# INTRODUCTION TO TABLEAU

## Continuous

* Green fields are continuous fields, treated as an infinite range.
* Examples are the number of reviews per month, room price, or the longitude of the location.

## Discrete

* Blue fields are discrete, or categorical fields, which means they have individually separate and distinct values.
* Examples include room type, neighbourhood, and the ID number of the listing.

## Dimensions

* The position of the fields in the data pane indicate whether fields are treated as dimensions or measures.
* Dimensions, positioned at the top, contain qualitative values, such as names or dates.

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| **DIMENSIONS** | **MEASURES** |
| Group and segment data (average price per room type) | Can be aggregated |
| Categorical or qualitative data | Numerical data that can be aggregated |
| Blue - Top | Green - Bottom |
| Qualitative, usually **discrete** | Quantitative, usually **continuous** |
| Rows |  |
| Segment by placing dimensions in rows |  |
|  |  |
| **DISCRETE DIMENSIONS** | **DISCRETE MEASURES** |
| Common (blue) | Not common (blue) |
| Finite number of values | Finite number of values |
| Can’t be aggregated (eye colour, sex date) | Can be aggregated (shoe size, age) |
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| **CONTINOUS DIMENSIONS** | **CONTINOUS MEASURES** |
| Not common (green) | Common (green) |
| Infinite number of values | Infinite number of values |
| Can’t be aggregated (date) | Can be aggregated (height, weight) |
|  |  |
| **DIMENSION FILTERS** | **MEASURES FILTER** |
| Blue | Green |
| Y Axis | X Axis |
| Rows | Columns |
|  |  |
| **DISCRETE (BINS) TIME ANALYSIS** | **CONTINOUS (TIME SERIES) TIME ANALYSIS** |
| Trends by hour, day of week, month etc. | Presenting data over time in the sequence it historically occurred |
| Presents dates discretely | Presents date continuously |
| Can be aggregated over time (years) | Organised chronologically (Line Chart or Bar chart) |

**Note**

* **CTRL + 1 for Show Me**
* **Marks Cards – Edit type – Separate for each measure**
  + **Text**
  + **Colour - Edit borders, colours, etc**
  + **Size – Edit size**
  + **Tooltip**
* **X Y Labels | Marks cards | Filters | Special DO NOT MATCH ALWAYS AUTOMATICALLY**
* **Adding to Marks Cards adds to Row or Column**
* **Drag to Filter Card or Filter Directly (gets added to Filter card)**
* **Change between Measure, Dimension, Discrete, Continuous**
* **Show Filter on Filter Shelf**
* **Use Top, Bottom, Non-Null – Check Aggregation**
* **Measure Names | Measure Values ARE AUTOMATICALLY GENERATED ALL FIELDS ABOVE**
* **Filter Measure Names | Measure Values TO ADD MORE FILEDS (INCLUDING CALCULATED)**
* **Edit X Y Axes**
* **Group data**
* **Fields in Marks Cards can be used as conditions for Filters – BUT CHECK**
* **Can Drag directly to View**
* **Analytics pane – Custom | Model = Lines – Drag to View -SELECT CORRECT OPTION**
* **Right Click element – Remove**
* **Order of Filters Extract | Data source | Context | Dimension | Measure**
* **Check Default Properties**
* **Quick Table Calculations - Triangle**

**AGGREGATION**

* Default aggregation for Measures is SUM
* Can only aggregate Dimensions with MIN, MAX, COUNT and COUNT DISTINCT
* Aggregating a Dimension creates a temporary Measure
* All Dimension aggregations can be applied to Measures but not vice-versa

**CALCULATED FIELDS**

* Create new Field - Measure or Dimension
* Analysis Tab – Create Calculated Field
* Use Functions
* Enter name of Field and add Formula
* Can be edited in dropdown
* Right click Measure and Choose Calculated Field

**GEOGRAPHICAL DATA**

* Filled Map | Symbol map
* Geocoding – Globe icon
* Drag Country (globe icon) to View
  + Automatically creates map and geo data
  + Automatically adds Country to Marks Cards
* Edit Map layers in Map tab

**DATE DATA**

* Calendar Icon
* Date hierarchy
* Top is Dimension – Discrete – Blue
* Bottom is Measure – Continuous – Green
* DATEDIFF
* DATEPART

**REFERENCE LINES, TREND LINES, FORECASTING**

* Reference line drawn on a chart representing another measure or point of reference E.g. AVG
* Reference line – Analytics pane - Custom
* Trend line - used to predict the continuation of a certain trend
* Trend line – Analytics pane - Model
* Forecasting - predicting the future value of a measure using mathematical models
* Forecasting – needs a time dimension and a measure
* Forecast – Analytics pane – Model

**VIZUALIZATIONS FOR EXPLORATORY ANALYSIS IN TRENDS**

**VISUALLY APPEALING**

* Informative titles
* Colours and large fonts
* Legends
* Adjust axes and titles
* Create tooltips
* Van format at both Workbook and Sheet level

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| --- | --- |
| **WORKBOOK** | **SHEET** |
| .twbx | Similar to Excel tab |
| Organise, save share and publish | Displayed along workbook bottom |
| Multiple sheets | 1. Worksheet |
| Similar to whole Excel file | 1. Dashboard |
|  | 1. Story |

* Dual Axes – Drag to top and right | Right click and choose Dual Axes
* Right Click on Y Axis – Choose Synchronise Axes
* Hide axes
* Centre title
* Edit Axes names
* Add colours to dimension

**DASHBOARDS AND STORIES**

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| **DASHBOARD** | **STORY** |
| **Worksheet can be placed in a Dashboard** | **Dashboard can be placed in a Story** |
| Collection of several views | Dashboards can be bookmarked to create stories |
| Easy to compare data | Sequence of visualizations to tell a narrative |
| Uncovers key insights | Each individual visualization is called a Story Point |
| Automatically connected to worksheets | 1. Dashboard |
| Drill down and do advanced | 1. Story |
| Views can be connected – 1 view is interactive filter |  |

* Drag different Worksheets to Dashboards overlay
* Can move | float legend and filters
* Use visualisations | dashboards as interactive filters
* **Add Filter - Click visualisation | dashboard – Analysis toolbar – Filters**
* Drag different Dashboards to Story

**DATA PREPARATION**

* **When a numeric value is brought into Tableau, it's placed by default in the Measures section**
* **Move numeric fields that shouldn’t be aggregated to the Dimensions section**
* **Check Default Properties – Number Format - Custom**
* **Fit Width**
* **Edit Alias**
* **Add Highlighter - Analysis tab**
* **Show Filter – Customize – Show Apply Button**
* **Create Calculated Field – Drop Down Carat at top of Data Pane**