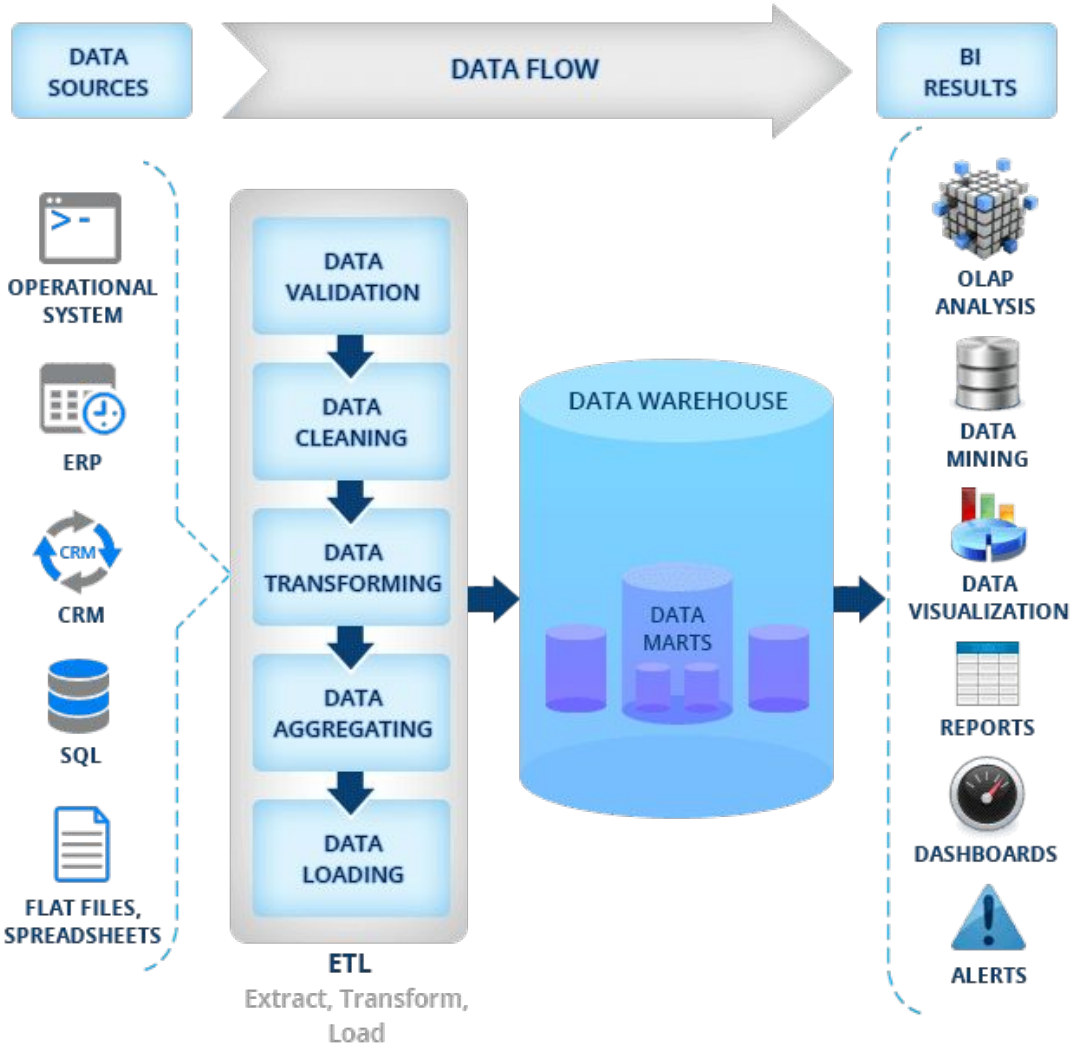
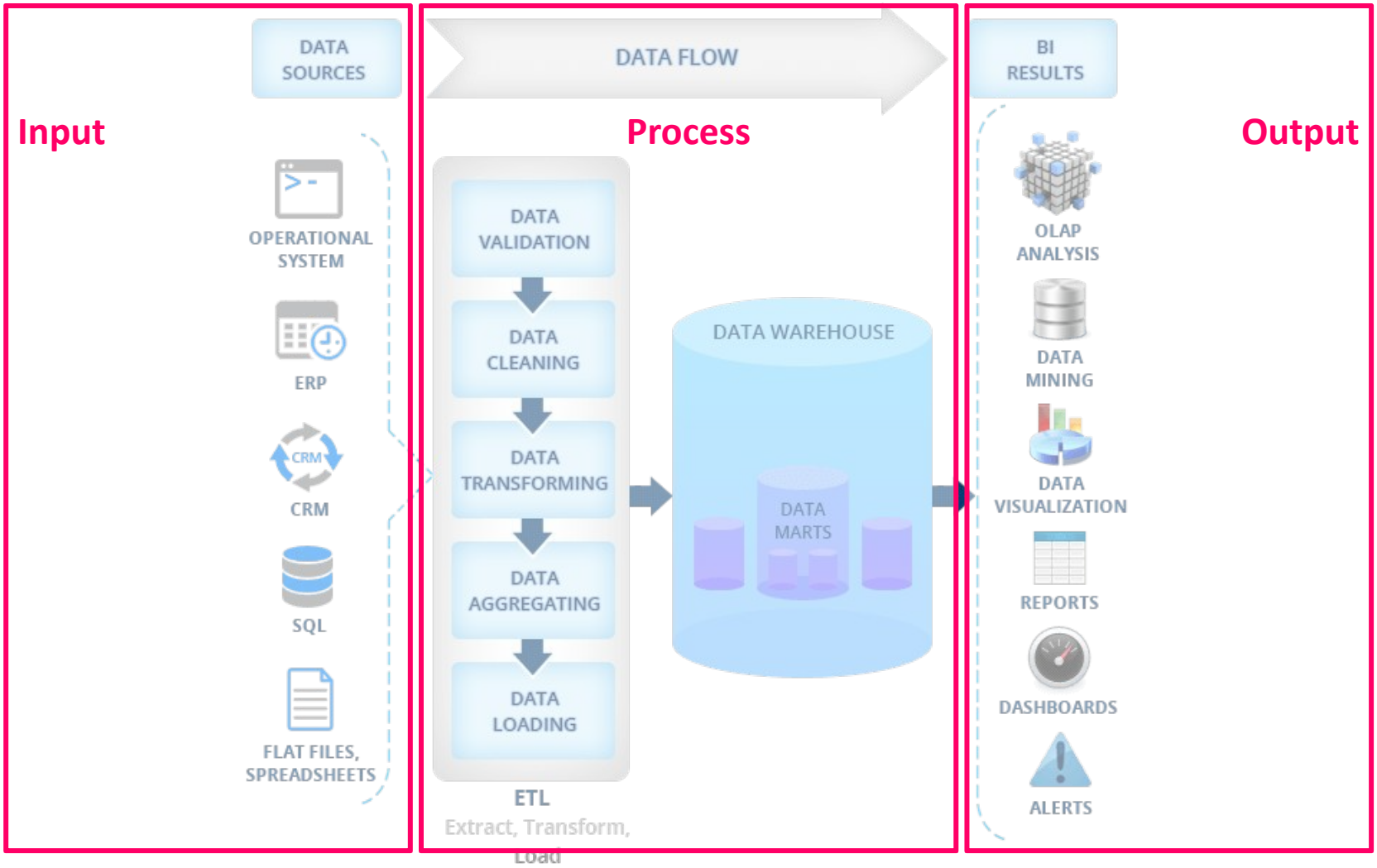
Power BI

Download Slide:
https://bit.ly/3jgGZIV

Beginner Advanced


DATA SOURCES
DATA FLOW
BI RESULTS
OPERATIONAL SYSTEM
ERP
CRM
CRM
SQL
FLAT FILES, SPREADSHEETS
DATA VALIDATION
DATA CLEANING
DATA TRANSFORMING
DATA AGGREGATING
DATA LOADING
ETL
Extract, Transform, Load
DATA WAREHOUSE
DATA MARTS
OLAP ANALYSIS
DATA MINING
DATA VISUALIZATION
REPORTS
DASHBOARDS
ALERTS


Input
DATA SOURCES
OPERATIONAL SYSTEM
ERP
CRM
CRM
SQL
FLAT FILES, SPREADSHEETS
Process
DATA FLOW
DATA VALIDATION
DATA CLEANING
DATA TRANSFORMING
DATA AGGREGATING
DATA LOADING
ETL
Extract, Transform, Load
DATA WAREHOUSE
DATA MARTS
Output
BI RESULTS
OLAP ANALYSIS
DATA MINING
DATA VISUALIZATION
REPORTS
DASHBOARDS
ALERTS

A new generation of BI

3rd wave
End user BI

Analytics, Action, Automation

Everyone

2nd wave
Self-service BI

Why did it happen?

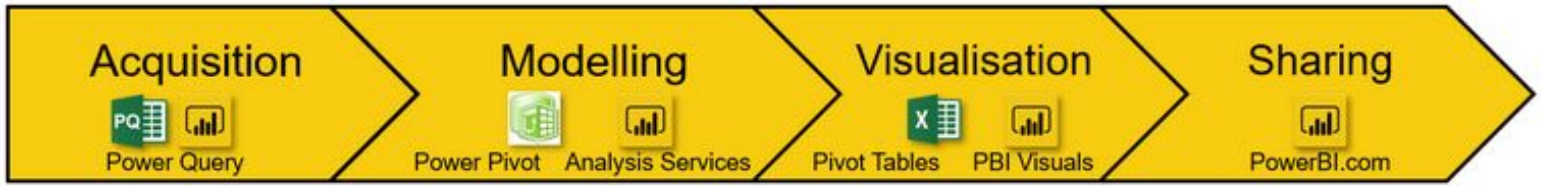
Analyst to end user

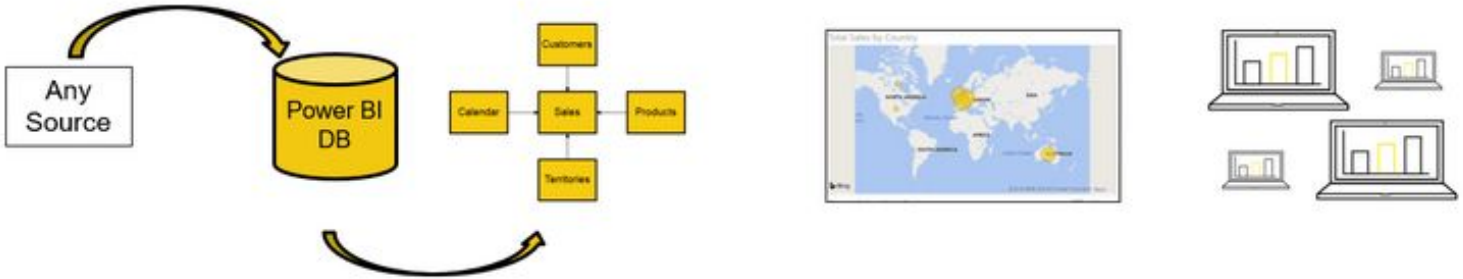
1st wave
Technical BI

What happened report?

IT to end user

Step of Power BI

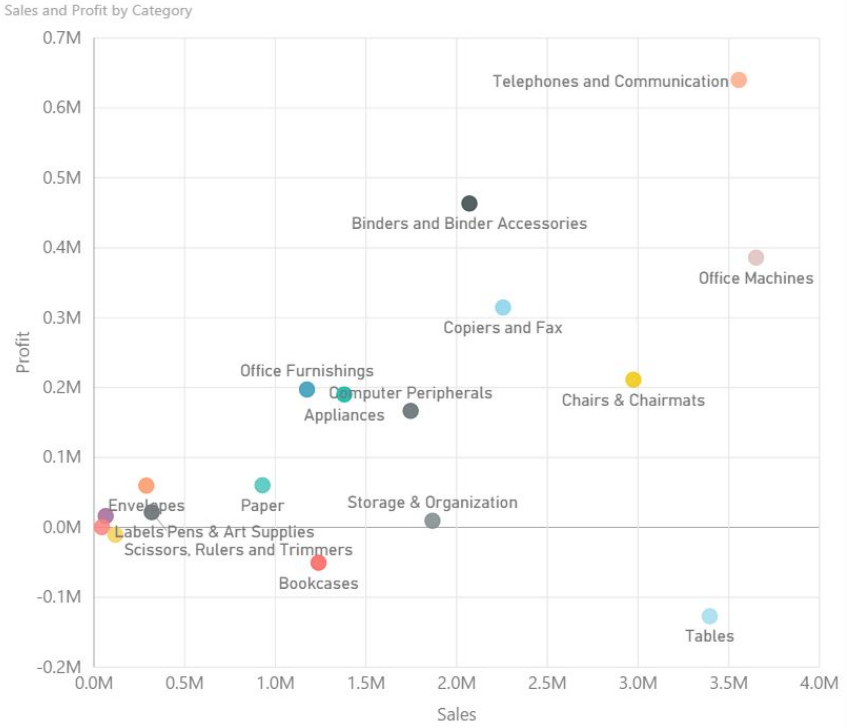




REF: Excelerator BI

Why visualization?

Category	Sales	Profit
Appliances	1,380,025.62	190,138.91
Binders and Binder Accessories	2,069,940.09	463,321.64
Bookcases	1,238,471.60	-50,614.13
Chairs & Chairmats	2,974,242.23	211,188.01
Computer Peripherals	1,746,036.45	166,603.07
Copiers and Fax	2,255,437.19	314,610.14
Envelopes	288,668.60	59,707.80
Labels	64,716.32	16,211.12
Office Furnishings	1,174,637.73	197,218.55
Office Machines	3,650,587.36	385,906.40
Paper	928,997.06	60,214.44
Pens & Art Supplies	318,489.07	21,680.74
Rubber Bands	43,513.44	322.49
Scissors, Rulers and Trimmers	117,802.18	-10,590.34
Storage & Organization	1,866,441.74	9,420.00
Tables	3,395,153.29	-127,160.04
Telephones and Communication	3,555,295.50	640,058.07



Data Types

Quantitative - Anything that has exact numbers or measurement.

For example, Effort in points: 0, 1, 2, 3, 5, 8, 13.
Duration in days: 1, 4, 666.

Qualitative / Ordered - Anything that can be compared and ordered.

User Story Priority: Must Have, Great, Good, Not Sure.
Days: Mon, Tue, Wed, Thu, Fri, Sat, Sun.

Categorical - Everything else.

Entity types: Bugs, Stories, Features, Test Cases.
Fruits: Apples, Oranges, Plums.

Dimension & Measurement

Dimension

Measurement

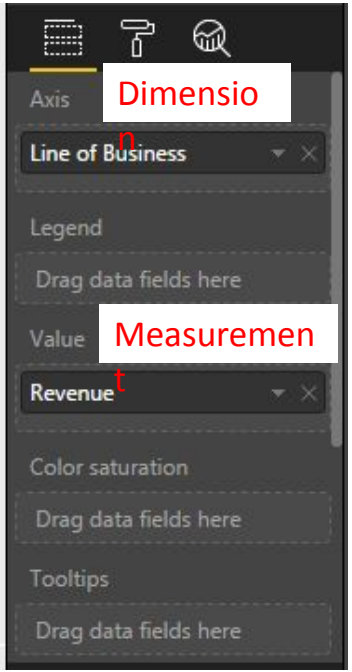
Fact Row
Fact Row
Fact Row
.
.
.

Category	Sales	Profit
Appliances	1,380,025.62	190,138.91
Binders and Binder Accessories	2,069,940.09	463,321.64
Bookcases	1,238,471.60	-50,614.13
Chairs & Chairmats	2,974,242.23	211,188.01
Computer Peripherals	1,746,036.45	166,603.07
Copiers and Fax	2,255,437.19	314,610.14
Envelopes	288,668.60	59,707.80
Labels	64,716.32	16,211.12
Office Furnishings	1,174,637.73	197,218.55
Office Machines	3,650,587.36	385,906.40
Paper	928,997.06	60,214.44
Pens & Art Supplies	318,489.07	21,680.74
Rubber Bands	43,513.44	322.49
Scissors, Rulers and Trimmers	117,802.18	-10,590.34
Storage & Organization	1,866,441.74	9,420.00
Tables	3,395,153.29	-127,160.04
Telephones and Communication	3,555,295.50	640,058.07

Dimension & Measurement

Dimension Measurement

Line of Business	Revenue
Corporate and Institutions	29585.76
Corporate and Institutions	22971.12
Corporate and Institutions	24268.48
Retail Banking	20327.71
Retail Banking	24139.15
Corporate and Institutions	20755.84
Corporate and Institutions	19159.61
Corporate and Institutions	17784.39
Retail Banking	21316.97
Corporate and Institutions	20848.67
Corporate and Institutions	19111.28
Corporate and Institutions	20455.65
Corporate and Institutions	17306.88
Corporate and Institutions	16356.98
Corporate and Institutions	16999.75
Corporate and Institutions	17390.55
Corporate and Institutions	17904.86



Measurement

Acquisition

- Data Source
- Power Query
- Data types & Category
- Data Extracting (Split, Extract, Merge, Join, etc.)
- Data Transformation (Transpose, Pivot, etc.)
- Data Cleansing (Remove dup, filter, replace, etc.)
- Data Summarization (Grouping, count rows)
- Column Calculation (Custom, conditional column)

DAX

- Calculate column
- Calculate measure
- Syntax & Operator
- Aggregate function
- Counting function
- Logical function (If, Switch)
- Text function
- Date time function
- Calendar
- Filter function

Visualization

- Dashboard Design
- Types of Visualization
- Data Hierarchy (Drill down, up)
- Condition Formatting
- Advance filtering (Top-N)
- Slicer
- Advanced Analytics (trendline, forecast)
- Drill through
- Visual Interaction

Data Model

- Data Model / Schema
- Table Relationship
- Database Normalization

Sharing

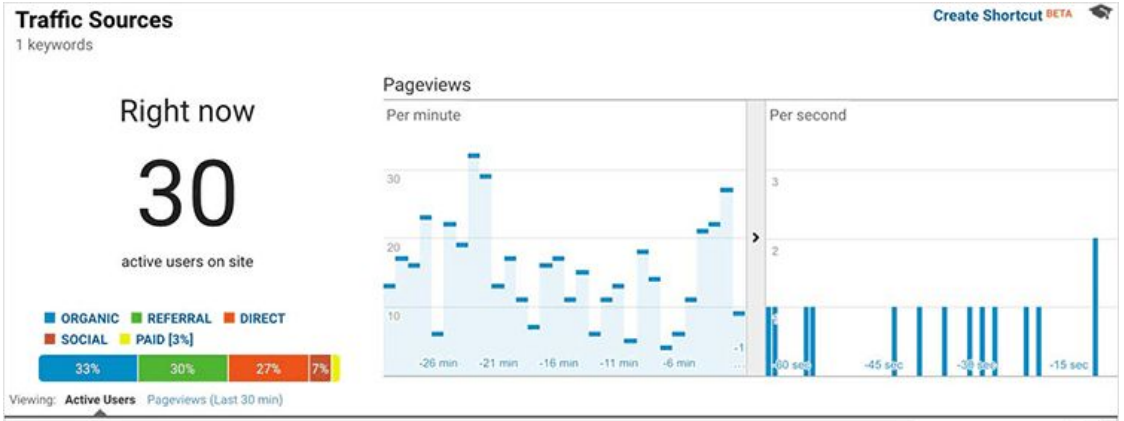
- Publish
- Role Management
- Power BI Services
- Schedule Refresh
- Mobile view

Dashboard Design

REF: UXPlanet.org

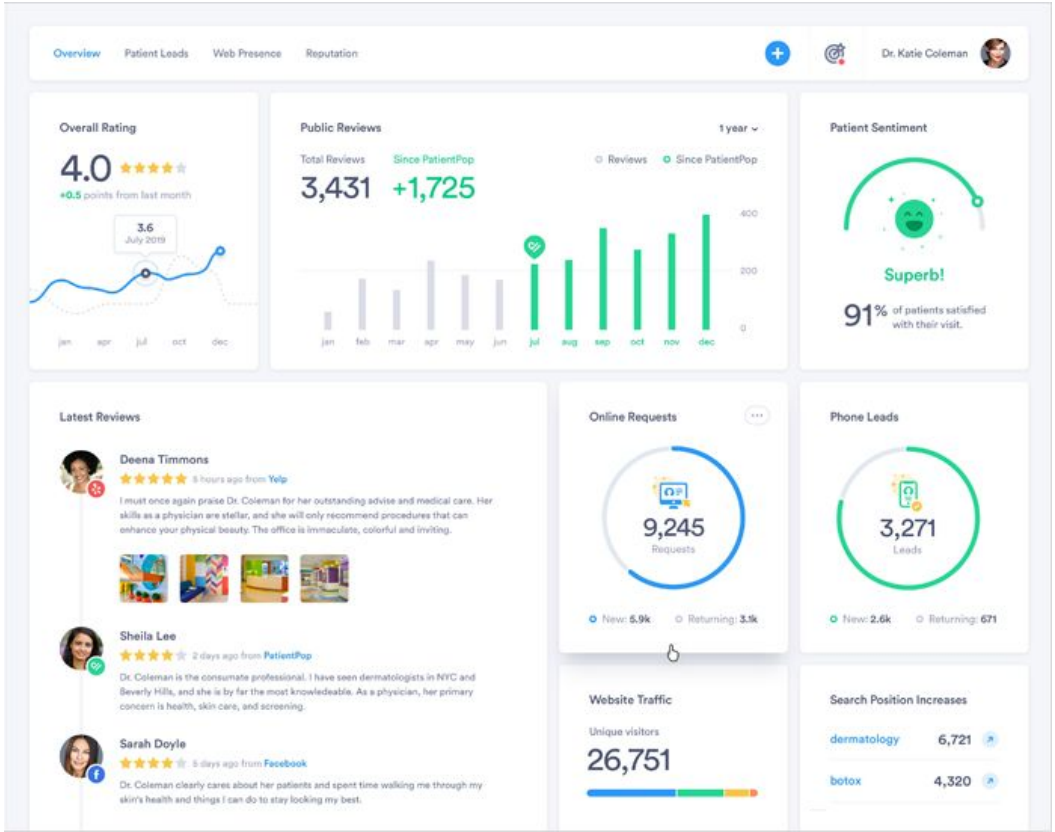
1. Define the purpose

Operational Dashboard



	Medium	Source	Active Users	
1.	Organic	google	10	33.33%
2.	(none)	(direct)	8	26.67%
3.	Referral	mall.googleplex.com	6	20.00%
4.	Referral	sites.google.com	2	6.67%
5.	Social	YouTube	2	6.67%
6.	Referral	analytics.google.com	1	3.33%
7.	cpc	google	1	3.33%

Analytics Dashboard



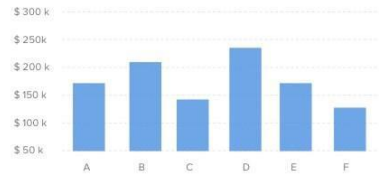
2. Chose the right visual

Compare

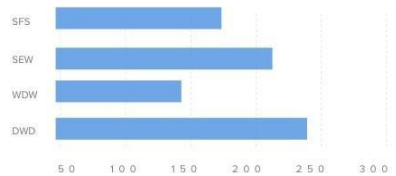
Static

Over Time

Column chart

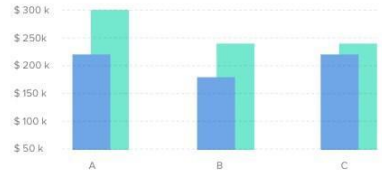


Bar chart

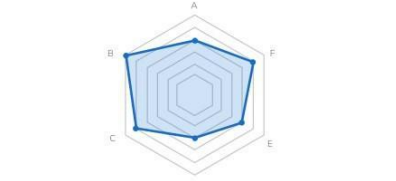


Line chart

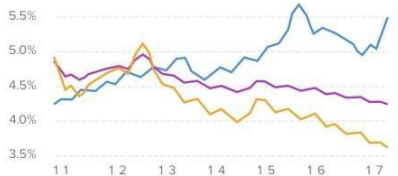
Column overlap chart



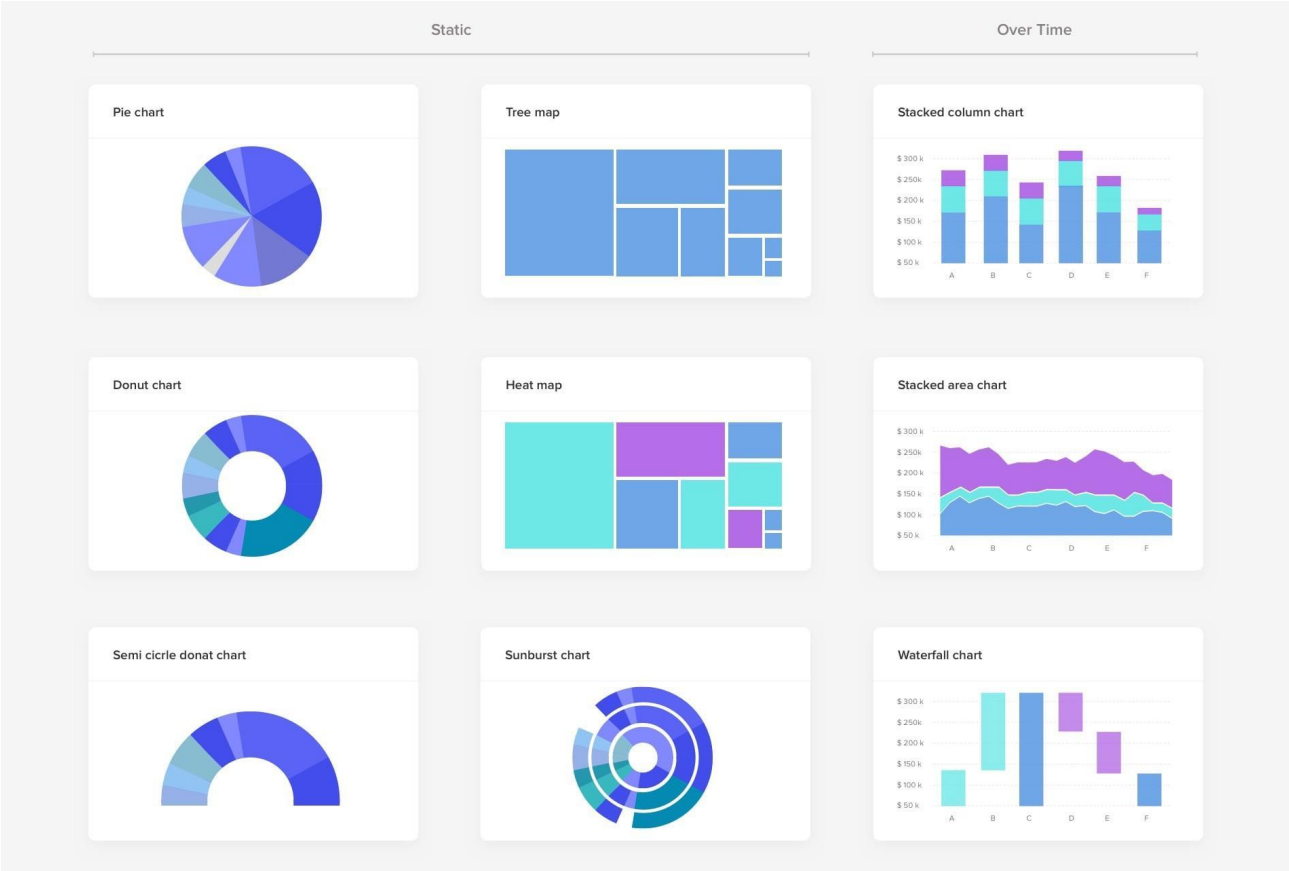
Circular area chart



Line chart (several items)



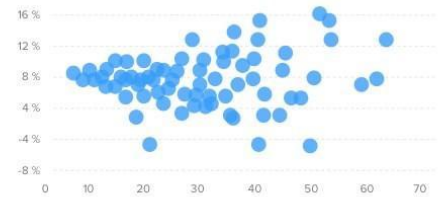
See parts of the whole



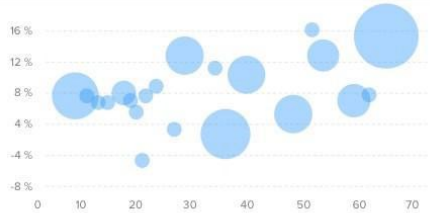
See relationship

Static

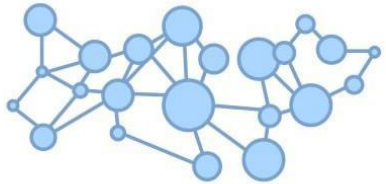
Scatter chart



Bubble chart



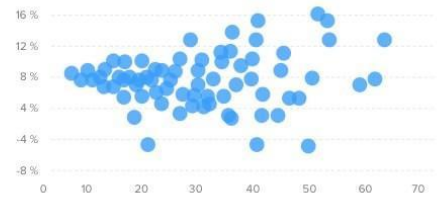
Network Diagram



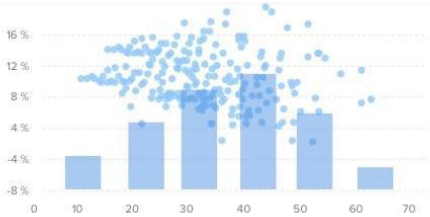
Distribution

Static

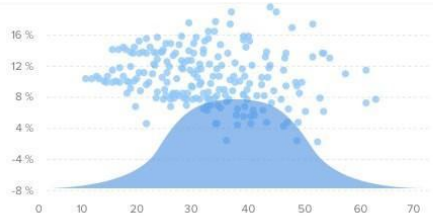
Scatter chart



Histogram chart

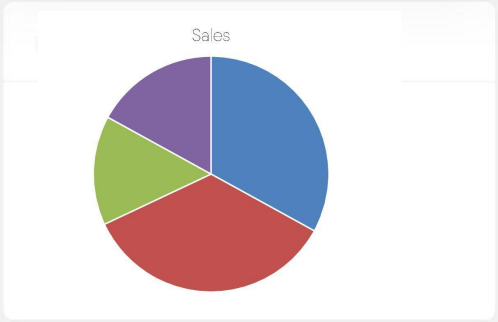


Bell curve

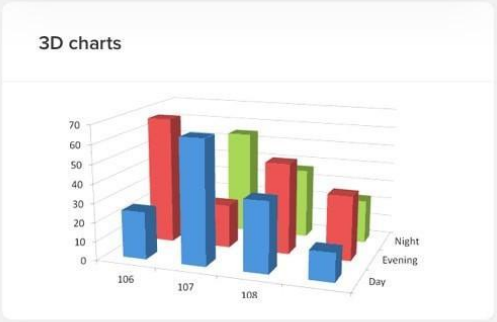


Don’t

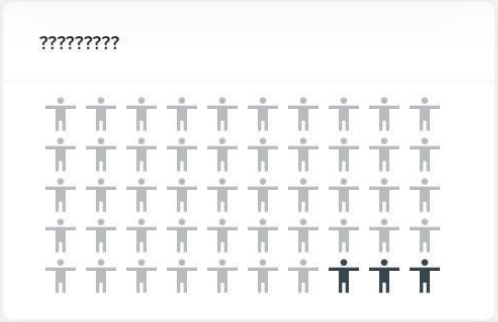
Don’t



Don’t



Don’t



Relationship

Static

- Scatter chart
- Bubble chart
- Network Diagram

Comparison

Static

- Column chart
- Bar chart
- Column overlap chart
- Circular area chart

Over Time

- Line chart

Composition

Static

- Pie/Donut chart
- Tree map
- Heat map
- Sunburst chart

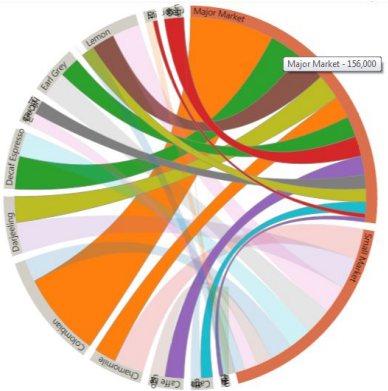
Over Time

- Stacked column chart
- Stacked area chart
- Waterfall chart

Distribution

Static

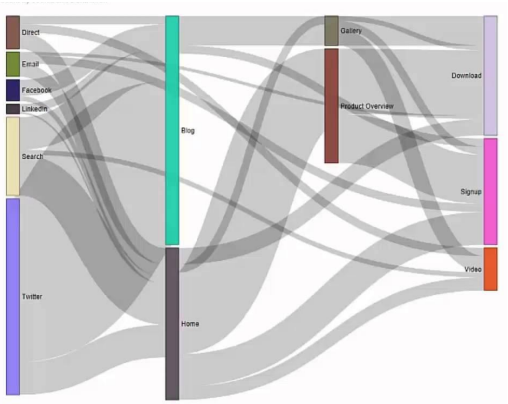
- Scatter chart
- Histogram chart
- Bell curve

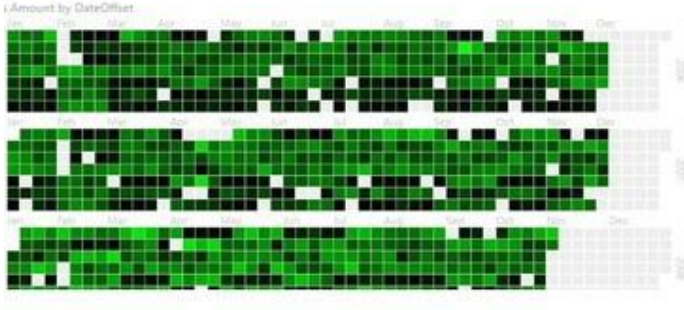

Major Market
Major Market - 156,000
Lemon
Earl Grey
Decaf Espresso
Darjeeling
Chamomile
Caffè Latte
Caffè Mocha

Sales Amount
Margin
12
1
2
3
4
5
6
7
8
9
10
11

Sports
Saloon
SUV
Diesel

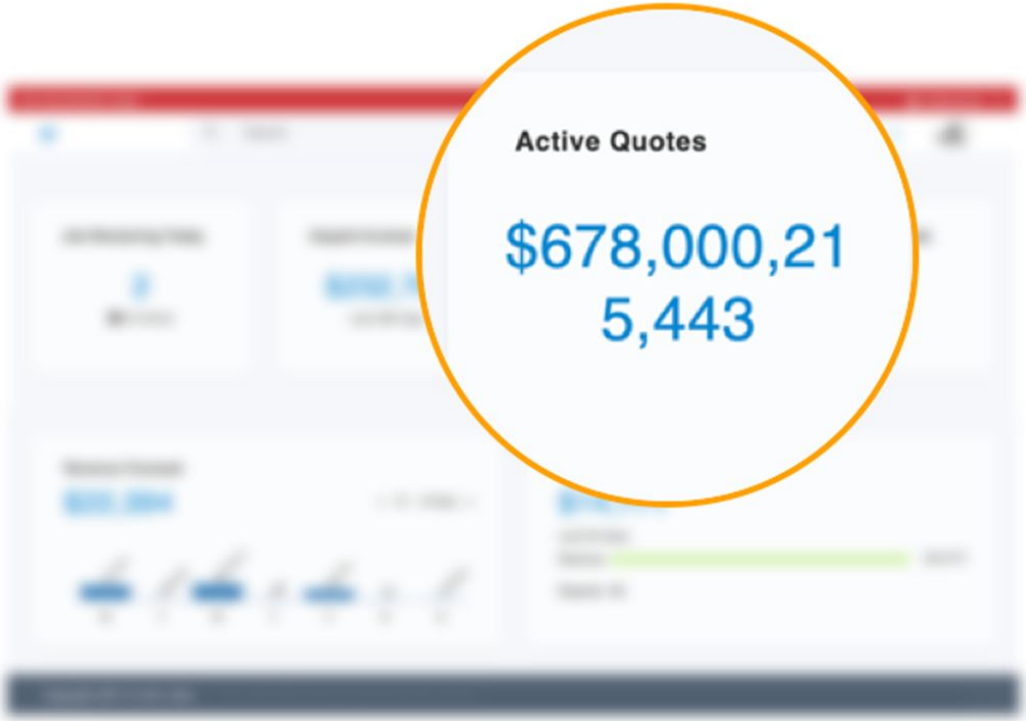
Sales Amount
0.5bn
0.52bn
0.54bn
0.56bn
0.58bn
Margin
0M
10M
20M
30M
40M


Direct
Email
Facebook
LinkedIn
Search
Twitter
Blog
Home
Gallery
Product Overview
Download
Signup
Video


Amount by DateOffset

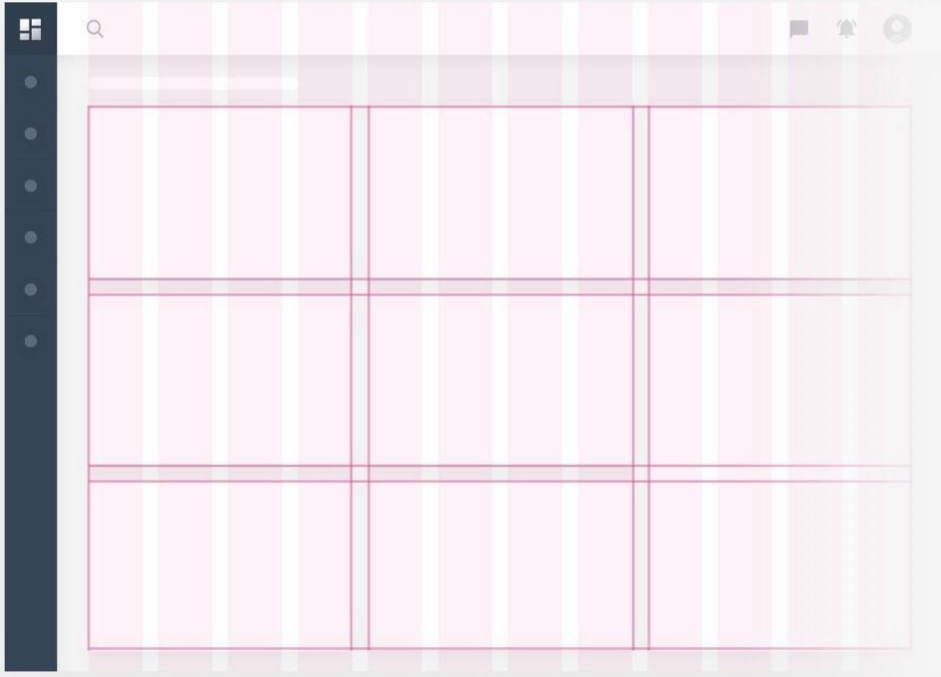
Value by Product
SELECT MAP
SELECT AREA

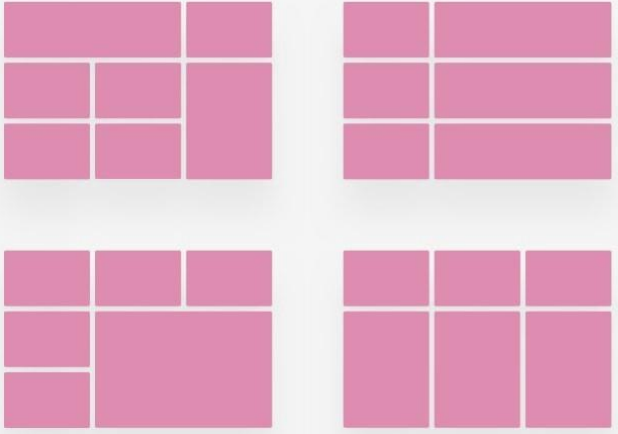
3. Clear and consistent naming conversions, data formatting, truncate large values.


Active Quotes
$678,000,21
5,443

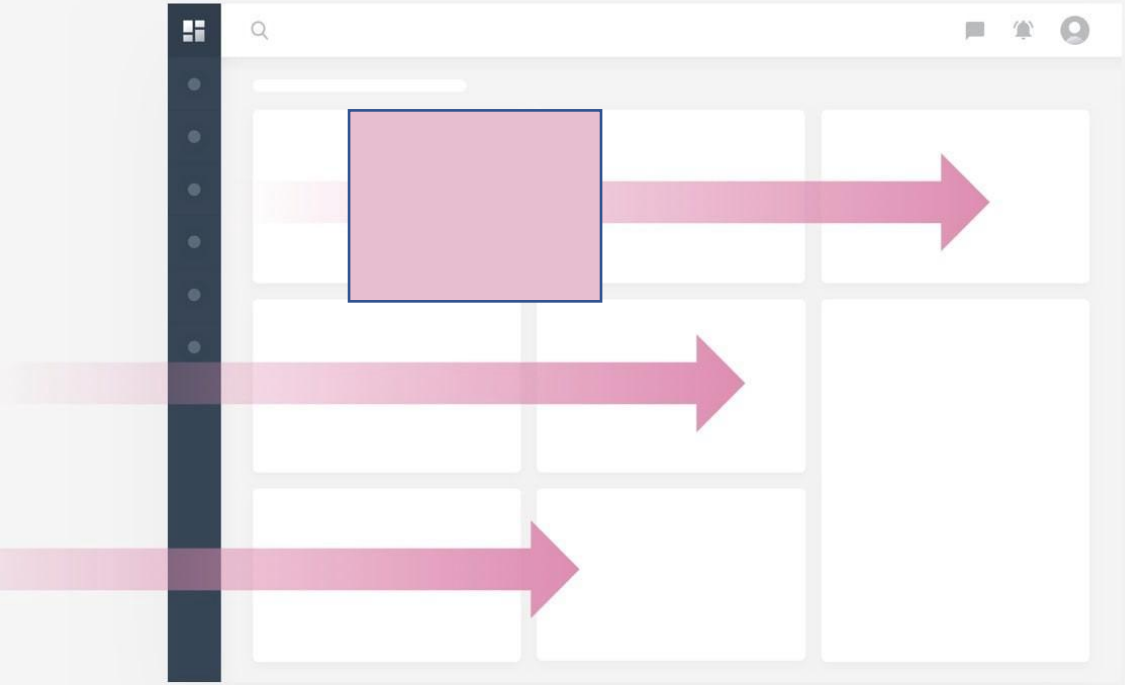
4. Define the layout and flow, prioritize.

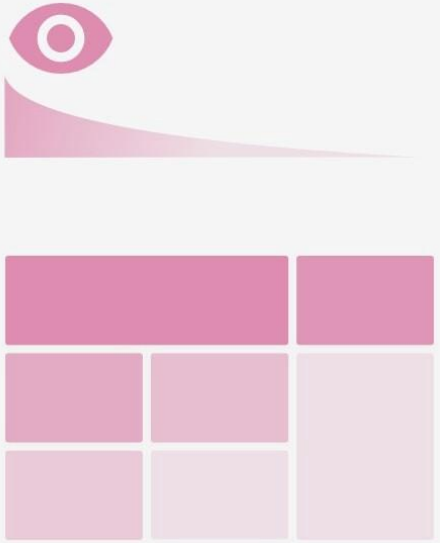
Follow layout





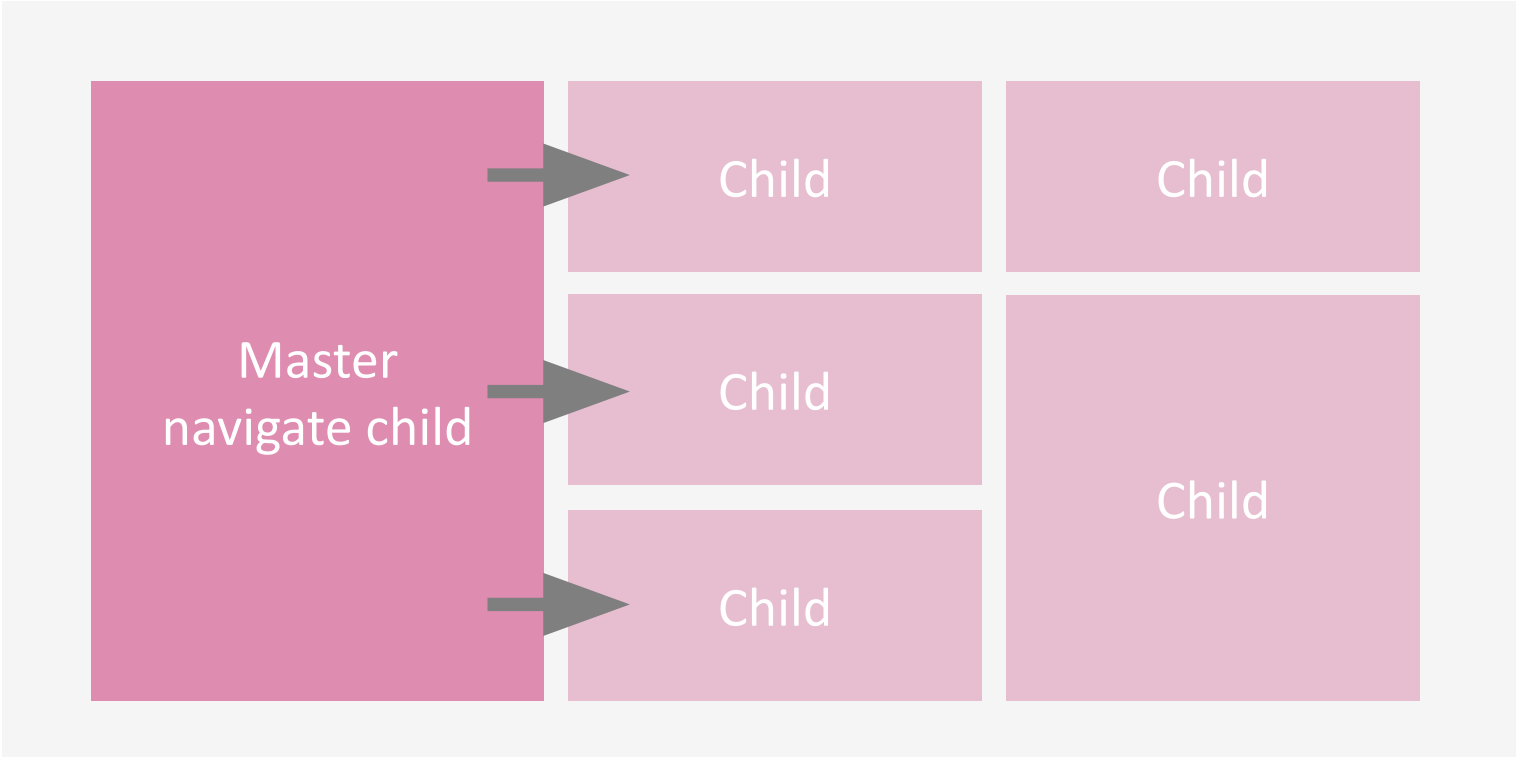
Eye movement



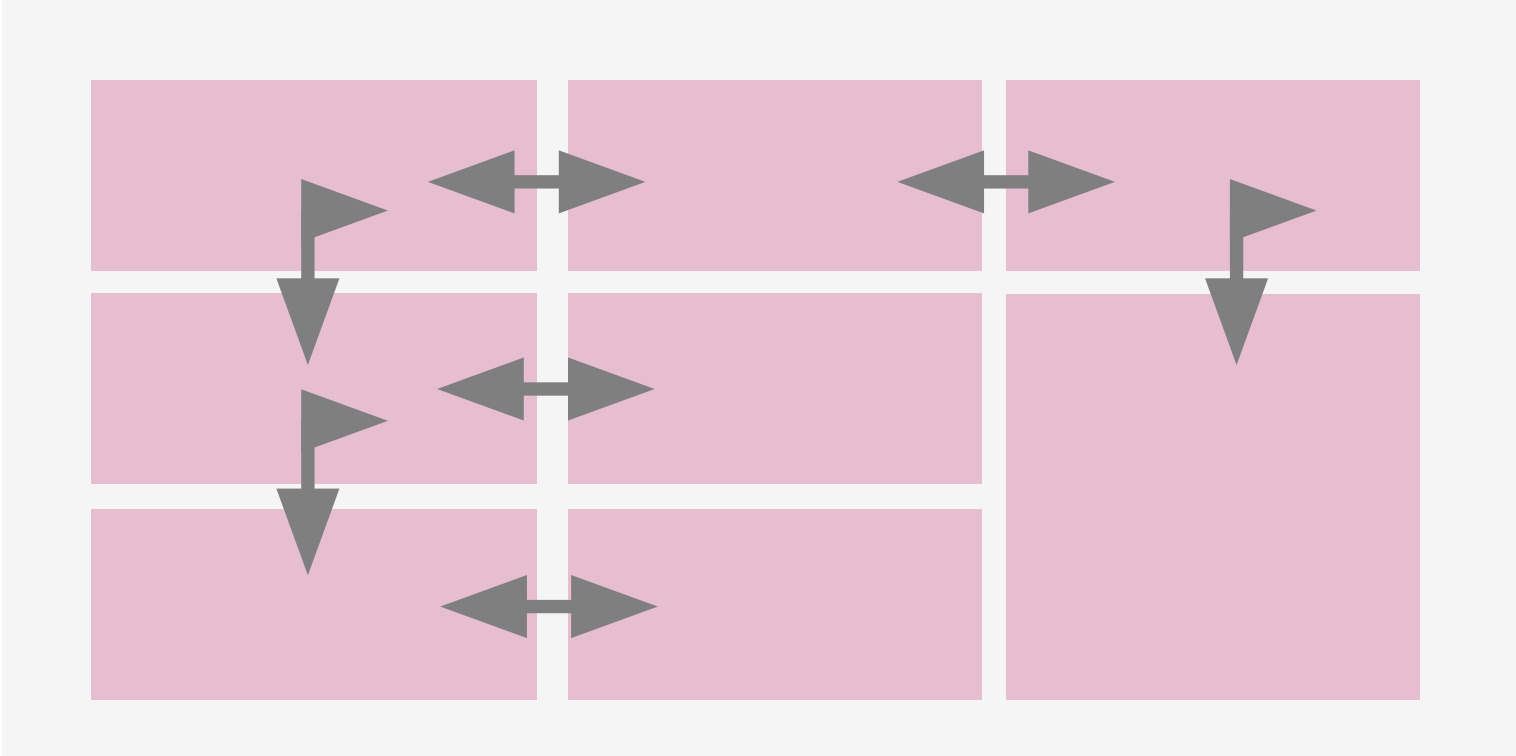


5. Design dashboard

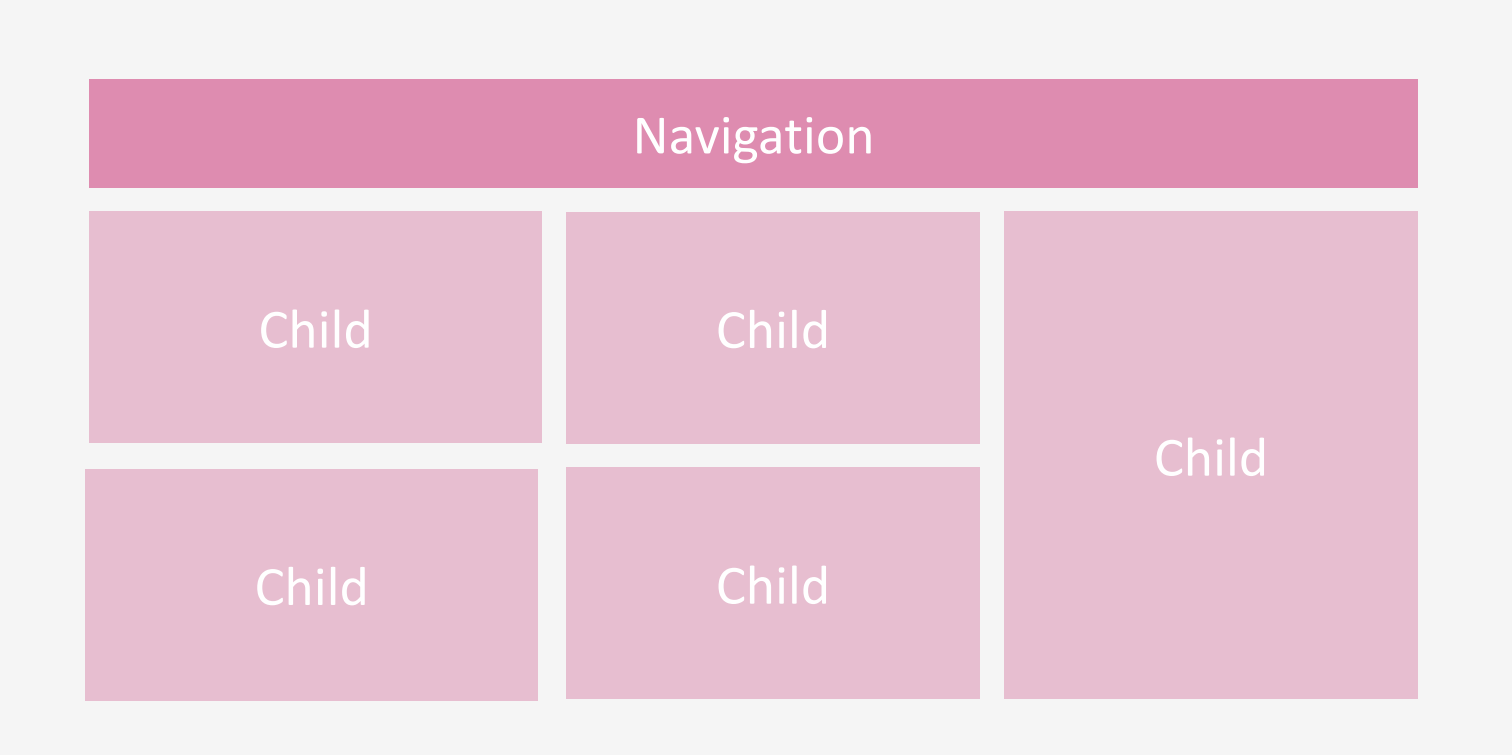
Master-Child design



Multi-action design



Navigation design



Q&A

Get Data

https://bit.ly/3wWswJV