

Online Webinar | 28th August 2025

AI Application on Transactional Data Reveals VAT Outliers

Speaker:

John Sloot – Blue Turtle Tax

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Artificial intelligence (AI) is technology that enables machines to demonstrate human-like reasoning and capabilities such as autonomous decision making and problem solving.

Why VAT is under the spotlight

- VAT gap across EU identified by governmental agencies
- Increasing regulatory push (mandatory in EU by 2030) for real-time reporting, e-invoicing, SAF-T
- Complex, fragmented ERP data, frequent manual errors & reliance on Excel
- Outlier detection as key compliance control

How does AI affect the role of the VAT specialists?

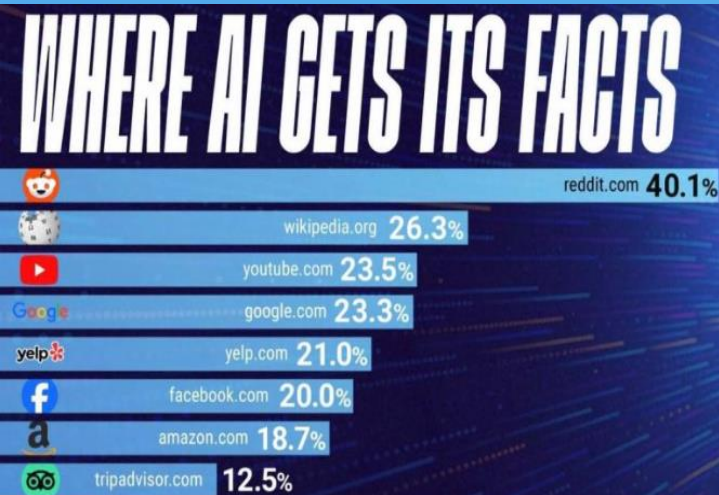
Role of AI in VAT

- From rule-based checks to machine learning anomaly detection
- Uses ERP transactional data, invoice metadata & VAT rules
- Techniques:
 - Pattern recognition
 - Predictive analytics
 - Neural network classifiers

Impact on VAT Specialists

- Changing role: from manual review to strategic oversight
- Tax authorities, in-house teams, and consultants adapting
- AI supports faster, more accurate VAT compliance
- Understanding AI technology

How to 'insert' AI in a tax control framework?



Does AI fit within a Tax Control Framework?

- AI is as good as the people who have designed it and it **sources**
- AI solutions require a **multidisciplinary** team (tax, finance, data and IT)
- AI also relies on data quality and completeness
- AI solutions make use of ML, NLP, RPA, Chatbots and many other features
- AI within a TCF can be used for:
 - Risk & Opportunity identification;
 - Monitoring & Detection
 - Reporting & Controls
 - Adaptation
 - Predictive Analyses
- Tip: Include tax authorities in the entire design and decision-making process

USE CASES

Use Case 1: Reconciliation Turnover and VAT Payable

Use Case 2: Reverse charge for VAT

Use Case 3: Intercompany postings

Use Case 1

RECONCILIATION TURNOVER
AND VAT PAYABLE

What do we mean with “Reconciliation”?

- Reconciliation should be part of the ongoing VAT compliance process and be the first step you take in the VAT filing preparation process.
- Reconciliation should show if the numbers coming from the VAT reporting process are **complete** and **correct**.
- Automation the reconciliation process requires you to make a couple of choices upfront:
 - Which G/L Accounts are **mandatory** for reconciliation?
 - Which G/L Accounts **could be relevant** based on postings?
 - How to eliminate postings not relevant for reconciliation?

Use Case 1

RECONCILIATION TURNOVER
and VAT PAYABLE

Which G/L Accounts are **mandatory** for reconciliation?

- All G/L Accounts that are included in the profit and loss account that have generated revenues
- All G/L Accounts that are included in the balance sheet and could generate revenues
- Select these G/L in the ERP system for mandatory use of a tax code for any posting to these accounts
- Provide clear guidance on which tax codes to use per type of income
- Monitor compliance with the above policy continuously.

Use Case 1

RECONCILIATION TURNOVER
and VAT PAYABLE

AR - Empty Data Fields in SAP data set

SAP data set
9.13%
% of empty fields

4M
of Data Fields

355K
of Blanks Fields

36
of Data Columns

Country of
origin
100.00%
% of empty fields

VAT ID #
3.13%
% of empty fields

Ship To name
72.27%
% of empty fields

of Blanks cells in SAP data

Data field	# of rows	# of blanks	AR % of total
Country of origin	107973	107,973	100.00%
Country GR	107973	76,035	72.27%
Ship-to Name	107973	76,035	72.27%
Ship-To Party	107973	76,035	72.27%
Comm. Imp. code no.	107973	4,854	4.57%
Deliv. date/Period	107973	4,854	4.57%
VAT Registration No.	107973	3,376	3.13%
Total		354,942	

Indirect tax impact analysis

Blank data fields may result in the incorrect VAT treatment of transactions, and the underpayment of VAT.
Data fields such as Country of origin, commodity code have blanks, and are mandatory fields in e.g. Intrastat reporting. Valid VAT ID number are one of the requirements to apply the 0% VAT rate on intra-EU and export transactions.
Recommendation is to do perform a Master Data clean-up and avoid the likelihood of errors and potential during a tax audit (Customer and Material Master Data).
Better insights on and monitoring of Master Data is contributing to a more effective governance and TCF.

Billing Document	Item	Billing Date	Sold To Party	Departure country	Destination country	Incoterms	Material	Commodity code	Net Value	Tax amount
9230074889	1	02/01/2023	508202	NL	NL	DOP	48076274	73102181	20,251	4,353
9230074907	1	02/01/2023	515549	NL	GR	CFR	47002007	83099900	16,920	0
9230074908	1	02/01/2023	508223	NL	NL	DOP	48016200	83099900	105,185	22,069
9230074909	1	02/01/2023	508223	NL	NL	DOP	48063548	73102181	11,792	2,476
9230074910	1	02/01/2023	508223	NL	NL	DOP	48063548	73102181	11,792	2,476
9230074911	1	02/01/2023	502098	NL	NL	DOP	48016038	73102910	11,540	2,423
9230074912	1	02/01/2023	503536	NL	DE	DOP	48033708	73102181	19,887	0
9230074913	1	02/01/2023	508263	NL	NL	DOP	49002887	73102181	26,177	2,749
9230074914	1	02/01/2023	508979	NL	DE	CPT	48071681	73102181	13,368	0
9230074915	1	02/01/2023	513624	NL	DE	DAP	48071681	73102181	13,862	0
9230074946	1	02/01/2023	513010	NL	NL	DOP	48024090	73102181	17,122	2,446
9230074947	1	02/01/2023	514213	NL	NL	DOP	48081007	73102181	22,019	4,686
9230074948	1	02/01/2023	514213	NL	NL	DOP	48081007	73102181	22,258	4,674
9230074949	1	02/01/2023	514213	NL	NL	DOP	48081007	73102181	22,258	4,674
9230074950	1	02/01/2023	514213	NL	NL	DOP	48081007	73102181	17,806	2,739
9230074951	1	02/01/2023	508223	NL	NL	DOP	48063548	73102181	8,074	1,238
9230074952	1	02/01/2023	502098	NL	NL	DOP	48016038	73102910	11,540	2,423
9230074953	1	02/01/2023		NL	DE	DAP	40205113	72101220	39,688	0
9230074954	1	02/01/2023		NL	DE	DAP	40205113	72101220	40,395	0
9230074955	1	02/01/2023		NL	DE	DAP	40205113	72101220	40,395	0
Total									580,814,647	46,967,540

Which G/L Accounts **could be relevant** based on postings?

- Every posting on a G/L account that have been posted using a tax code
- Eliminate postings that do not represent revenues
- Ensure the correct element of the journal entry is selected and included in the reconciliation process
- Develop smart identification steps to ensure entries are captured only once and are taken from the most relevant G/L account

Use Case 1

RECONCILIATION TURNOVER
and VAT PAYABLE



BTW-rondrekening

-116,513,193

Grondslag SAP data

-116,736,638

Grondslag BTW data

-223,445

Vershil

Totale omzet op tax codes (A0 t/m ZV)

Doc.Nr.	Tax code	Omschrijving	Grondslag SAP data	Grondslag BTW data	Vershil
1001	A0	Verkoop BTW administratief	-5,259,500	-5,570,313	-310,813
1001	A2	Verkoop BTW 21%	-103,548,877	-103,461,510	87,367
1001	A4	Verkoop BTW 9%	-45,600	-45,600	0
1001	A5	Verkoop BTW Vrijgesteld	-6,709,720	-6,709,720	0
1001	A8	Verkoop BTW 0%	-516,785	-516,785	0
1001	AV	Verkoop BTW Verlegd	-13,862	-13,862	0
1001	ZV	Verkoop BTW 0% binnen fiscale eenheid	-418,848	-418,848	0
Total			-116,513,193	-116,736,638	-223,445

SAP dataset

Doc.Nr.	Aangiftebox	Tax code	Omschrijving	Grondslag SAP data	Lookup BSEG -> BTW
0100182357	Nvt	A0	Verkoop BTW administratief	-795,682	Yes
0100182375	Nvt	A0	Verkoop BTW administratief	87,228	Yes
0100182400	Nvt	A0	Verkoop BTW administratief	-1,627	Yes
0100184345	Nvt	A0	Verkoop BTW administratief	-1	Yes
0100184361	Nvt	A0	Verkoop BTW administratief	-58,964	Yes
0100184376	Nvt	A0	Verkoop BTW administratief	-119,173	Yes
0100184399	Nvt	A0	Verkoop BTW administratief	-3,032	Yes
0100184426	Nvt	A0	Verkoop BTW administratief	-400,000	Yes
0100185538	Nvt	A0	Verkoop BTW administratief	-4,000,000	Yes
0100185540	Nvt	ZV	Verkoop BTW 0% binnen fiscale eenheid	-302,500	Yes
0100186308	Nvt	A0	Verkoop BTW administratief	1,750	Yes
0100186867	Nvt	A0	Verkoop BTW administratief	30,000	Yes
1001061947	1a en 5a	A2	Verkoop BTW 21%	-122,958	Yes
Total				-116,513,193	

Vershil

Doc.Nr.	Aangiftebox	Tax code	Omschrijving	Grondslag BTW data	Lookup BTW -> BSEG
0100180040	Nvt	A0	Verkoop BTW administratief	-300,917	No
0100180051	Nvt	A0	Verkoop BTW administratief	-8,887	No
0100180066	Nvt	A0	Verkoop BTW administratief	0	No
0100180099	Nvt	A0	Verkoop BTW administratief	-588	No
0100180129	Nvt	A0	Verkoop BTW administratief	-421	No
3002000828	1a en 5a	A2	Verkoop BTW 21%	87,367	No
Total				-223,445	

BTW dataset

Doc.Nr.	Aangiftebox	Tax code	Omschrijving	Grondslag BTW data	Lookup BTW -> BSEG
0100180040	Nvt	A0	Verkoop BTW administratief	-300,917	No
0100180051	Nvt	A0	Verkoop BTW administratief	-8,887	No
0100180066	Nvt	A0	Verkoop BTW administratief	0	No
0100180099	Nvt	A0	Verkoop BTW administratief	-588	No
0100180129	Nvt	A0	Verkoop BTW administratief	-421	No
3002000828	1a en 5a	A2	Verkoop BTW 21%	87,367	No
0100182341	Nvt	A0	Verkoop BTW administratief	0	Yes
0100182357	Nvt	A0	Verkoop BTW administratief	-795,682	Yes
0100182375	Nvt	A0	Verkoop BTW administratief	87,228	Yes
0100182400	Nvt	A0	Verkoop BTW administratief	-1,627	Yes
0100184345	Nvt	A0	Verkoop BTW administratief	-1	Yes
0100184361	Nvt	A0	Verkoop BTW administratief	-58,964	Yes
0100184376	Nvt	A0	Verkoop BTW administratief	-119,173	Yes
Total				-116,736,638	

Use Case 2

REVERSE CHARGE FOR VAT

The role of “Reverse Charge” in VAT

- The introduction of ‘reverse charge’ rules in VAT legislation stem from anti-tax evasion measures
- If ‘reverse charge’ applies, charging VAT is not allowed, but instead the supplies rendered should be identified as “subject to reverse charge” and the invoice should contain a mandatory statement that leaves no doubt about the invoice not carrying a VAT amount
- There are different kind of ‘reverse charge’ rules:
 - Cross border supplies of goods or services
 - Domestic supplies of goods by non-resident VAT entrepreneurs
 - Industry specific supplies of goods or services
- Although based on EU VAT Laws the implementation and interpretation is decided in national legislation and guidelines

Use Case 2

REVERSE CHARGE FOR VAT

AR - Potential wrong tax treatment domestic transactions



SAP data set

27,359

of Reviewed Transactions

4M

of Data Fields

355K

of Blanks Fields

36

of Data Columns

Customers
identified

3

Net Amount

87,682

in EUR

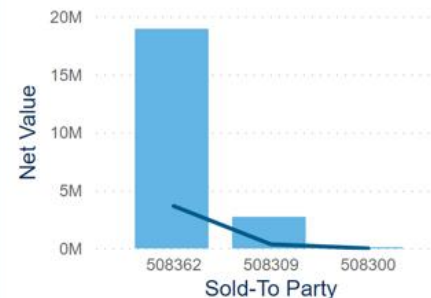
Tax Amount

18,413

in EUR

Customer Overview

Net Value Tax amount



Indirect tax impact analysis

- Use of wrong tax codes may result in non-compliance and the under- or overpayment of VAT.
- Tax authorities may impose penalties (plus interest) and deny the recovery of VAT.
- In this scenario, the Ship From and Ship To are both NL but no VAT has been applied on the transactions.
- It is recommended to review if these transactions have the incorrect VAT treatment or if e.g. the domestic reverse charge applies (only applicable in very specific cases).

Billing Document	Billing Date	Sold-To Party	Departure country	Destination country	Material	Commodity code	Net Value	Tax amount
9230090848	04/08/2023	508332	NL	NL	27106184	73261990	11,738	0
9230088179	28/06/2023	508332	NL	NL	27106184	73261990	9,612	0
9230089318	13/07/2023	508362	NL	NL	46074689	73102191	8,309	0
9230090401	13/07/2023	508362	NL	NL	46074689	73102191	8,309	0
9230085577	22/05/2023	508300	NL	NL	27106184	73261990	7,430	0
9230087476	19/06/2023	508300	NL	NL	27106184	73261990	7,425	0
9230092446	30/08/2023	508309	NL	NL	27106184	73261990	3,186	0
9230095526	10/10/2023	508309	NL	NL	27106184	73261990	3,186	0
9230083938	25/04/2023	508309	NL	NL	27106184	73261990	3,146	0
9230088281	29/06/2023	508309	NL	NL	27106184	73261990	3,146	0
9230083409	18/04/2023	508302	NL	NL	27106184	73261990	3,096	0
9230079442	22/02/2023	508302	NL	NL	27106184	73261990	2,897	0
9230076264	18/01/2023	508302	NL	NL	27106184	73261990	2,322	0
9230085592	22/05/2023	508302	NL	NL	27106184	73261990	2,322	0
9230090061	25/07/2023	508309	NL	NL	27106184	73261990	2,124	0
9230090354	28/07/2023	508309	NL	NL	27106184	73261990	2,124	0
9230094034	19/09/2023	508309	NL	NL	27106184	73261990	2,124	0
9230075012	02/01/2023	508309	NL	NL	27106184	73261990	2,097	0
9230090624	02/08/2023	508309	NL	NL	27106184	73261990	1,062	0
9230096038	18/10/2023	508309	NL	NL	27106184	73261990	680	0
9230075232	05/01/2023	508309	NL	NL	27106184	73261990	672	0
Total							87,682	0

Use Case 2

REVERSE CHARGE FOR VAT

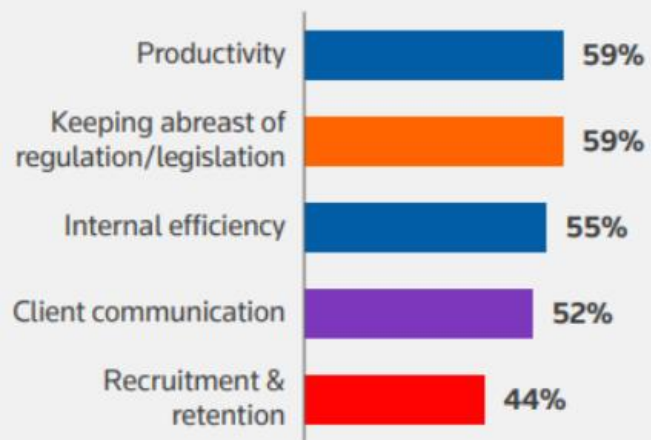
Reverse Charge Rules are **never static**

- Reverse charge is a key mechanism to counter VAT fraud and will be used more and more
- Besides the legal framework, individual countries will implement 'own' rules for the application of reverse charge
- Example: recent interpretation by Dutch Ministry of Finance:
 - Construction work is only subject to reverse charge if the activity includes 'actual' work on tangible goods
 - Supervision or any none physical labor does not qualify for reverse charge
 - AI may present the only feasible option to identify 'actual' work and apply the correct rule

Use Case 2

REVERSE CHARGE FOR VAT

Tax firm



Reverse Charge Rules are **never static**

- To ensure your analysis are always based on the current rules and guidelines you must consider using an AI Tracker that will continuously look for update, changes in legislation or new views because of case law
- There are several search engines that could provide a solid feed of updates and can 'translate' the new rules
- Tax Professionals are (this time) not at the forefront but must follow developments in Generative AI closely and find the technology that would deliver 'up-to-date' VAT rules
 - In the meantime: apply 'try and error' to find what works for you

Use Case 3

INTERCOMPANY POSTINGS

Intercompany transactions – Postings between group companies

- Multinationals typically record many intercompany transactions and have different methods to assign costs and/or income to G/L accounts
- Routine transactions are recorded via regular “system based” invoice processes
- Incidental transactions can be recorded via ‘specific’ methods:
 - manual invoices
 - journal entry postings only
 - direct attribution to P&L accounts
- Very often the timing incidental transactions can create complex differences between VAT recording and VAT reporting and need to be identified as early as possible

Use Case 3

INTERCOMPANY POSTINGS

Incidental Transactions – How to spot and correct the entry if needed?

- In every set up it is crucial to ensure ‘completeness’ of VAT relevant transactions postings
- With the proper logic and use of algorithms ‘missing taxable transactions’ can be identified
- Once identified the AI based logic can ‘propose’ the corrective posting to include the transaction in the VAT relevant buckets and include in the VAT return database
- If properly trained the AI solution will be able to immediately identify the VAT relevant transaction and initiate action to either avoid the incorrect posting or correct in time
- The definition of VAT-relevant postings is already a major challenge and will take on an even broader meaning in the near future

Preparing your data for AI analysis

- Understand upstream & downstream data flows
- Clean ERP transactional data for accuracy
- Compare data lakes vs. federated models
- Certification of people, process, & tech

VAT Data Governance & Risk Reduction

- ISO-certified processes for AI auditability
- Build trust in automated decisions
- Combine AI detection with human review

Closing remarks

- Any attempt to manage VAT compliance via automation requires human intervention and cannot be relied on in full
- Any automation set up should be aimed at **process design** that allows for:
 - Completeness
 - Correctness
 - Compliance
 - Audit trail
 - Timing
 - Accessibility
- AI is an add-on in any TCF not a replacement!
- AI enhances your overall Tax Strategy!
- VAT is not a stand-alone tax!

Thank you



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