Working with Dates and Time in Power BI

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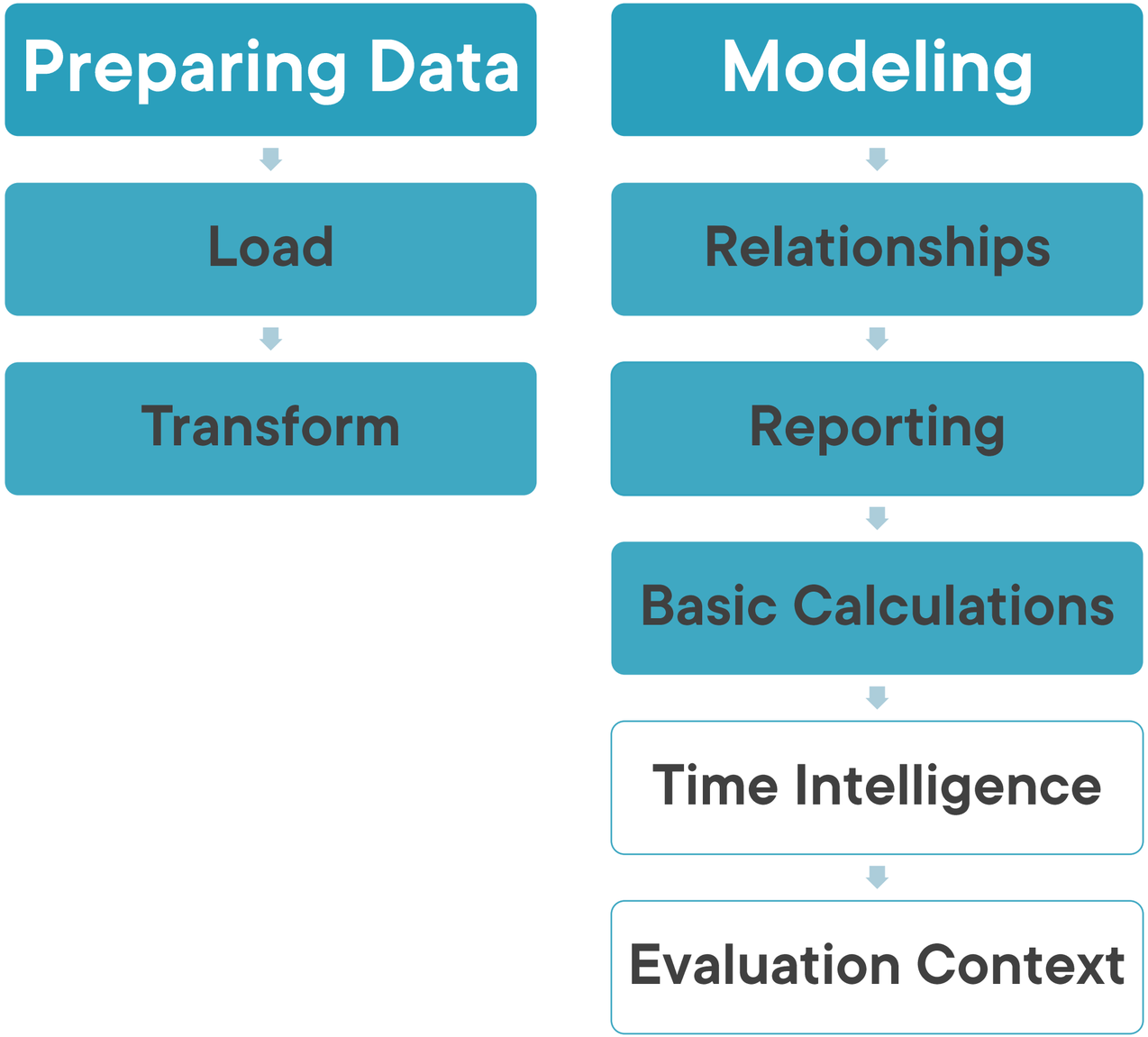

Preparing Data
Load
Transform
Modeling
Relationships
Reporting
Basic Calculations
Time Intelligence
Evaluation Context

Overview

- Creating a calculated date table
- Using DAX date and time functions
- Applying time intelligence

Creating a Calculated Date Table

Date
1/1/11
1/2/11
1/3/11
1/4/11
1/5/11

```
Date =
  CALENDARAUTO()
```

Year
2011
2011
2011
2011
2011

```
Year =
  YEAR([Date])
```

MonthYear
Jan 2011
Jan 2011
Jan 2011
Jan 2011
Jan 2011

```
MonthYear =
  FORMAT([Date],"MMM")
  & " " & [Year]
```

Demo

Add a calculated date table to the model

Demo

Add USERELATIONSHIP() to the Total Budget expression

```
=DATE([Year],
  [Month Number],
  [Day Number Of Month])
```

- Numeric to datetime data type conversion by year, month, and day

```
=DATEVALUE(“1/1/2011”)
```

- Text to datetime data type conversion by string value “MM/DD/YYYY”

```
=TIME([Hour],
   [Minute],
   [Second])
```

- Numeric to datetime data type conversion by hour, minute, and second

```
=TIMEVALUE(“12:00:00”)
```

- Text to datetime data type conversion by string value “HH:MM:SS”

```
=DAY([Date])

=MONTH([Date])

=YEAR([Date])

=WEEKDAY([Date], 2)

=WEEKNUM([Date], 2)
```

- **Datepart extraction from datetime**

```
=HOUR([StartTime])

=MINUTE([StartTime])

=SECOND([StartTime])
```

- **Timepart extraction from datetime**

```
=TODAY()
=UTCTODAY()

=NOW()
=UTCNOW()


=EDATE([StartDate], 3)
=EOMONTH([StartDate],3)


=YEARFRAC([StartDate],
[EndDate])



=DATEDIFF([StartDate],
  [EndDate], YEAR)
```

- **Current date**
- **Current time**
- **Relative date calculations**
- **Partial year calculation**
- **Date interval (SECOND, MINUTE, HOUR, DAY, WEEK, MONTH, QUARTER, and YEAR)**

Demo

Add Year and Month calculated columns to the Date table

Demo

Create a date hierarchy containing Year, MonthYear, and Date

Applying Time Intelligence

Cumulative values

Relative date sets

Relative dates

End of period values

Balance forward from prior period

Demo

Create the Revenue YTD measure

Demo

Create the Revenue Last Year measure

Demo

Create the Balance Forward Revenue measure

Date table

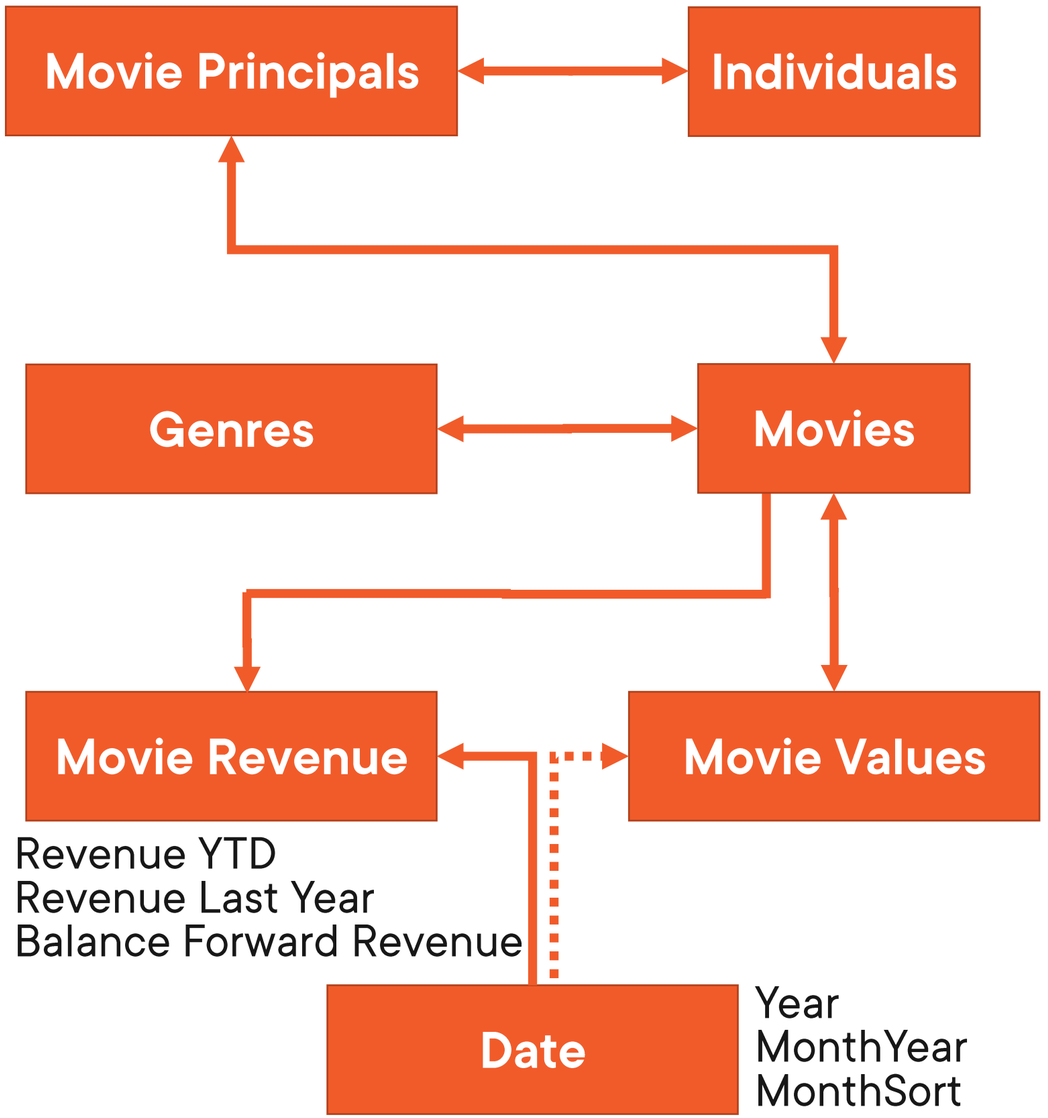
Date measures

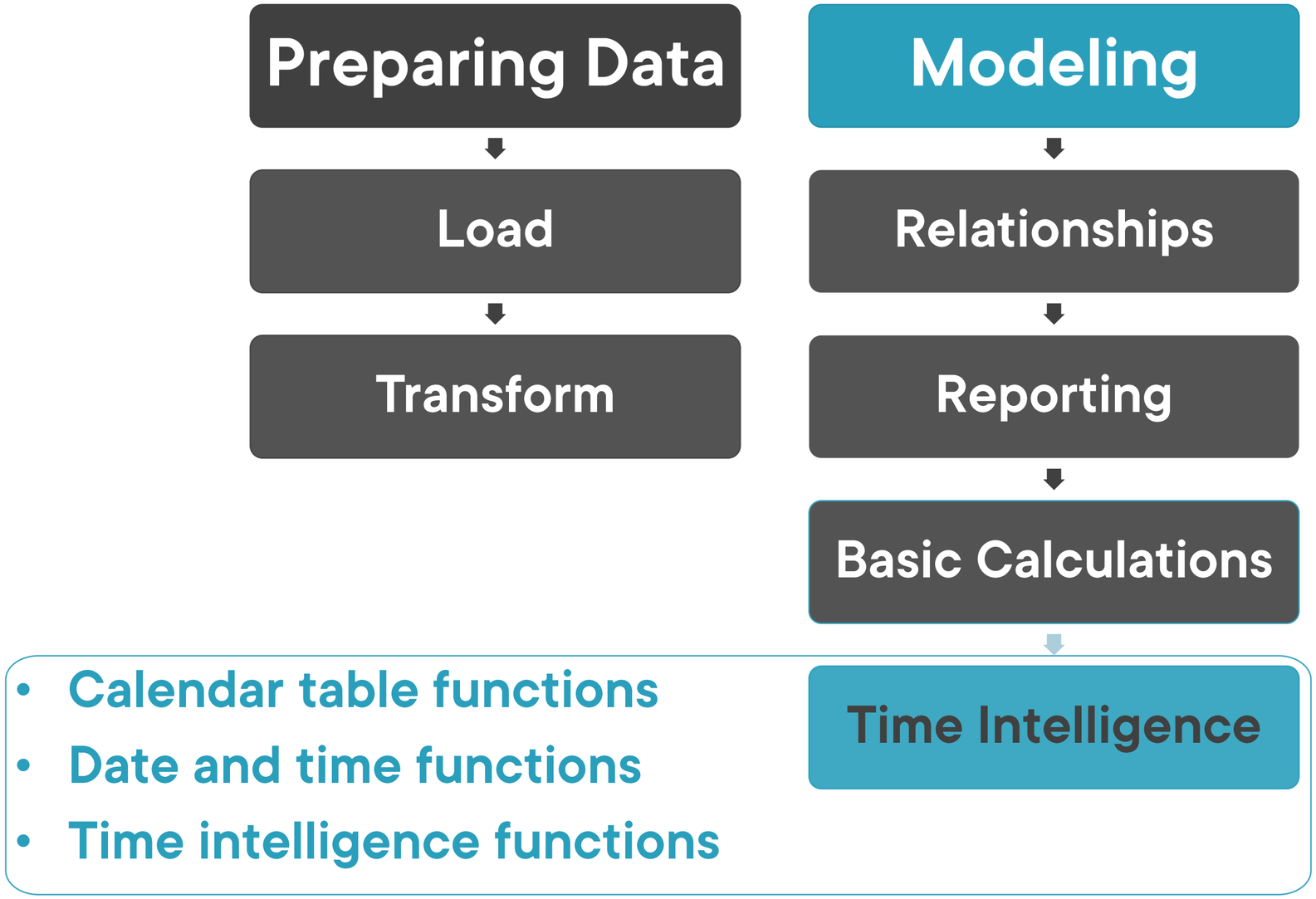
But...

Cost Per Minute

% of Total Revenue

Fine-tuning calculations

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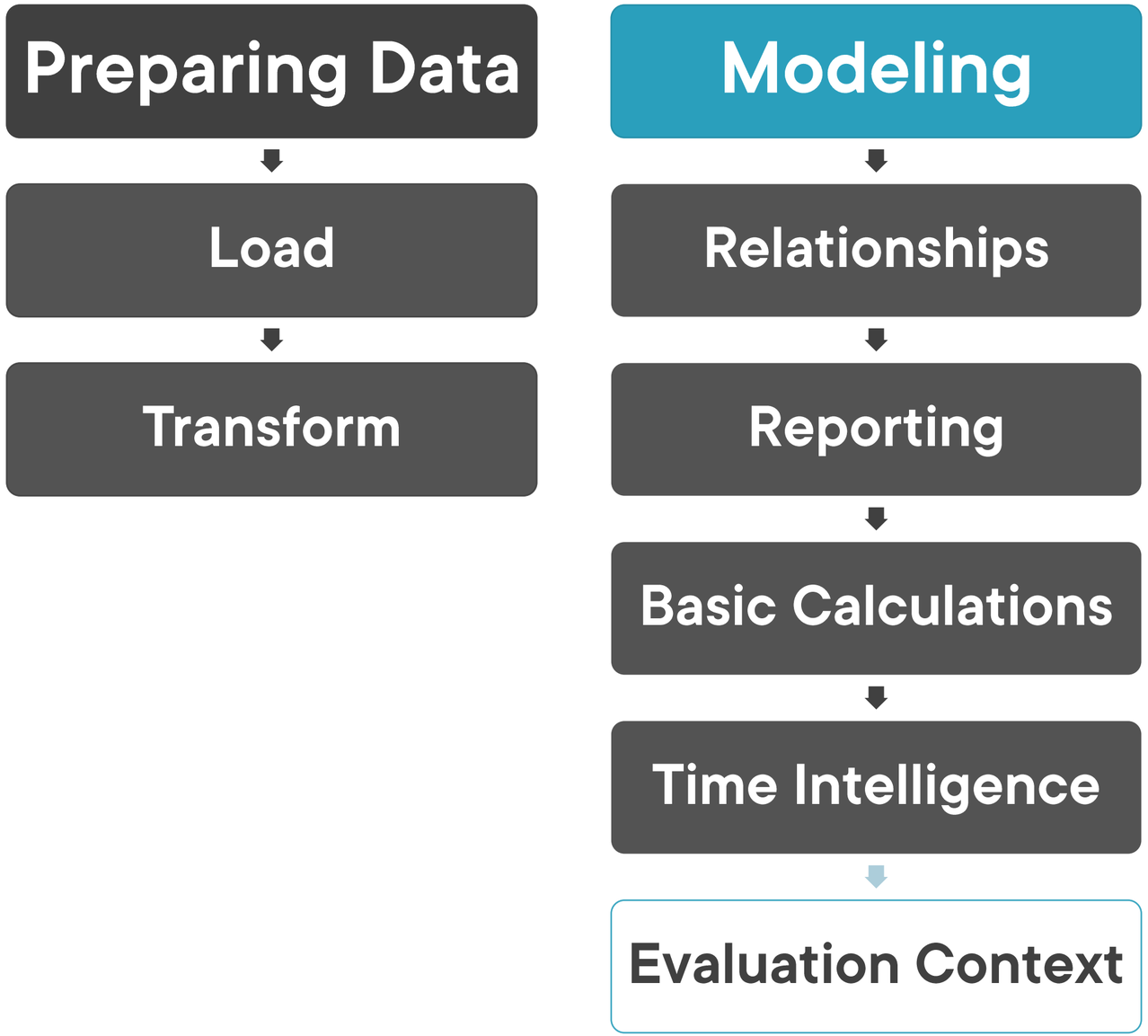
• Calendar table functions
• Date and time functions
• Time intelligence functions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