Dashboard Manual

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# Chapter 1 Preface

## 1.1 Description of the User

This User Role & Dashboard Functionality Manual outlines the overall functionality of the dashboard within Power Bi. It is intended to explain the functions of the dashboard and to provide guidance as you explore this easy-to-use application.

# Chapter 2 Description of the dashboard

## 2.1 Goal of the Dashboard

The goal of the dashboard is to explore one specific role within the theme of digitalisation and help the municipality of Oosterhout improve their business processes using data. One of the key responsibilities of the municipality of Oosterhout (henceforth the client) is youth care. While Dutch children are among the happiest and healthiest in the world, there are still many children that need extra support and care. To ensure a youth care system that is more efficient, coherent, and cost-effective, the client has chosen to digitalize their existing youth care process. The client has approached me – the data analyst – with the aim to discover more efficient (in cost and time) ways of delivering youth care. The dashboard contains a research question, and the dashboard pages contain the data which I received to answer the research question.

This dashboard is going to research the money that is left over. The money that is left over is calculated through measures in DAX.



You can see that we are calling two different tables.

## 2.1 Selection & Bookmarks panes

The selection pane allows you to see all the visuals on your screen and set their visibility. You can hide visuals and unhide visuals. You can use the selection pane widely. Eventually, you can assign visuals, text or a shape to bookmarks what makes it easy to get a good dashboard. I will show beneath a few pictures with explanations:

Graphical user interface, application

Description automatically generatedGraphical user interface, application

Description automatically generated

* The bookmark ‘close’ closes the menu objects.

Graphical user interface, application

Description automatically generatedGraphical user interface, application

Description automatically generated

* The bookmark ‘open’ opens the menu objects.
* The bookmark ‘Open ToewijzingBedrag’ opens the page ToewijzingBedrag.
* The bookmark ‘Open NotaRegelBedrag’ opens the page NotaRegelBedrag.
* The bookmark ‘Open Money Left’ opens the page Money Left.
* The bookmark ‘Open ML’ opens the page ML.

Graphical user interface, text, application

Description automatically generatedGraphical user interface, text, application

Description automatically generated

* The bookmark ‘KeyInfluencersHidden’ hides the top predictors of the page ML

Graphical user interface, text

Description automatically generated Graphical user interface, text, application

Description automatically generated

* The bookmark ‘KeyInfluencersShown’ shows the top predictors of the page ML

Graphical user interface, text, application

Description automatically generated Graphical user interface, text, application

Description automatically generated

* The bookmark ‘Hide Text’ hides the text on the page ML

Graphical user interface

Description automatically generated with medium confidence Graphical user interface, text, application

Description automatically generated

* The bookmark ‘Show Text’ shows the text on the page ML

## 2.2 Conventions Used in Dashboard

The following style conventions are used in the dashboard:

* Segoe UI Bold is used for subheads, graph titles, and the introduction title.
* DIN is used for page titles, graph titles, and button text.
* Segoe UI is used for subtext, x-as titles and y-as titles.

## 2.3 Colours

I used three types of colours. They are the colours of the Oosterhout website:

* Blue = #007BFF
* Lighter blue = #118DFF
* Darker orange = #F25713
* Orange = #FD7E14
* White = #FFFFFF

I used those colours in graphs, the layout of my pages, buttons and text. As you can see below:

Graphical user interface

Description automatically generated

# Chapter 3 Process/Workflow

## 3.1 Reporting

This step is about data transformation, data modelling & visualization.

### Preparing

The first thing that I needed to do, was loading the .pbix file into Power Bi to use it in Power Bi. The file DatamodeljeugdTESTDATA contains the client’s youth care dataset. It was made accessible for us.

After I loaded the data, I wanted to create a layout based on the Oosterhout website:

A picture containing graphical user interface

Description automatically generated

As you can see, the colours are blue, orange, and white. Graphical user interface

Description automatically generatedThis was my first layout:

You can see that I am still new to Power Bi and trying to make visualizations based on the data, but I did not really know what I wanted research. So, the third step was creating a research question. It took me some time, but I wanted to research how much money is left after clients or caregivers receive ToewijzingBedrag (allotment amount).

### Data transformation

In order to calculate it, I needed to subtract NotaRegelBedrag (invoice amount) from allotment amount. I created a measure for this subtraction:



I also wanted to find out if men would receive more allotment amount than Women. I created a measure for it to use it on the money left over page:



After I knew what I wanted, I wanted to visualize my data. But first I wanted to create a better lay-out:

Treemap chart

Description automatically generated with medium confidence

I decided to create a more business-like layout because this project is meant for business.

### Visualization

I decided I wanted three pages of research, one page for Machine Learning and a front page. I am going to present each visualization and explain the filters and the visualization itself.

On every page there is a button that will go back to previous page:

Icon

Description automatically generated

On every page there are gender buttons for selecting the gender when you want to select men or woman. The category contains the gender. When selecting a gender, all the visuals will change to the values based on that gender.

Icon

Description automatically generated

#### Allotment amount page

There is one filter on this page. That would be the data of the allotment amount:

Graphical user interface, text, application

Description automatically generated

The year buttons are for selecting the years you want to know the allotment amount of. The category contains the date of allotment amount. When selecting a certain year, all the visuals will change to the values based on that year.

Graphical user interface, text, application, chat or text message

Description automatically generated

The card is displaying the current allotment amount of all the years.

Text

Description automatically generated

This card is a specific card and requires a premium licence: Card with States by OKVIZ. It contains the count of clientkey from table DM FCT\_Toewijzing, and the category label contains the gender type.

Text

Description automatically generated with medium confidence

This would be a pie chart where the legend contains the date of allotment amount and the values contain the allotment amount.

Chart, pie chart

Description automatically generated

The axis of the clustered bar chart contains product category and the years of the allotment amount. The legend contains the gender type, and the values contains the count of clientkey from table DM FCT\_Toewijzing. The tooltip contains the allotment amount.

A picture containing graphical user interface

Description automatically generated

The axis of the clustered column chart contains product category and the years of the allotment amount. The legend contains the gender type, and the values contains the count of clientkey from table DM FCT\_Toewijzing. The tooltip contains the allotment amount. There is one specific filter on the column chart, namely the top 5 of product category.

Chart

Description automatically generated

The axis of the clustered column chart contains product category and the years of the allotment amount. The legend contains the gender type, and the values contains the count of clientkey from table DM FCT\_Toewijzing. The tooltip contains the allotment amount. There is one specific filters on the column chart, namely the bottom 5 of product category.

A picture containing chart

Description automatically generated

The row of the matrix contains product category, and the columns contains the gender, and the values contain the allotment amount.

A picture containing graphical user interface

Description automatically generated

#### NotaRegelBedrag page

There is one filter on this page. That would be the data of the invoice amount:

Graphical user interface, text, application

Description automatically generated

The year buttons are for selecting the years you want to know the invoice amount of. The category contains the date of invoice amount. When selecting a certain year, all the visuals will change to the values based on that year.

A black screen with white text

Description automatically generated with low confidence

The card is displaying the current invoice amount of all the years.

A picture containing graphical user interface

Description automatically generated

This card is a specific card and requires a premium licence: Card with States by OKVIZ. It contains the count of clientkey from table DM FCT\_Nota, and the category label contains the gender type.

A picture containing text

Description automatically generated

This would be a pie chart where the legend contains the date of invoice amount, and the values contain the invoice amount.

Chart, pie chart

Description automatically generated

The axis of the clustered bar chart contains product category and the years of the invoice amount. The legend contains the gender type, and the values contains the count of clientkey from table DM FCT\_Nota. The tooltip contains the invoice amount.

Graphical user interface

Description automatically generated with medium confidence

The axis of the clustered column chart contains product category and the years of the allotment amount. The legend contains the gender type, and the values contains the count of clientkey from table DM FCT\_Nota. The tooltip contains the invoice amount. There is one specific filters on the column chart, namely the top 5 of product category.

A picture containing application

Description automatically generated

The axis of the clustered column chart contains product category and the years of the invoice amount. The legend contains the gender type, and the values contains the count of clientkey from table DM FCT\_Nota. The tooltip contains the invoice amount. There is one specific filter on the column chart, namely the bottom 5 of product category.

Chart, bar chart

Description automatically generated

The row of the matrix contains product category, and the columns contains the gender, and the values contain the invoice amount.

A picture containing table

Description automatically generated

#### Moneyleft page

Graphical user interface, text, application

Description automatically generatedThere are two filters on this page. That would be the date of the invoice amount and the date of the allotment amount:

Graphical user interface, text, application

Description automatically generated

This card is a specific card and requires a premium licence: Card with States by OKVIZ. It contains the count of clientkey measure (shown above by data transformation), and the category label contains the gender type.

Text

Description automatically generated

This card is a specific card and requires a premium licence: Card with States by OKVIZ. It contains the money left over measure (shown above by data transformation).

A picture containing text

Description automatically generated

The axis of the area chart contains the years of the invoice amount. The values contain the invoice amount.

Chart

Description automatically generated

The axis of the area chart contains the years of the allotment amount. The values contain the allotment amount.

A picture containing chart

Description automatically generated

The axis of the line chart contains the years of the allotment amount. The legend contains the gender type, and the values contains the invoice amount.

Chart, line chart

Description automatically generated

This would be a donut chart where the legend contains the date of allotment amount, the details contain the gender type, and the values contain the allotment amount. When you select men on the gender buttons, you will get an donut chart for men, and when you select woman on the gender buttons, you will get an donut chart for women.

Chart, sunburst chart

Description automatically generated

#### Machine learning page

This card contains the model performance value.

Text

Description automatically generated with medium confidence

This is a button that is assigned to a bookmark. Click on it to see the top predictors.

A black background with white text

Description automatically generated with low confidence

You will see this as a result. The axis of the stacked bar chart contains the feature names, and the values contains the average of the feature importance. Click on one predictor to see their breakdown. The axis of the clustered column chart contains the feature values, and the values contains the average of target. The tooltip contains PredictorSelected which is also a filter. The graph displays when PredictorSelected is 1.

Bar chart

Description automatically generated with low confidence

This is a button. When you click on it, it goes back to the main page of ML.

Icon

Description automatically generated

This is a button. When you click on it, it shows the explanations of the graphs.

Icon

Description automatically generated

The x-axis of the scatter chart contains actual (bins) and the y-as contains the average of Residual Error. The size contains the count of actual.

A screenshot of a computer

Description automatically generated with medium confidence

The x-axis of this scatter chart contains the predicted values and the y-axis contains the actual values of money. This scatter chart also contains symmetry shading and a trend line.

A screenshot of a computer

Description automatically generated with medium confidence

## 3.4 Final Model

I will show the final dashboard with pictures beneath:

Chart

Description automatically generated

Graphical user interface

Description automatically generated

Graphical user interface

Description automatically generated

A screenshot of a computer

Description automatically generated with low confidence

A screenshot of a computer

Description automatically generated with medium confidence