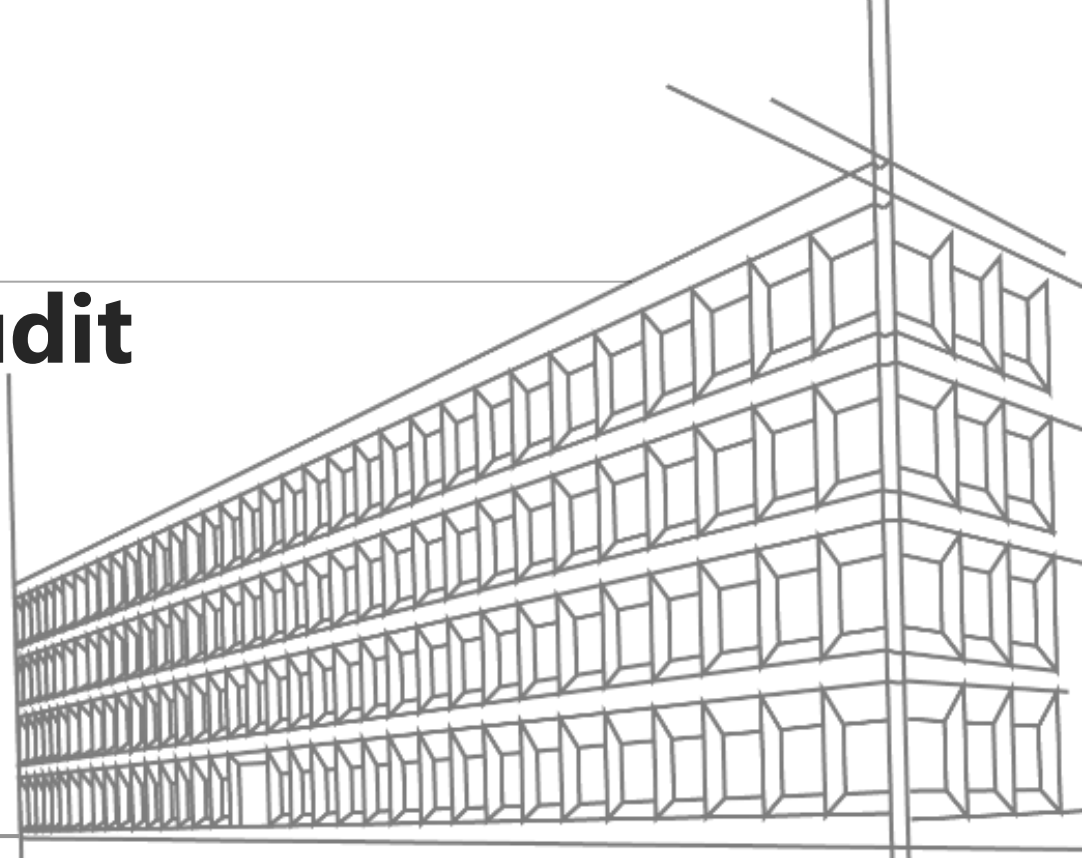
Data analytics in Financial Audit made simple:
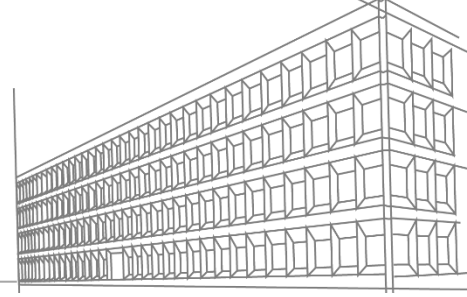## good practices in the Brazilian Federal Court of Accounts (TCU)

Data analytics in Financial Audit made simple: good practices in the Brazilian Federal Court of Accounts (TCU)
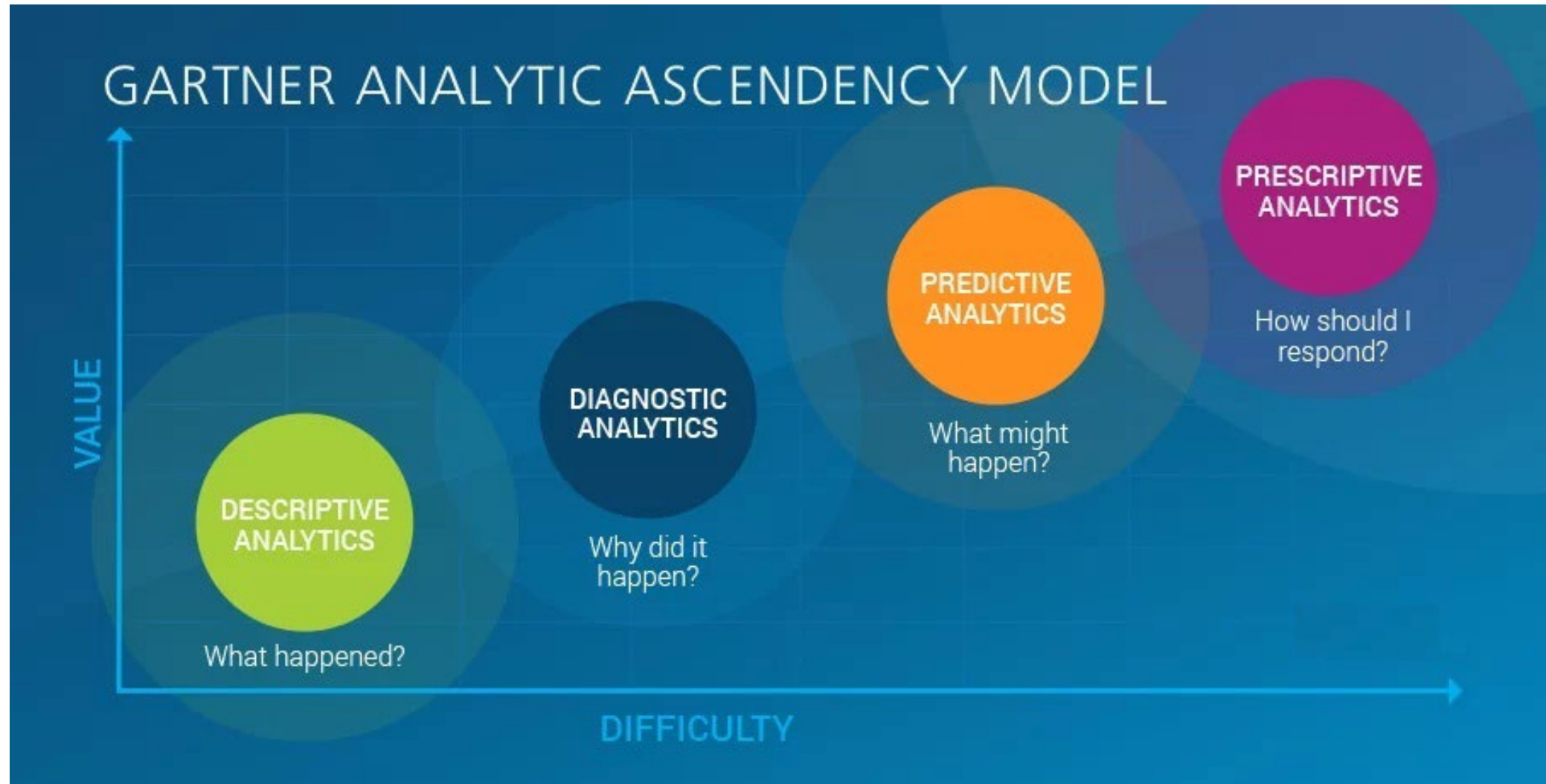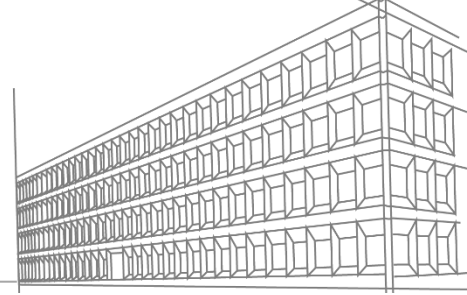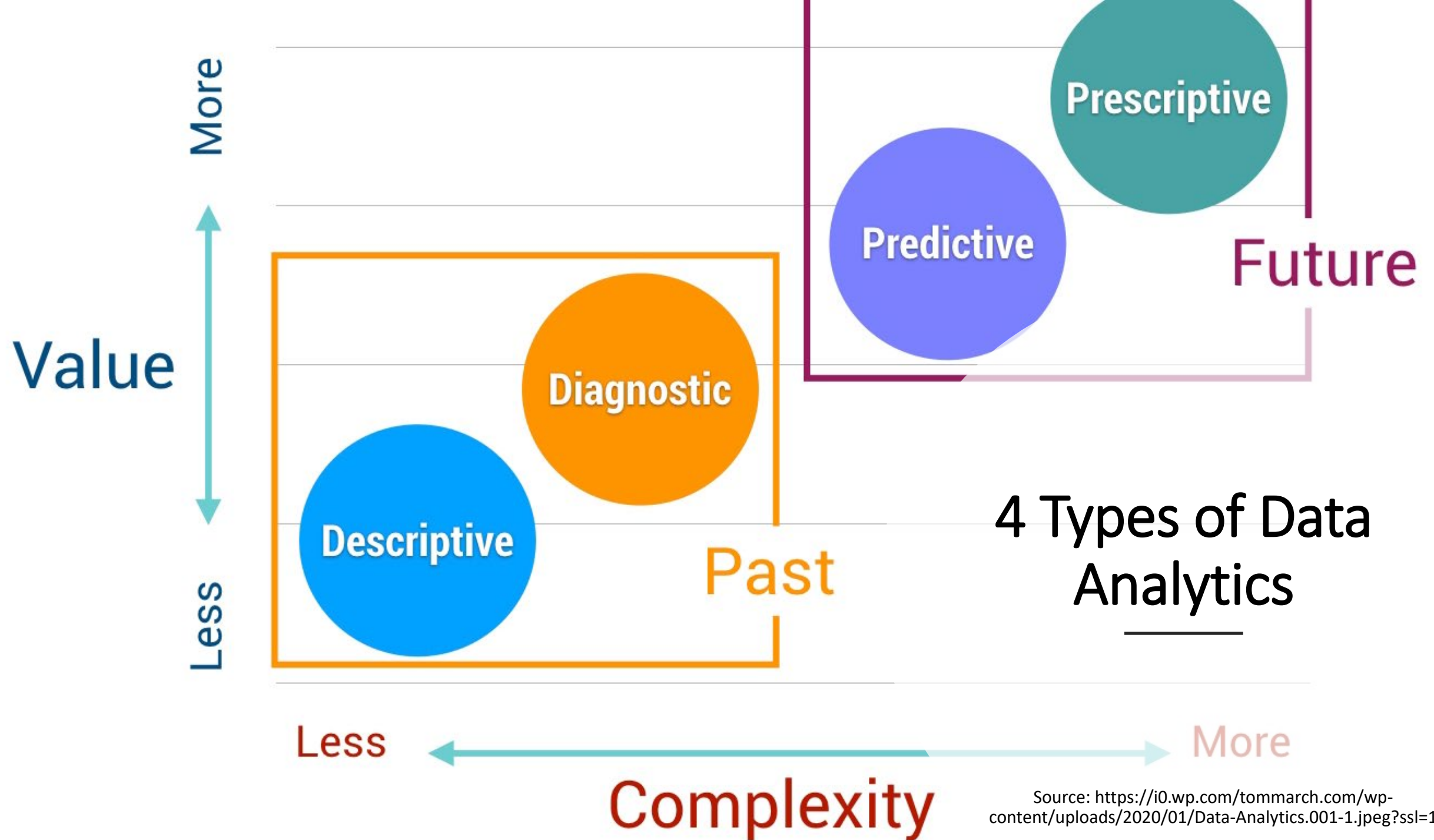
Marcelo da Silva Sousa (SAI Brazil)
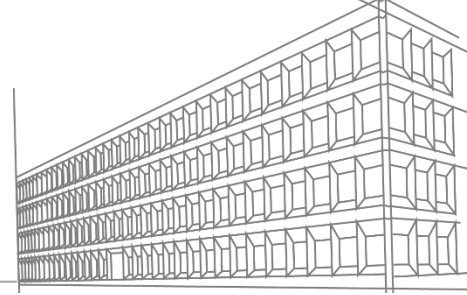
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Table of contents

- In which phase of the FA process is data analytics applied?
- How did we apply data analytics in the FA?
- How did we perform FA audit before using data analytics?
- What are the benefits of using data analytics in the audit process?

4 Types of Data Analytics

GARTNER ANALYTIC ASCENDENCY MODEL

PRESCRIPTIVE ANALYTICS
How should I respond?

PREDICTIVE ANALYTICS
What might happen?

DIAGNOSTIC ANALYTICS
Why did it happen?

DESCRIPTIVE ANALYTICS
What happened?

VALUE

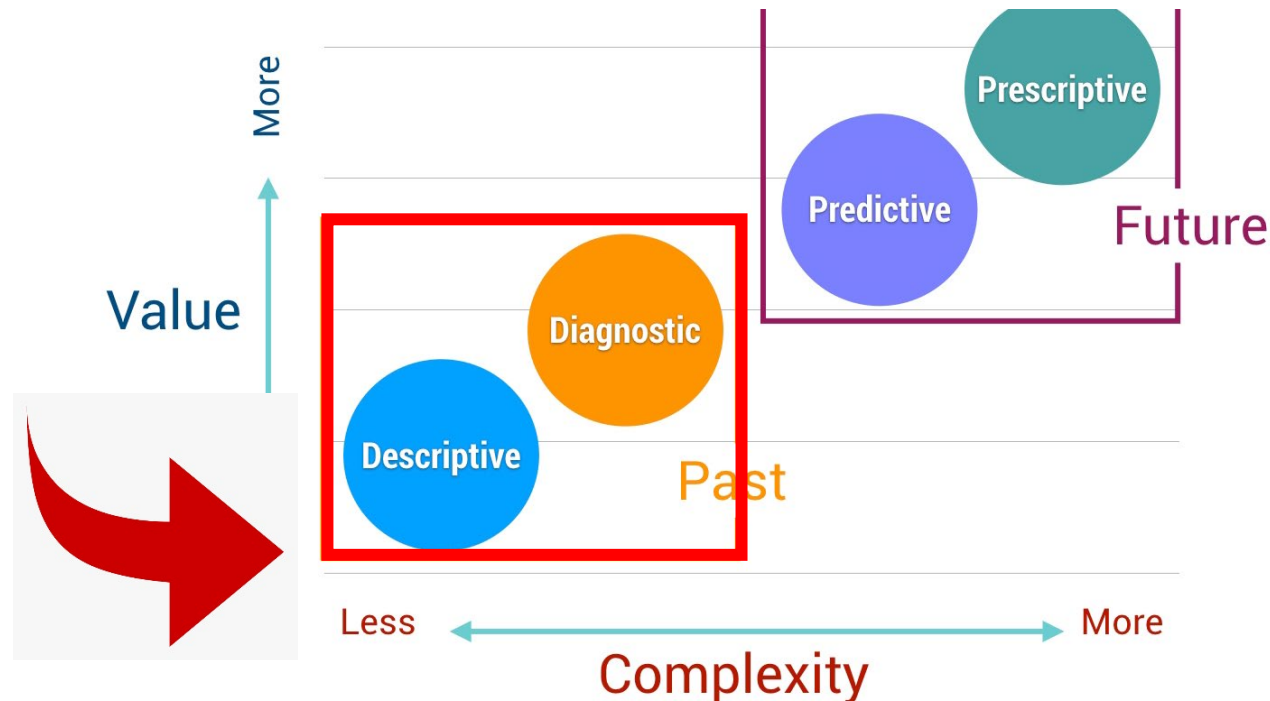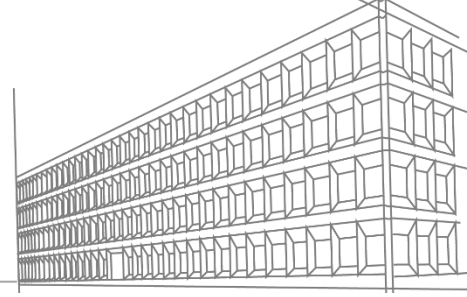DIFFICULTY

4 Types of Data Analytics

Financial Auditing

"Looks for the **past** to determine whether financial information was properly recorded and adequately supported. It also assesses whether the financial statement assertions about **past** performance are fair, accurate and reliable"
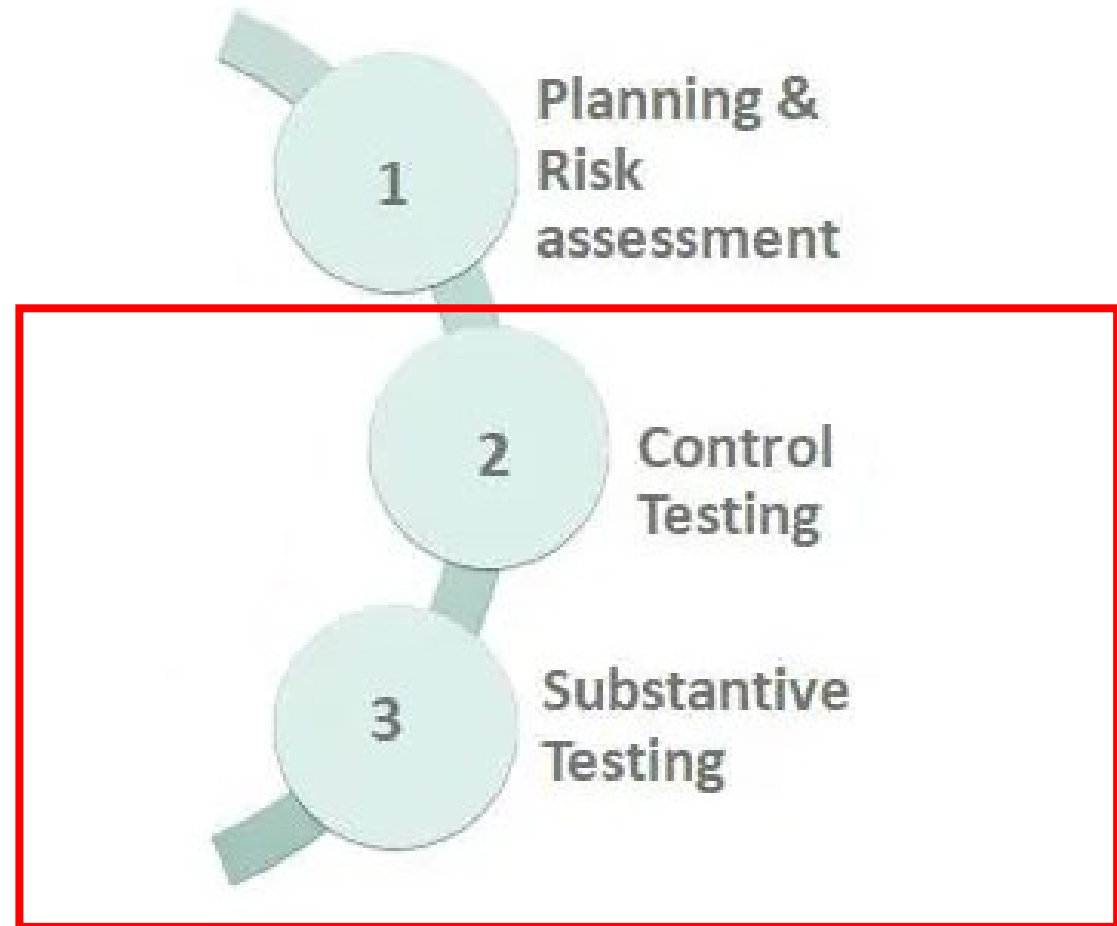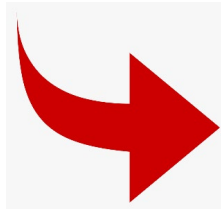
"Myth detected! As we shown in this experiment, any team could apply data analytics in financial audits."

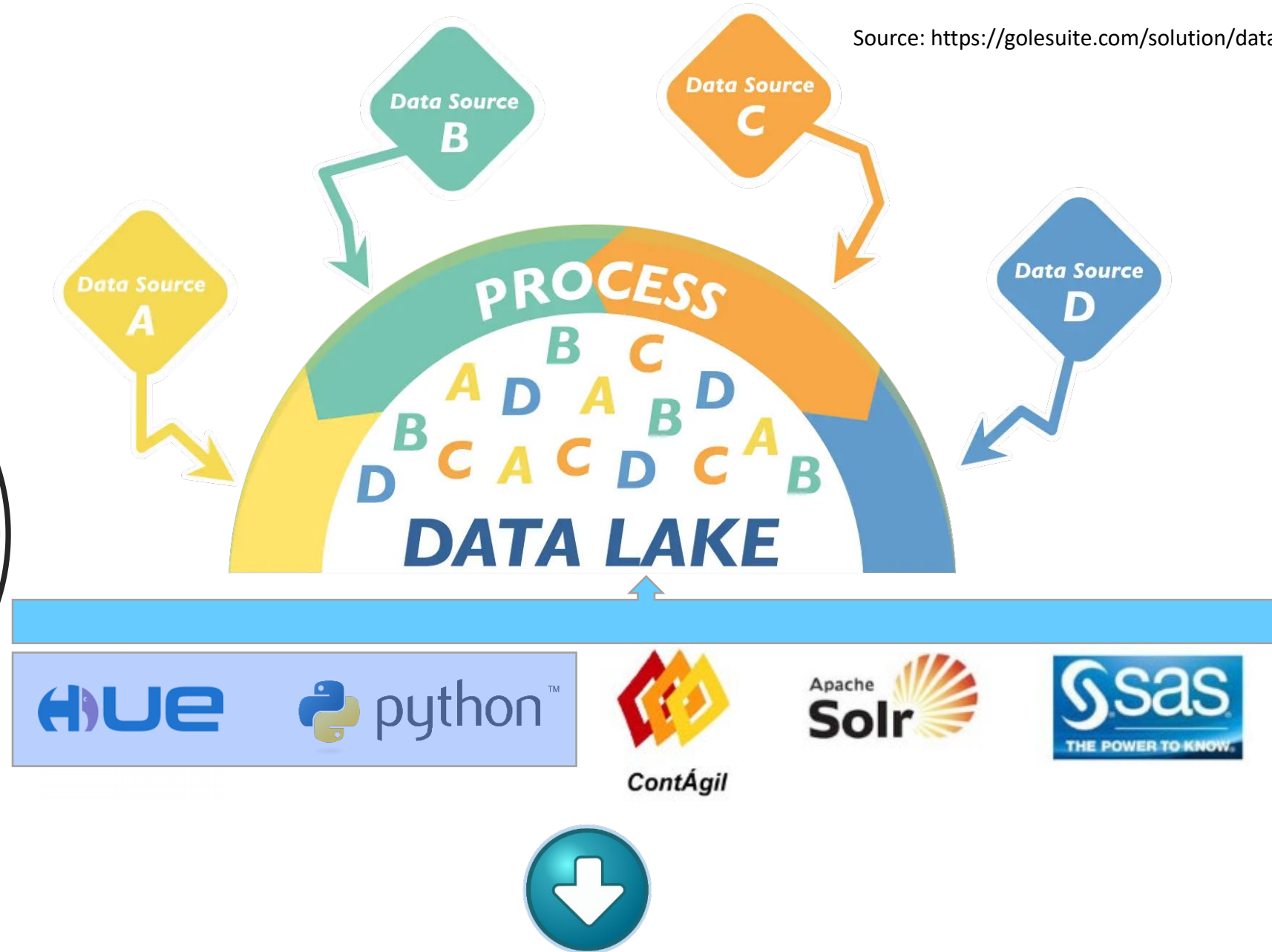In which phase of the FA process can we apply data analytics?

Source: http://theactuary.net/knowledge/auditing/

In which phase of the FA process can we apply data analytics?

1 Planning & Risk assessment

2 Control Testing

3 Substantive Testing

Source: https://www.wallstreetmojo.com/financial-statement-audit/

Source: https://golesuite.com/solution/data-lake/

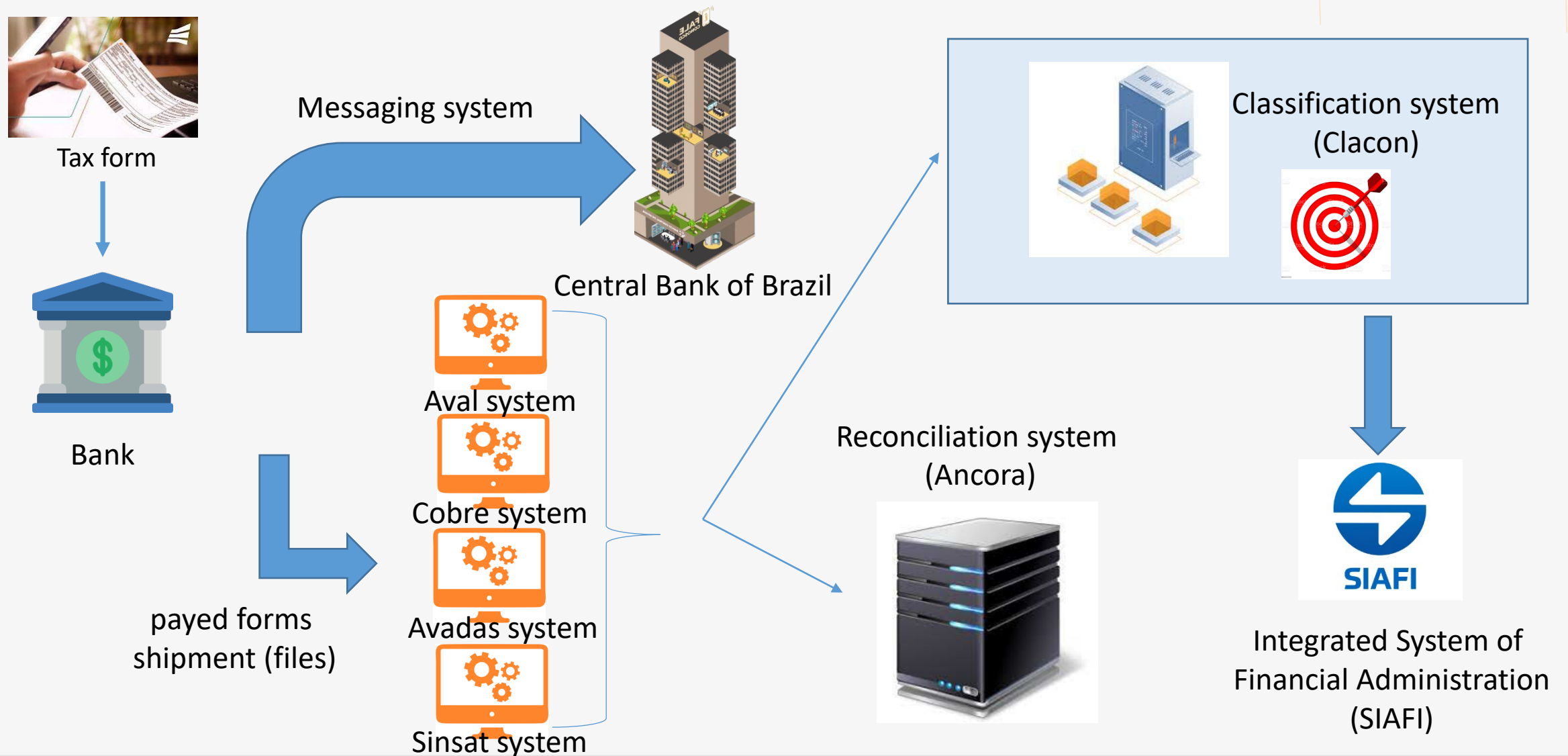How did we apply data analytics in the FA?

Provided by Brazilian Federal Revenue Service Agency

Tax Collection in Brazil – Big Picture

Tax form

Bank

Messaging system

payed forms
shipment (files)

Central Bank of Brazil

Aval system

Cobre system

Avadas system

Sinsat system

Classification system
(Clacon)

Reconciliation system
(Ancora)

SIAFI

Integrated System of
Financial Administration
(SIAFI)

EXAMPLE

RISK
• Are there any taxes that have been paid but were not classified?

TEST
• Check if all taxes paid were classified
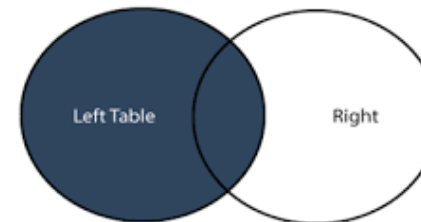
How did we apply data analytics in the FA?

Input → Clacon System → Output

Left Table   Right

Left outer Join

Tax Collection in Brazil – Big Picture
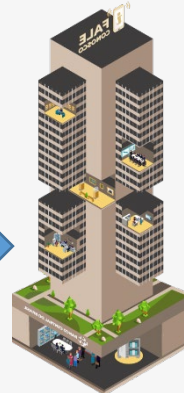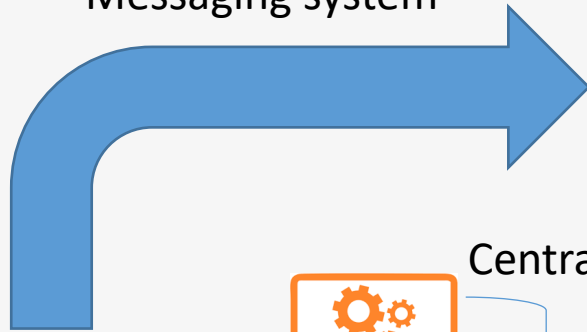
Tax form

Bank

Messaging system

payed forms shipment (files)
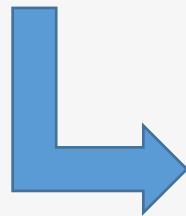
Central Bank of Brazil

Aval system

Cobre system

Avadas system
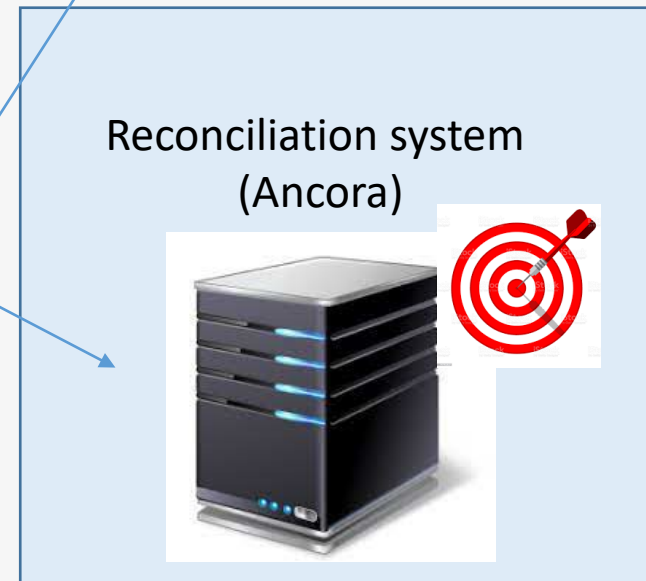
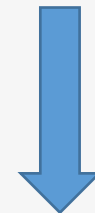Sinsat system

Classification system (Clacon)

Reconciliation system (Ancora)

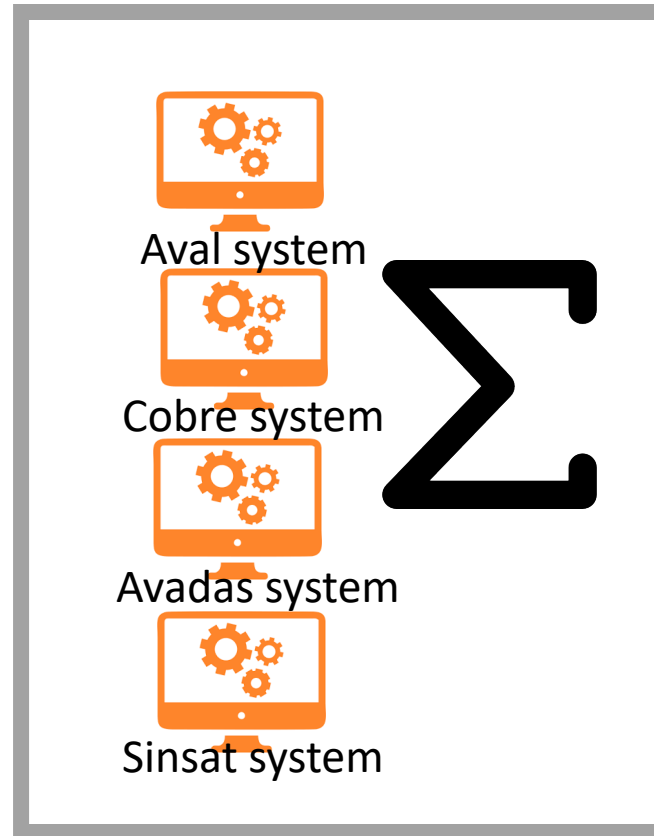Integrated System of Financial Administration (SIAFI)

EXAMPLE

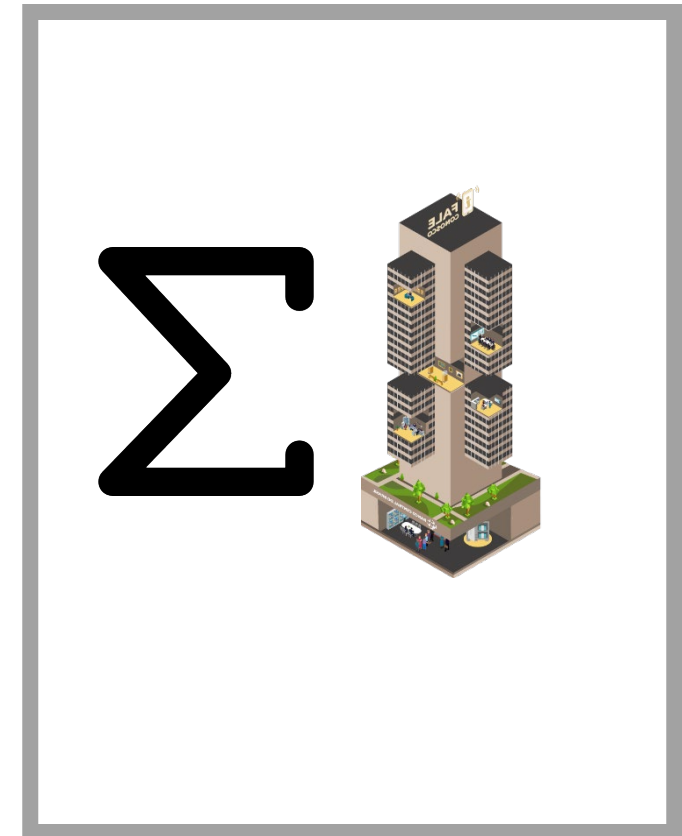RISK • Are the banks transfering money corresponding to all tax forms payed?

TEST • Sum all tax forms and compare with money transfered
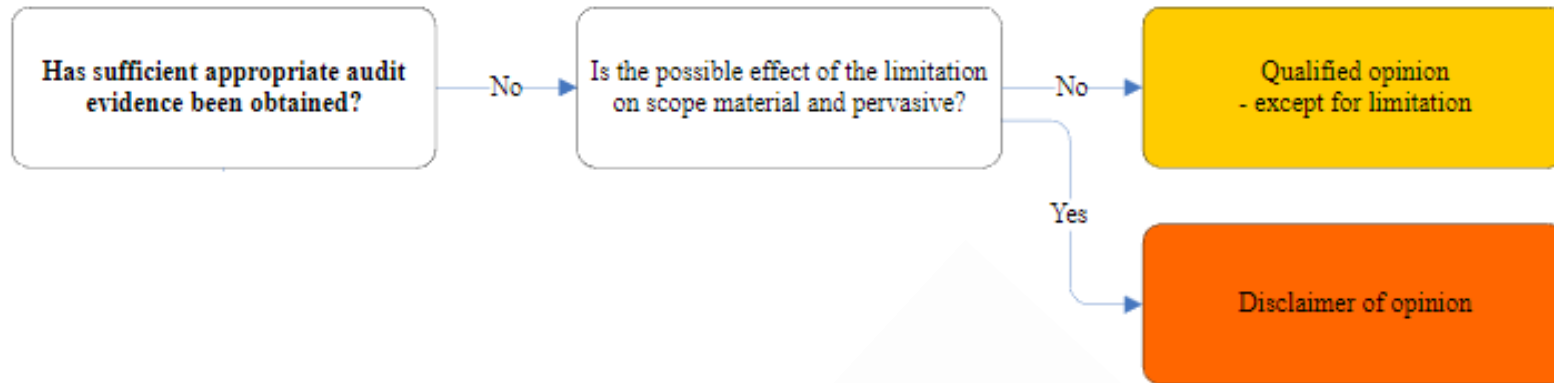
How did we apply data analytics in the FA?

Aval system
Cobre system
Avadas system
Sinsat system

$\sum$ = ? $\sum$
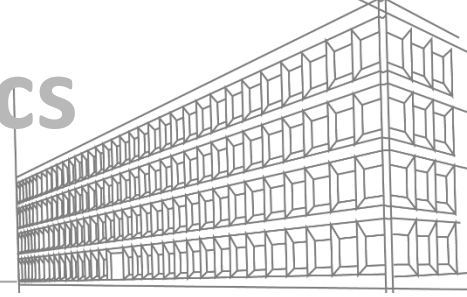
Sum of all paid tax forms

Sum of Money transfered by banks

How did we perform financial audit before using data analytics?

Source: https://methodology.eca.europa.eu/aware/FA/Pages/Reporting/Forming-an-opinion-in-financial-audit.aspx

What are the benefits of using data analytics in the audit process?

- **Achieve a very high level of assurance** – Because most data are system based, all transactions can be tested in very short time. Obtaining assurance on the entire population, rather than on a sample produces a very high-quality audit evidence.

- **Increased efficiency** – Data connections and graphical representation can be reused, opening the way for frequent risk monitoring and/ or continuous auditing.

TCU

Robotic Process Automation
RPA

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SAI Brazil