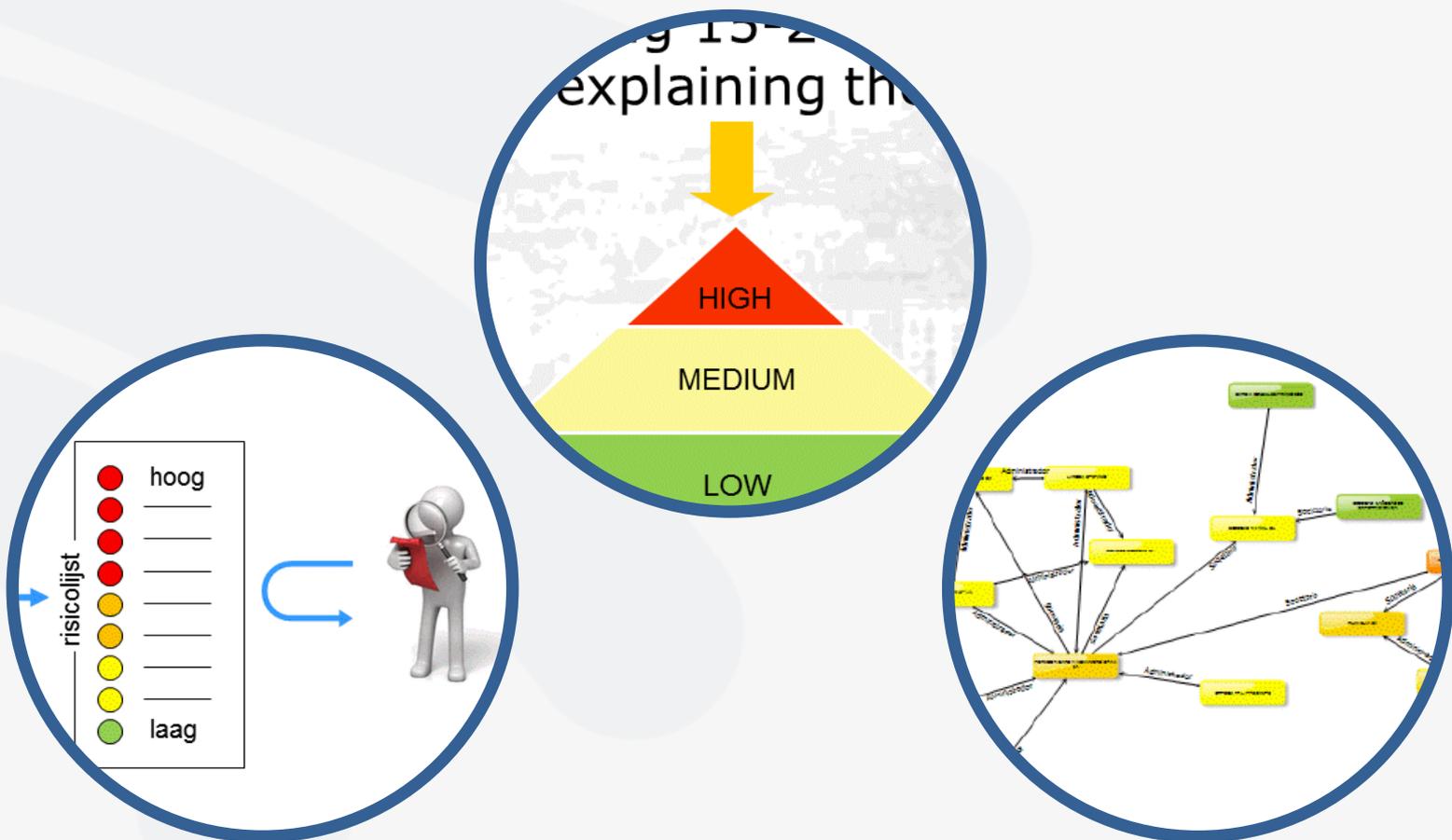


# Good Practice Guide News update



## **Shidrukh Khazen (NL)**

*Data & Analytics layer structure*

Data preparation is essential for business analysts to be able to successfully analyse the data. Poor data quality typically results in incorrect, incomplete and unreliable data mining results. In this presentation I will show you our so-called "data-layering" method for data preparation of the Data and Analytics department of the Netherlands Tax and Customs Administration. In this method the data is prepared in layers. In each layer we build on the previous layer and we give each layer a colour for functional purposes. In the first layer that we build, our "blue layer", we standardize, clean and validate the data. In this layer we also apply technical rules. In the next layer, our "purple layer", we build on the blue layer and enrich our data by creating business rules.



## **Thomas Lange Myhrvold-Hanssen (NO)**

*Tax Gap in Norway – a prospective project*

There is a large focus on the shadow/black economy in the tax administration, and strong interest in estimating the size of the black economy in Norway. We are now revisiting the possibilities to conduct a Tax Gap Analysis, and have been assessing different approaches, which include direct methods as the main method, based on random audits (similar in design and scope to the Compliance-audits in Denmark). If concluded, there is a potential for knowledge gains beyond the tax gap estimates, namely average compliance level in different segments measured against each other (systematic relative risk assessment), possibility to find new error types and new risk groups, i.e. improve risk based audit activities, how to target the tax administration's use of the different tools at disposal (e.g. guidance versus audits), and average compliance level in the population in general (not only for the high risk segment). The conclusion on whether to conduct the tax gap project will be taken during fall 2016.



### **Ádám Fajkusz (HU)**

*Analysis methods through unique risk analysis until the network analysis*

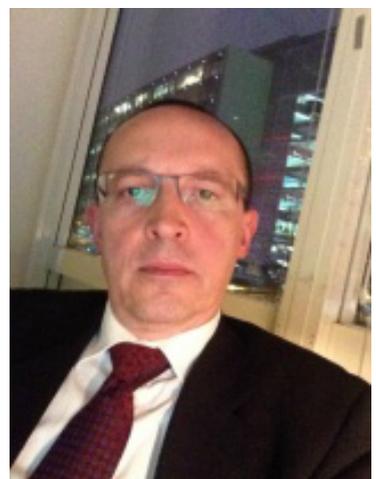
The organisations have accumulated a huge amount of data during the past decades. The increasingly more popular so-called „Big data” solutions offer a mathematical –statistical tool case for the effective exploitation of the available data. Predictive (forecaster) modelling is one of the most common used so-called data mining method, which is frequently used for the forecast of the drop-out for example at telephone companies, or for definition of the credit risks at banks for instance. The situation from a mathematical and economic viewpoint is very similar in the Inland Revenue offices. With the application of these tools we may unfold, that for example the examined element, in our case the taxpayer - based on his financial indices, and other features of his taxpayer path of life – is similar with the group of taxpayers concerned with a tax-avoiding or not. We may uncover the extent of similarity too.



### **David & Nadia (FR)**

*Linkurious*

We have met during the summer with one of the founders of Linkurious company. During this meeting the founders gave an interesting presentation about their interesting tool, with some technical explanation, and not only the result were demonstrated (social network analysis). We expect to have another meeting with them and with other organizations (tax, custom, social) to see if their tool could be used by our partners.



## **Roel Niessen (NL)**

*The Risk Matrix - experiencing the WOW-effect!*

"How do you catch the bad guys?" often is the most challenging question for tax administrations. In the Netherlands, we believe to have found an amazing way that really works. Most tax administrations traditionally use some strict business rules (if... then... else...) to detect risky tax payers among their tax payer population. The last decade, there is an enormous increase of advanced analytics and predictive modelling coming into business. 'Big data is the future' is a often heard phrase. But is this new method really so much better than the classical approach? Maybe a little, but the real improvement can be seen when you combine the two selection methods. On the GPG forum, I explain how the Netherlands is expecting a hit rate increase of almost 20 percentage points by this new approach. Come and join our discussion!



## **Jean-Luc Wichoud (CH)**

*A risk indicator for VAT audit selection*

The goal of this presentation is to show how it could be easy to take advantage of data analytics in order to identify risky taxpayers. The presentation on the forum tries to give an example of a risk indicator used as a component in a risk scoring system to select taxpayers at risk for VAT-audit. The example is quite simple to implement in R (open-source) and can be adjusted to your environment.



## IOTA Good Practice Guide project 'Applying Data and Analytics in the Tax Administration'

Since the beginning of 2016, IOTA is running the Good Practice Guide (GPG) Project. The GPG Project aims to share best practices within the field of applying data analytics for the member tax administrations and to actively appeal to both novice countries and advanced countries in data and analytics. After the IOTA GPG online survey was created and launched on the IOTA website, roughly 30 countries took the opportunity to submit their answers regarding this project. Many countries, both **novice and advanced countries** - in data and analytics, expressed their interest in being further involved in this project. This means to actively share experiences, developments and future possibilities of data and analytics in tax administrations. Using a 'two track approach' this project caters to **novice and advanced countries** in the field of **data and analytics**. Also, a Task Force has been formed and will support the Project Team for the valuable continuation of the project.

After the survey input was collected and presented in an appealing infographic, experts from around 15 countries started sharing information via the secured IOTA GPG online discussion forum and are continuing with this at the moment. The following themes were chosen by the participating countries based on their needs and input to further focus on the forum:

- 1) Income tax risk modelling;
- 2) VAT risk modelling;
- 3) Social network analysis;
- 4) Data management;
- 5) Tax gap analysis; and
- 6) Data visualisation.

Ideally, towards the final stage of the GPG Project a so-called lane of inspiration will be created for each of the themes and sub-themes, and some good practices will be presented in appealing formats, both for beginners and advanced level. Ultimately, the GPG Project will deliver an online e-book/infographic containing these lanes of inspiration (the good practice guide) which gives a visual overview of the steps the tax administrations have undertaken within data and analytics.

At the moment, more and more presentations, examples, questions and comments are added on the secured IOTA GPG online forum by the experts, to let this forum function as a digital platform where best practices and challenges will be shared. Subsequently, more material will be added and the amount of discussions will increase now the project is being linked with the IOTA Workshop “Analysis and Efficient Use of Big Data – a Challenge for Tax Administrations”. Just like the GPG Project, the workshop aims to share best practices within the field of applying data analytics for tax administrations. Therefore, it was decided that the workshop and the GPG Project should coincide and be led by the same project group.

After this workshop, delegates of tax administrations will have more knowledge about implementation of big data analysis and will be able to decide if it is needed and possible to use big data analysis in their tax administrations, or, if it is already used, decide how it could be improved based on experiences of other participating countries. Whenever new opportunities or challenges arise after the workshop, participants will be able and willing to directly contact their peers in other IOTA member countries, so that a continuous flow of sharing information will be maintained.

Are you curious and want to find out more about applying data analytics in tax administrations? Do you have examples, ideas or presentations you want to share or questions about starting with data analytics?

Then join now the GPG Project to share best data analytics practices and get involved in collaborating with international colleagues!

## **Workshop: Analysis and Efficient Use of Big Data**

IOTA will be organising a workshop on Analysis and Efficient Use of Big Data - a Challenge for Tax Administrations, which will take place in Utrecht (the Netherlands), starting at 9.00 on 19th of October and finishing at 12:30 on 21st of October 2016. Like the GPG Project, the workshop aims to share best practices within the field of applying data analytics for tax administrations. Make sure to register for this event on the IOTA website before 06/10/2016.

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