Data Journalism

# From Knowledge to Wisdom

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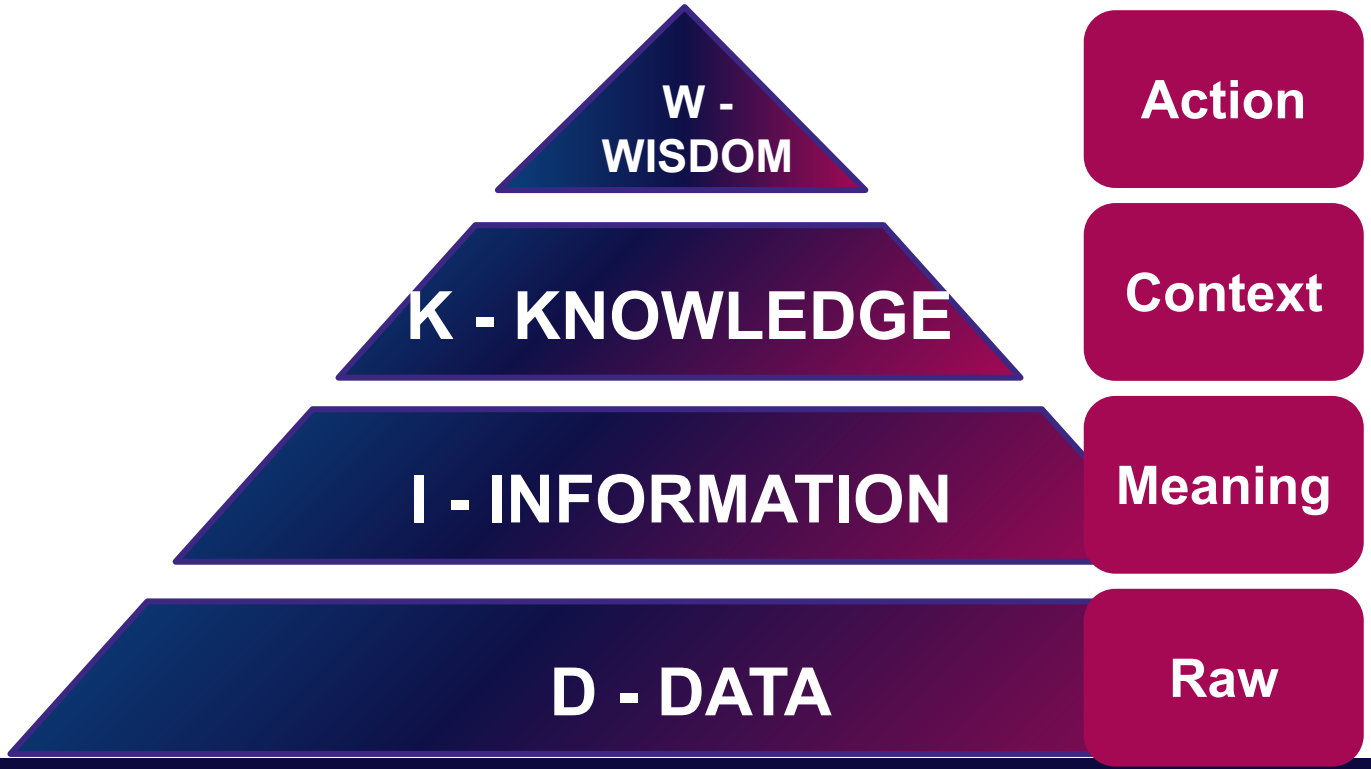
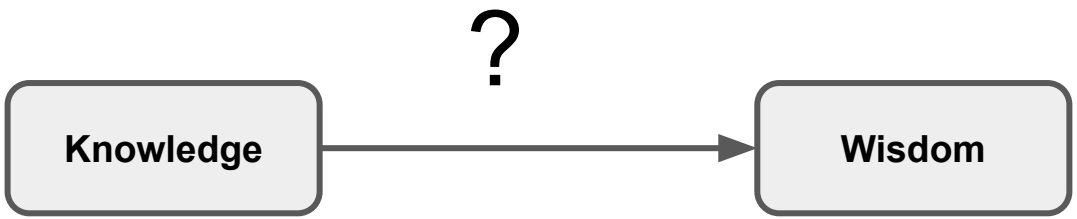
# The **DIKW** Pyramid




*** Introduction to Data Visualization & Storytelling**: A Guide For The Data Scientist by Jose Berengueres and Marybeth Sandell. Independently published, 2019

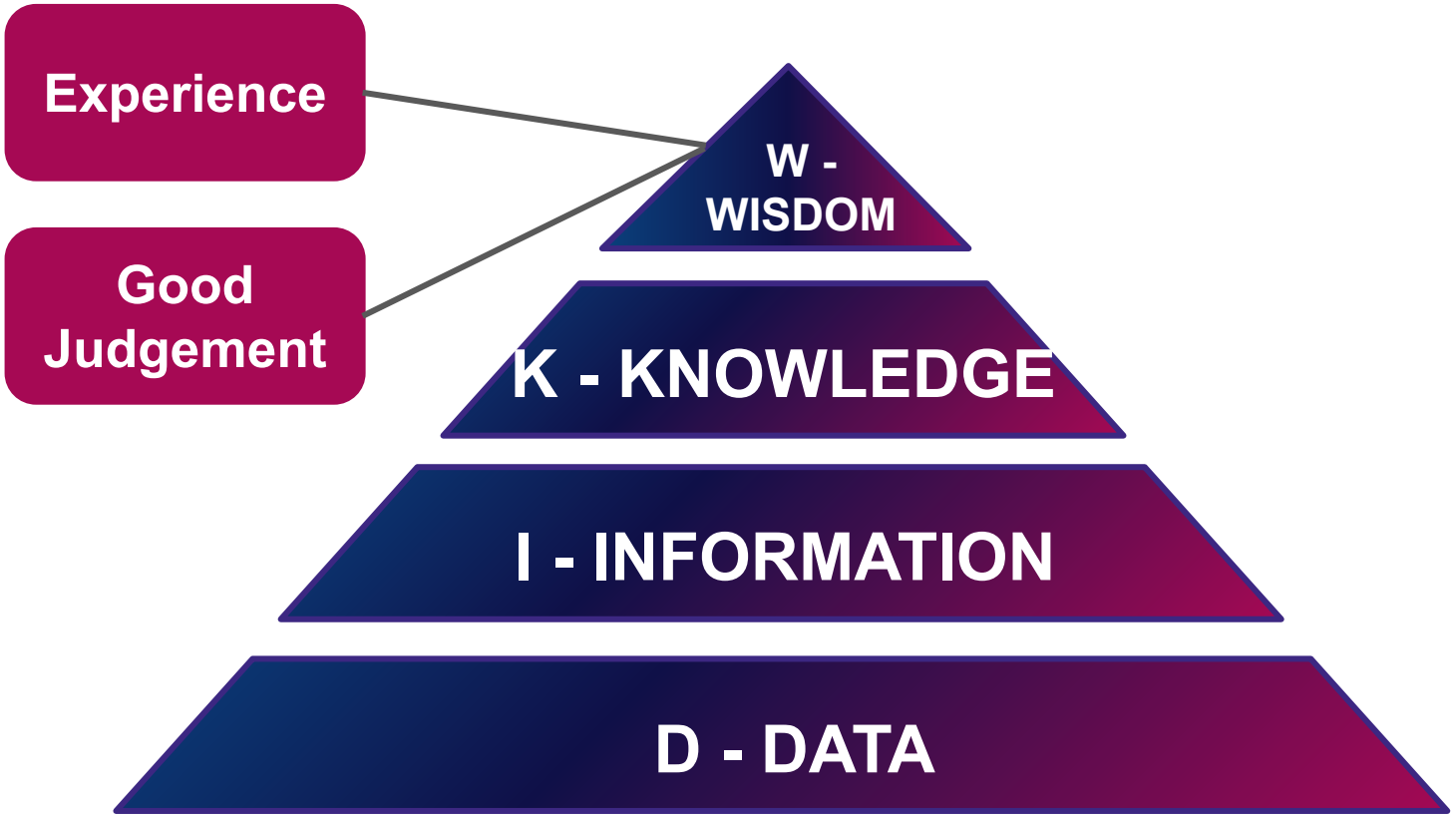



Familiarity to
the data

Move the
audience to act

**Wisdom** enables us
to make better decisions
based on our data.

# The **DIKW** Pyramid

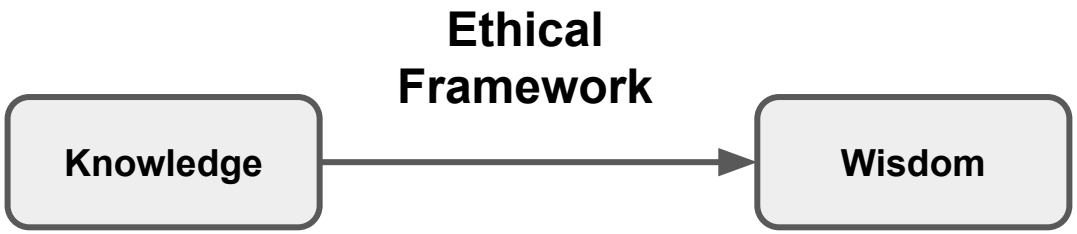


# Wisdom

**Knowledge** provides the foundation upon which wisdom is built. We cannot make informed decisions without a broad understanding of our data.

**Experience** provides the context through which our knowledge is applied.

**Good judgment** is the ability to weigh the pros and cons of a situation, analyze the risks and benefits, and come to a well-informed and wise decision. It requires the ability to evaluate a situation from multiple perspectives and understand the potential outcomes of each choice.




Familiarity to the data

Move the audience to act

# Ethical Framework

An ethical framework serves as a guideline for decision-making based on principles that guide moral behavior.

It provides a framework for evaluating the potential consequences of our actions and helps us identify the best course of action based on what is right and just.

# Improve the ratio quality price

## Where our product needs to improve

We conducted a survey relating to our product on a sample of 100 customers.

# Utilitarianism

This framework bases ethical decisions on maximizing utility or **happiness**. According to this view, an action is right if it leads to the greatest happiness for the greatest number of people.

## SUGGESTED ACTIONS

- Reduce the production cost and pass on the savings to customers
- Invest in research and development to create a superior product that justifies a higher price point

# Deontology

This framework focuses on following moral rules or duties. It argues that certain actions are inherently good or bad, regardless of their consequences.

## SUGGESTED ACTIONS

Avoid any deceptive marketing practices that mislead customers about the value of our product

# Virtue ethics

This framework emphasizes the importance of developing virtues such as courage, honesty, and compassion. It argues that good people are more important than following rules or maximizing happiness.

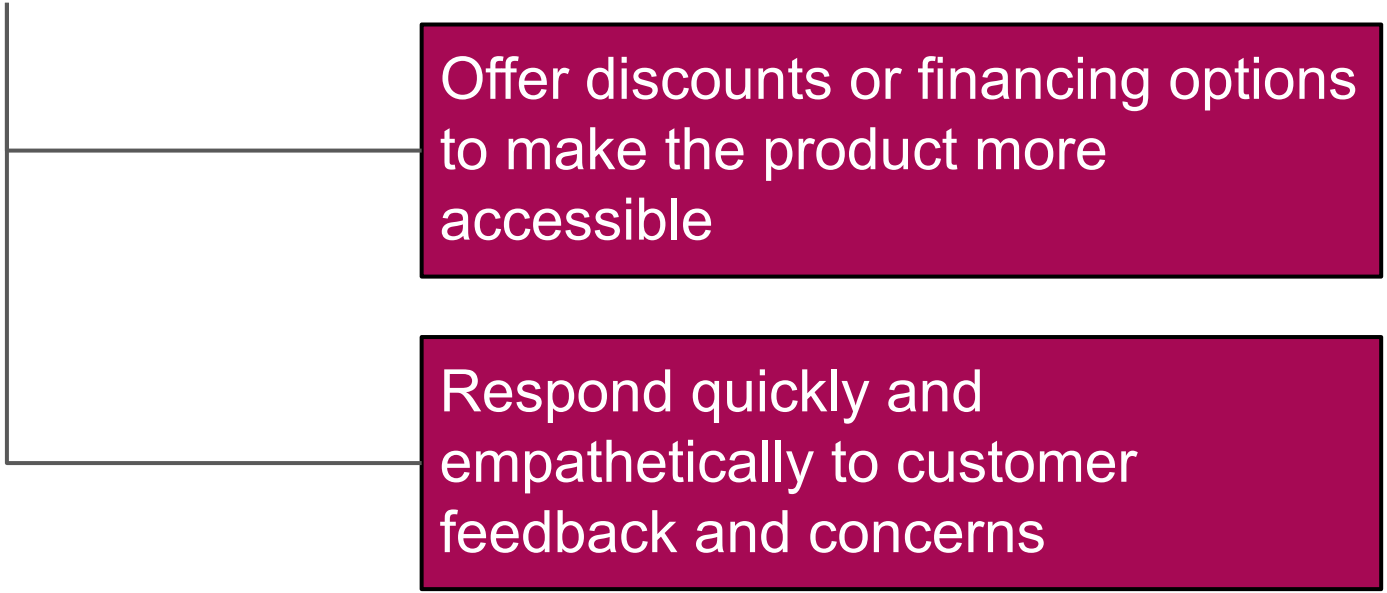
## SUGGESTED ACTIONS

- Invest in high-quality materials and manufacturing processes
- Be transparent about the costs associated with production
- Provide excellent customer service that builds trust and loyalty.

# Care ethics

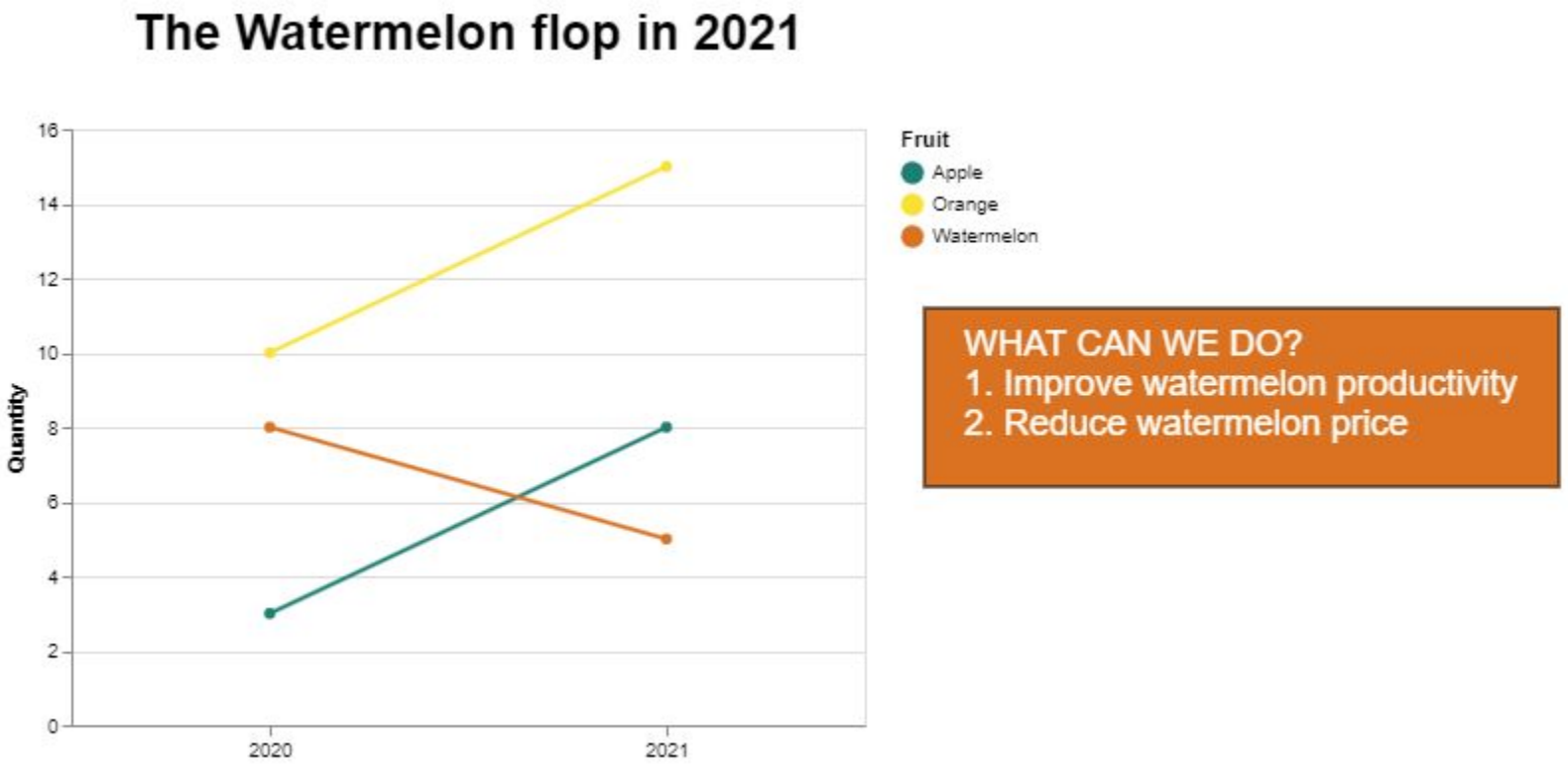
This framework emphasizes the importance of relationships and empathy. It bases ethical decisions on caring for others and responding to their needs.

**SUGGESTED ACTIONS**

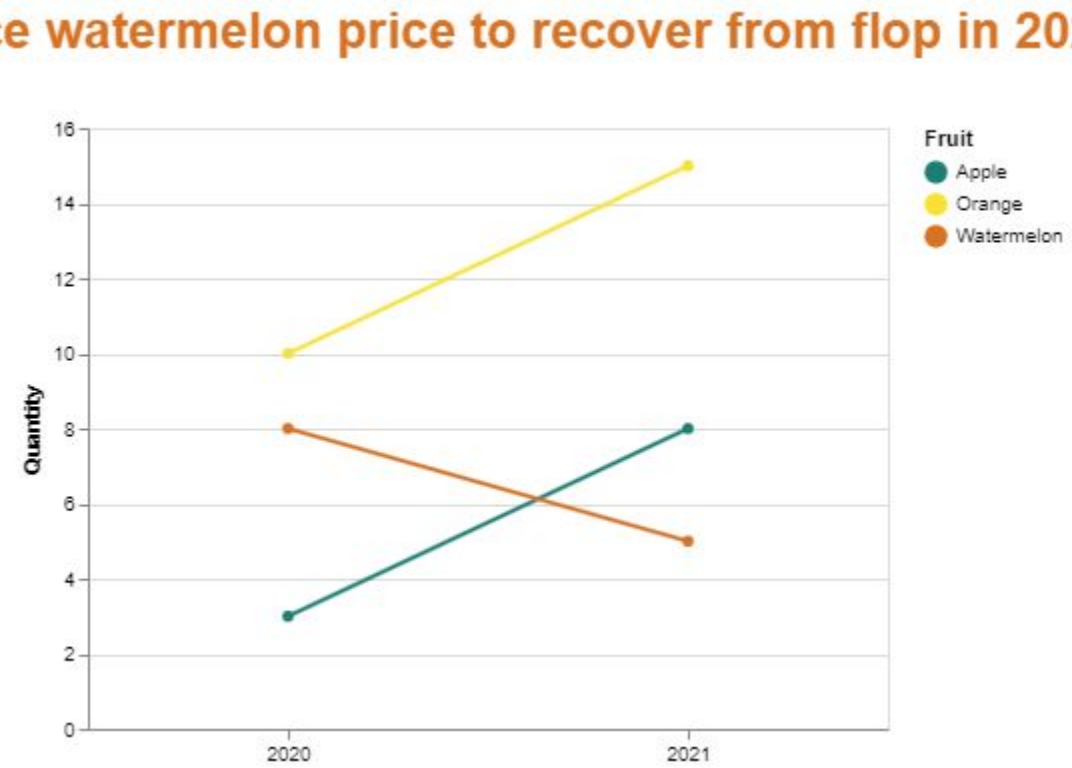


# Where to add a call to action?

# As an annotation



# Using the title



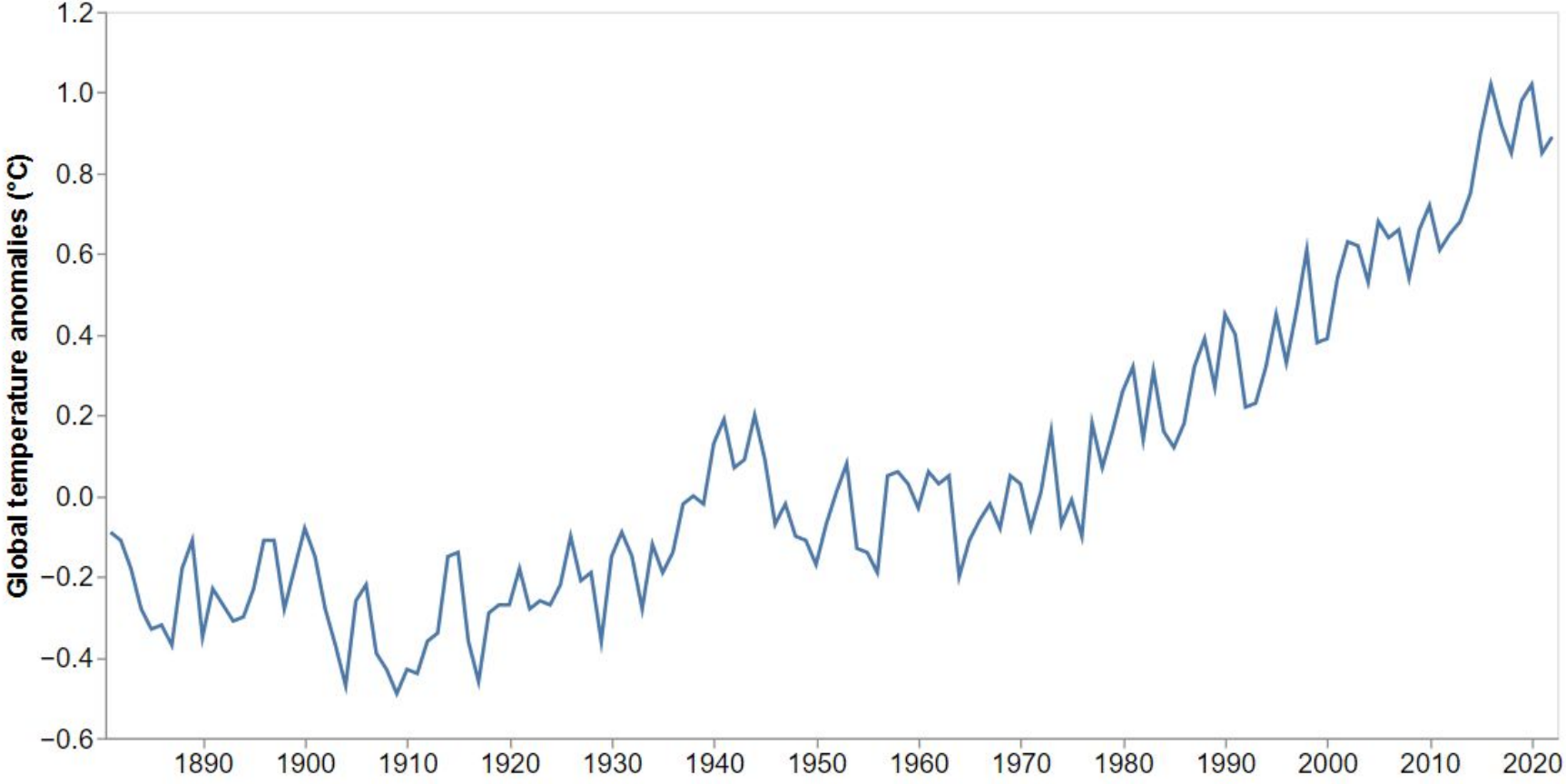
# Case Study 1

# Scenario

Let us imagine that we work for a company that sells bikes. Our boss has asked us to **produce a chart encouraging customers to buy a bike**.

**OBJECTIVE**: Encourage customers to buy a bike

# Global temperature anomalies from 1890 to 2022



slido

# How can we use this chart to invite people buy our bike?

ⓘ Start presenting to display the poll results on this slide.

**OBJECTIVE**: Encourage customers to buy a bike

## BACKGROUND

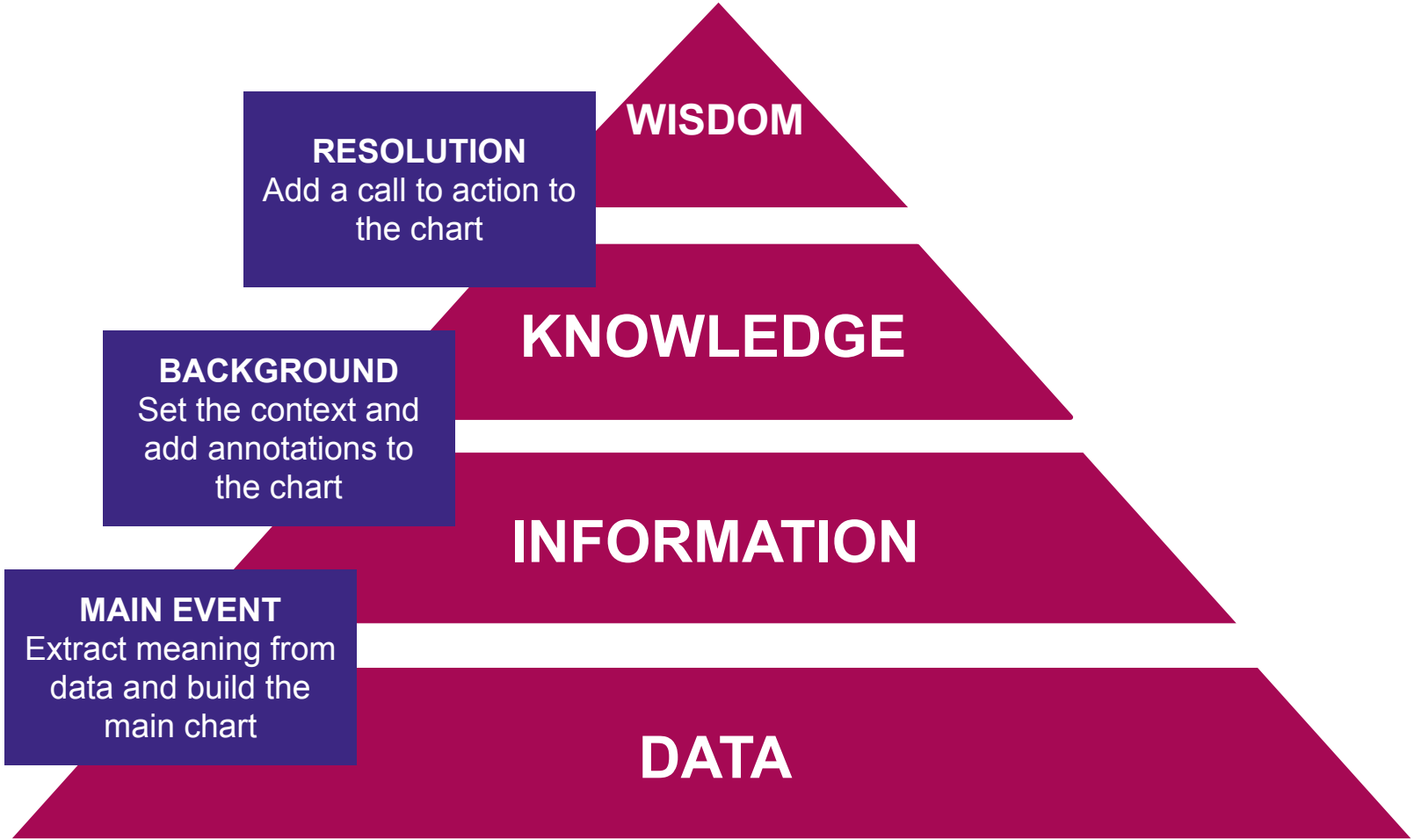
Human activity has led to the alarming increase in global temperatures since 1977

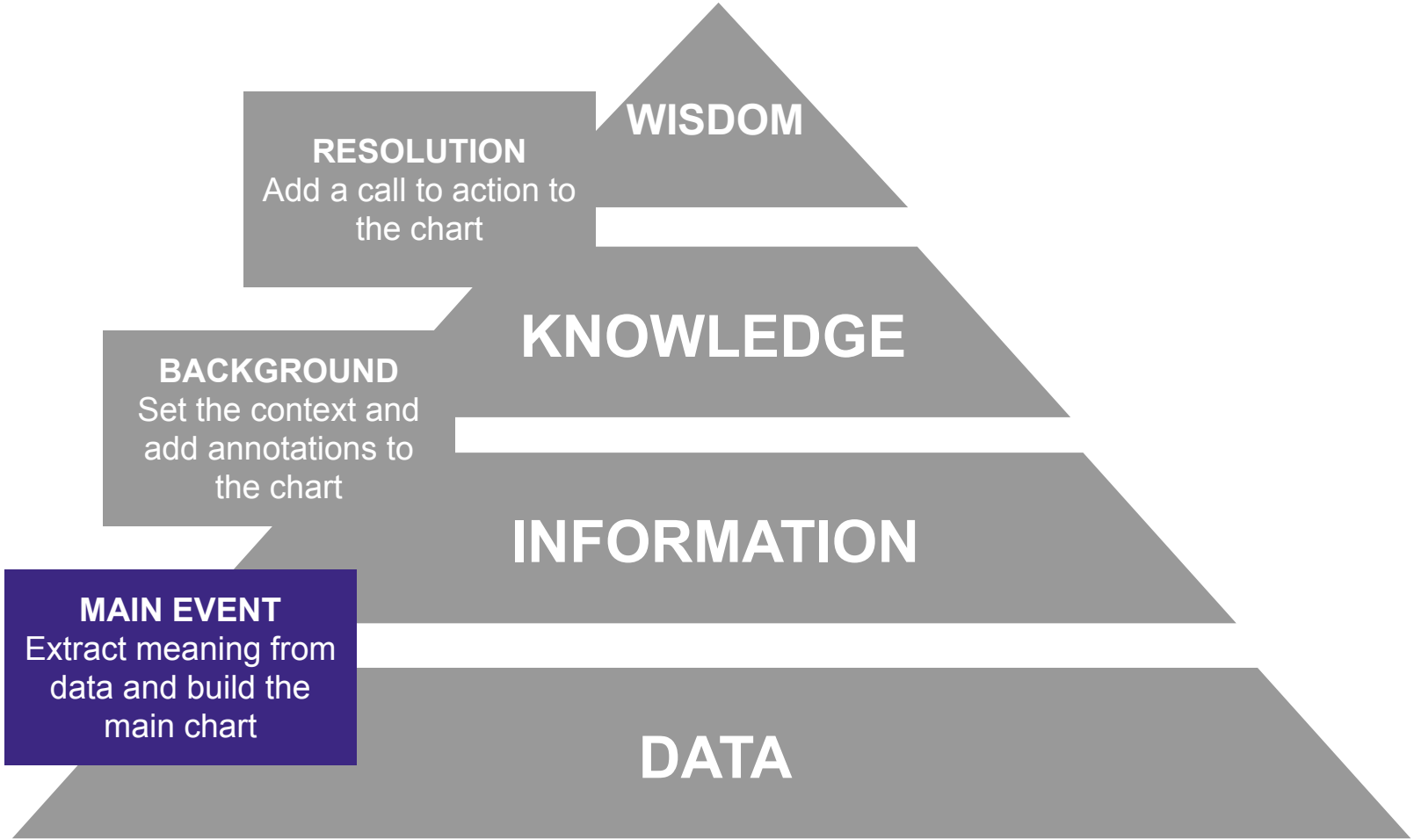
## MAIN EVENT

Increase in temperature over the last 50 years

## RESOLUTION

Buy a bike!


RESOLUTION
Add a call to action to the chart
WISDOM
BACKGROUND
Set the context and add annotations to the chart
KNOWLEDGE
MAIN EVENT
Extract meaning from data and build the main chart
INFORMATION
DATA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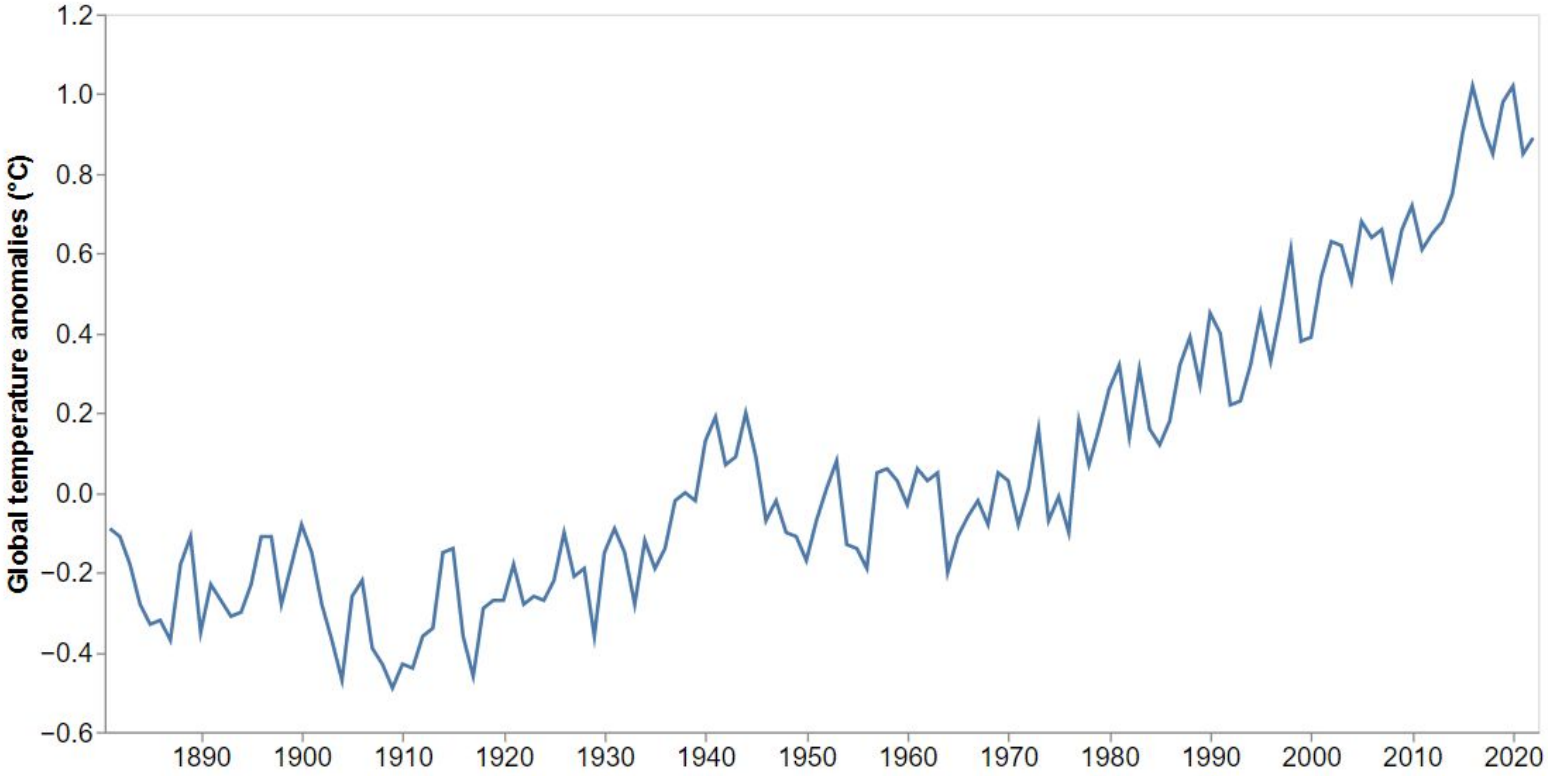

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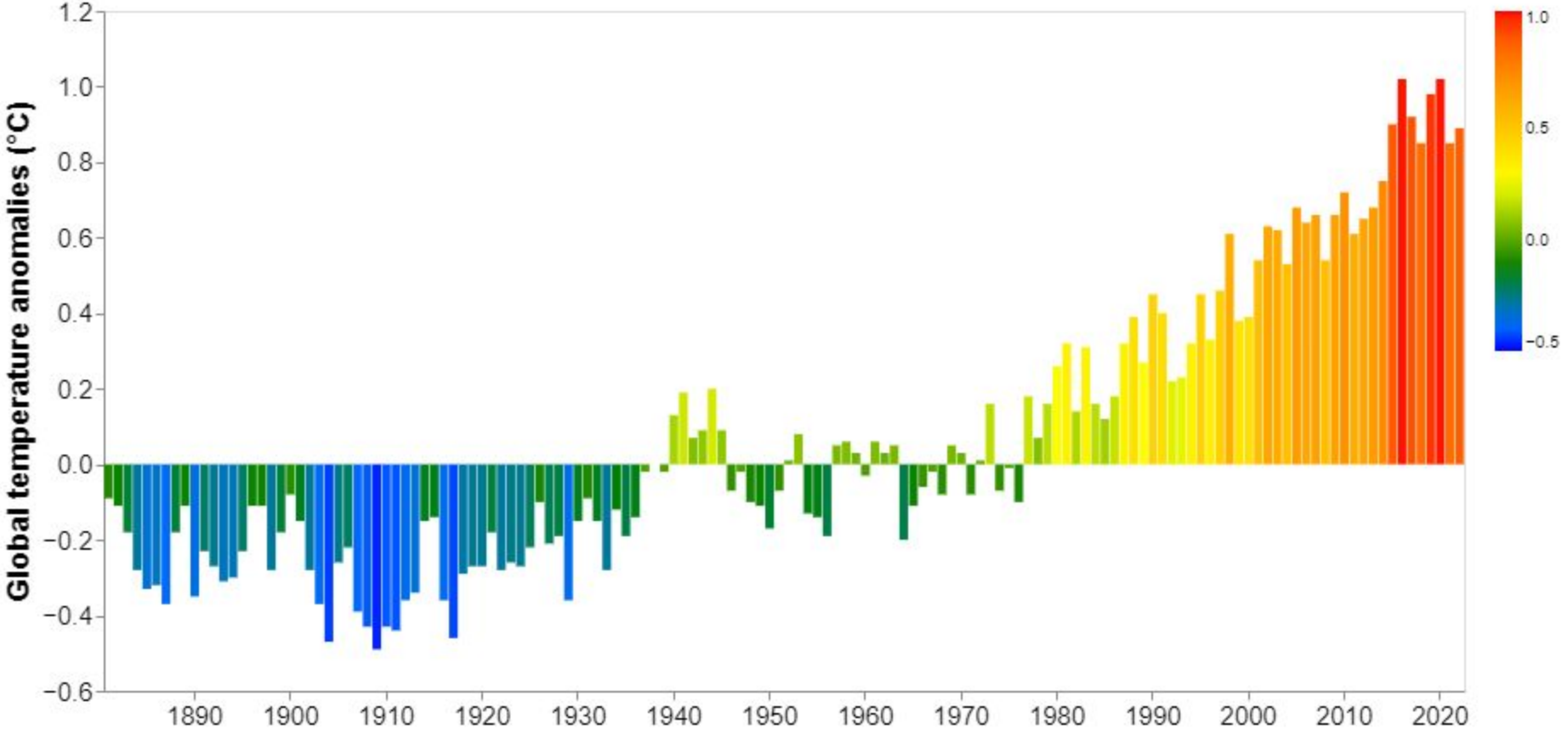
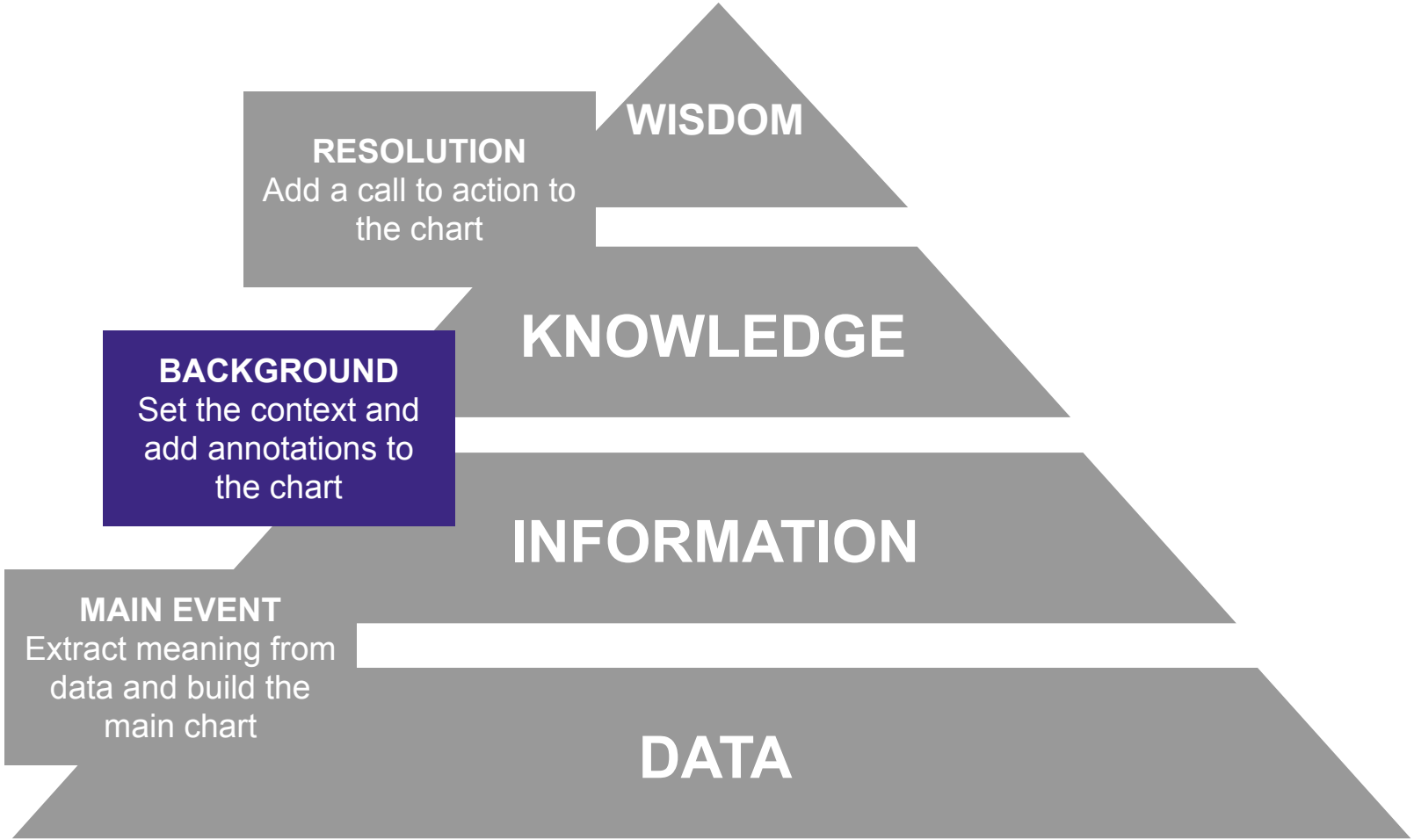
# How to extract meaning?

ⓘ Start presenting to display the poll results on this slide.

# Global temperature anomalies from 1950 to 2022

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Add a call to action to the chart
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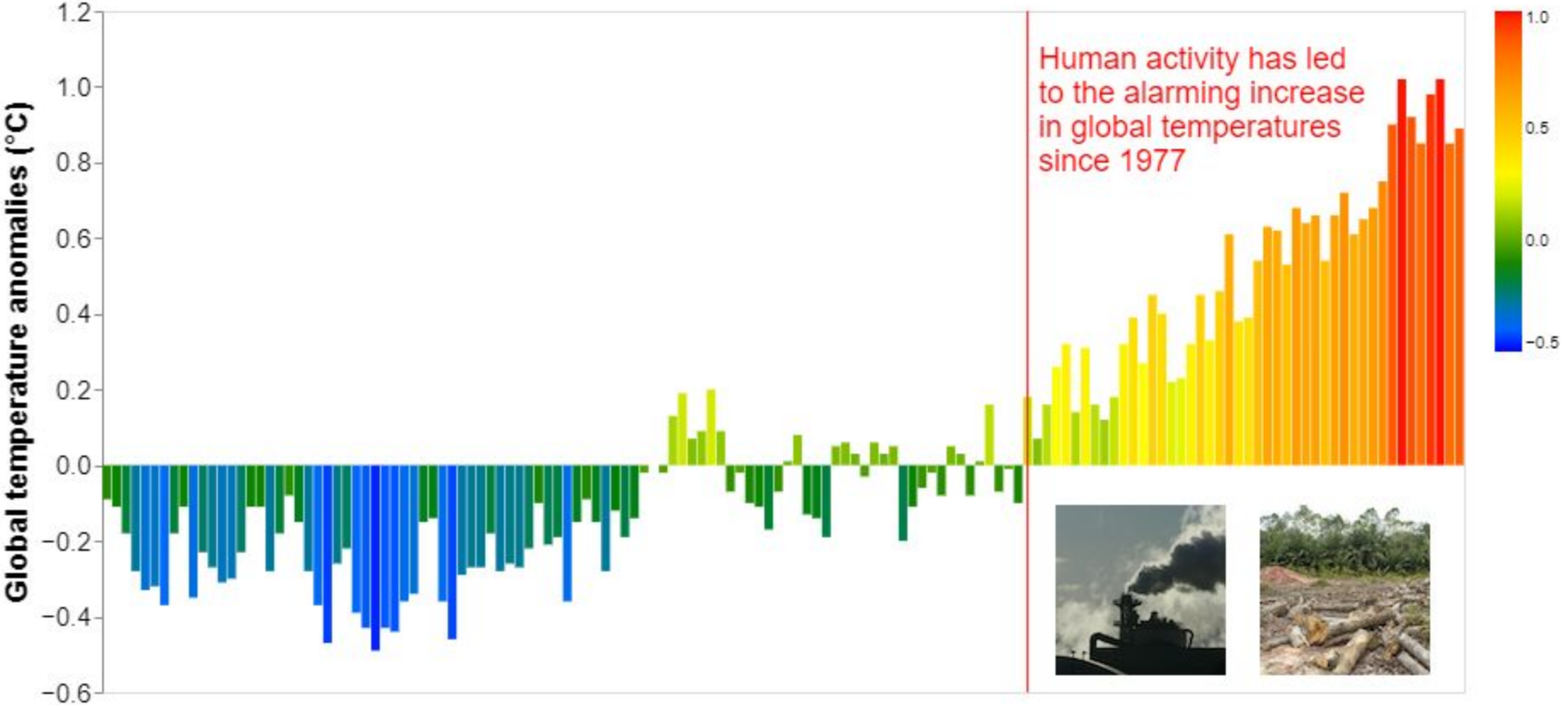
# Which context can we add?

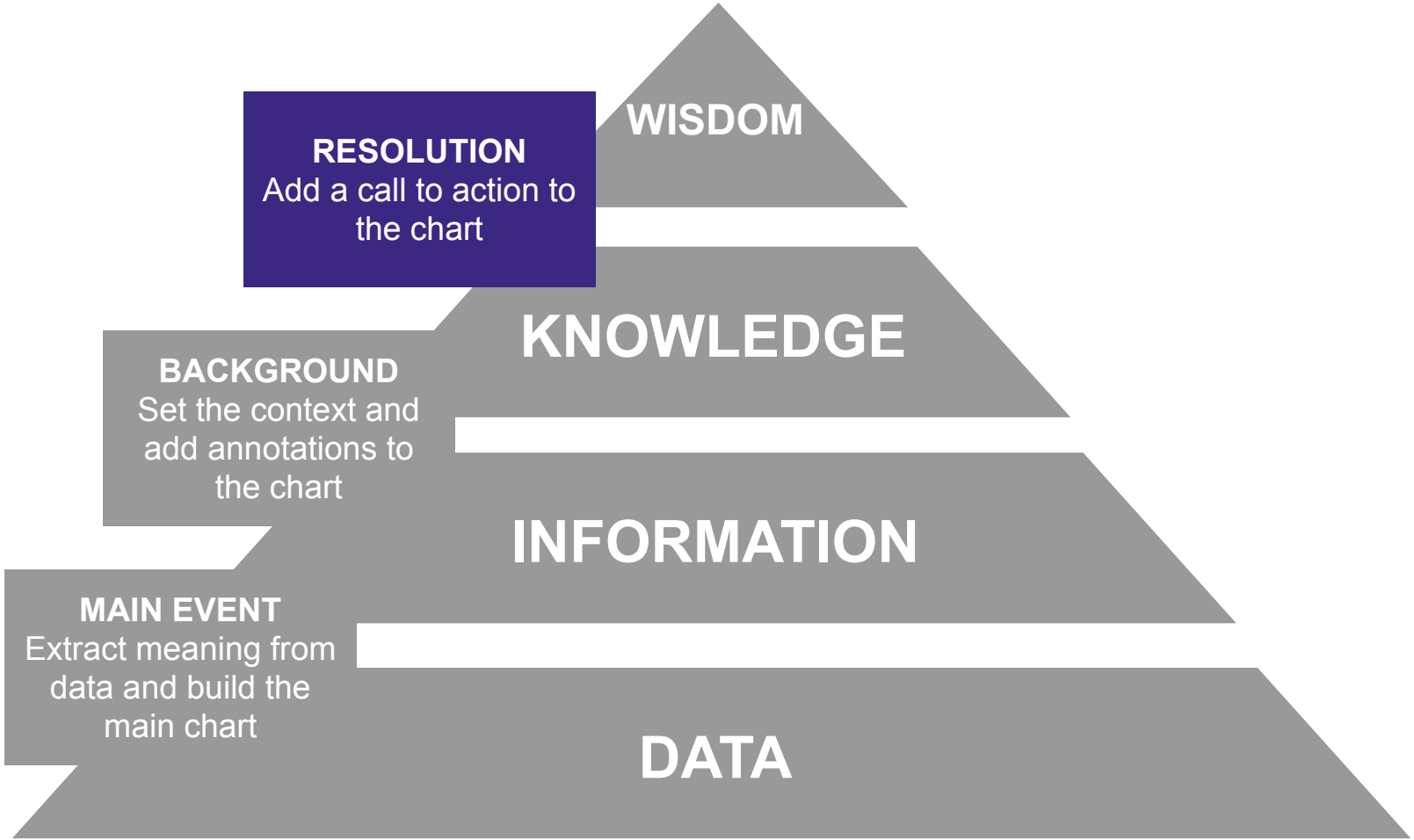
ⓘ Start presenting to display the poll results on this slide.

Industrial fumes

Deforestation

# Global temperature anomalies from 1950 to 2022

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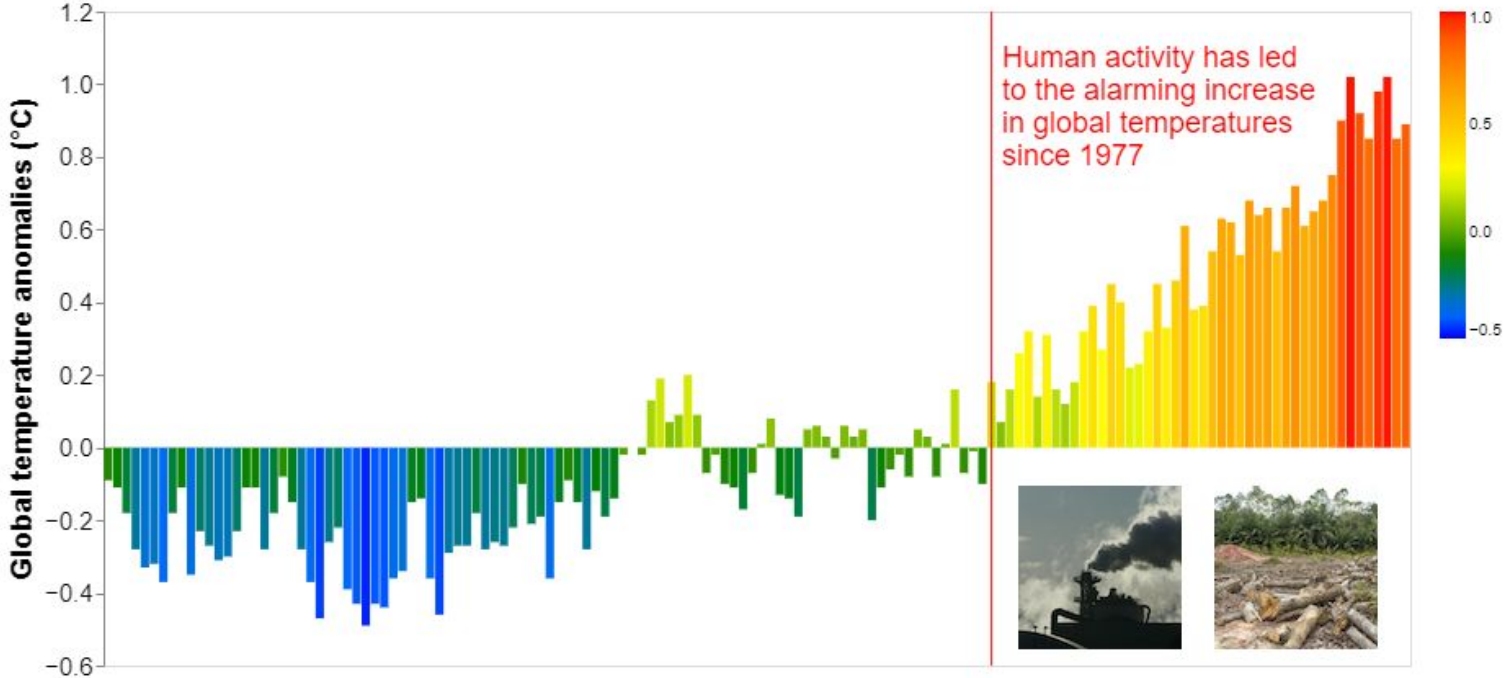
# Switch to a bike to save the planet!



Our bike is environmentally friendly, cost-effective,
and provides a healthy mode of transportation. More info at ourbike.ourdomain

# Case Study 2

# Scenario

Imagine that we work in a small restaurant.

Since the clientele has increased recently, we decide to hire a new waiter.

However, we are still on a budget and can only hire this waiter on certain days of the week.

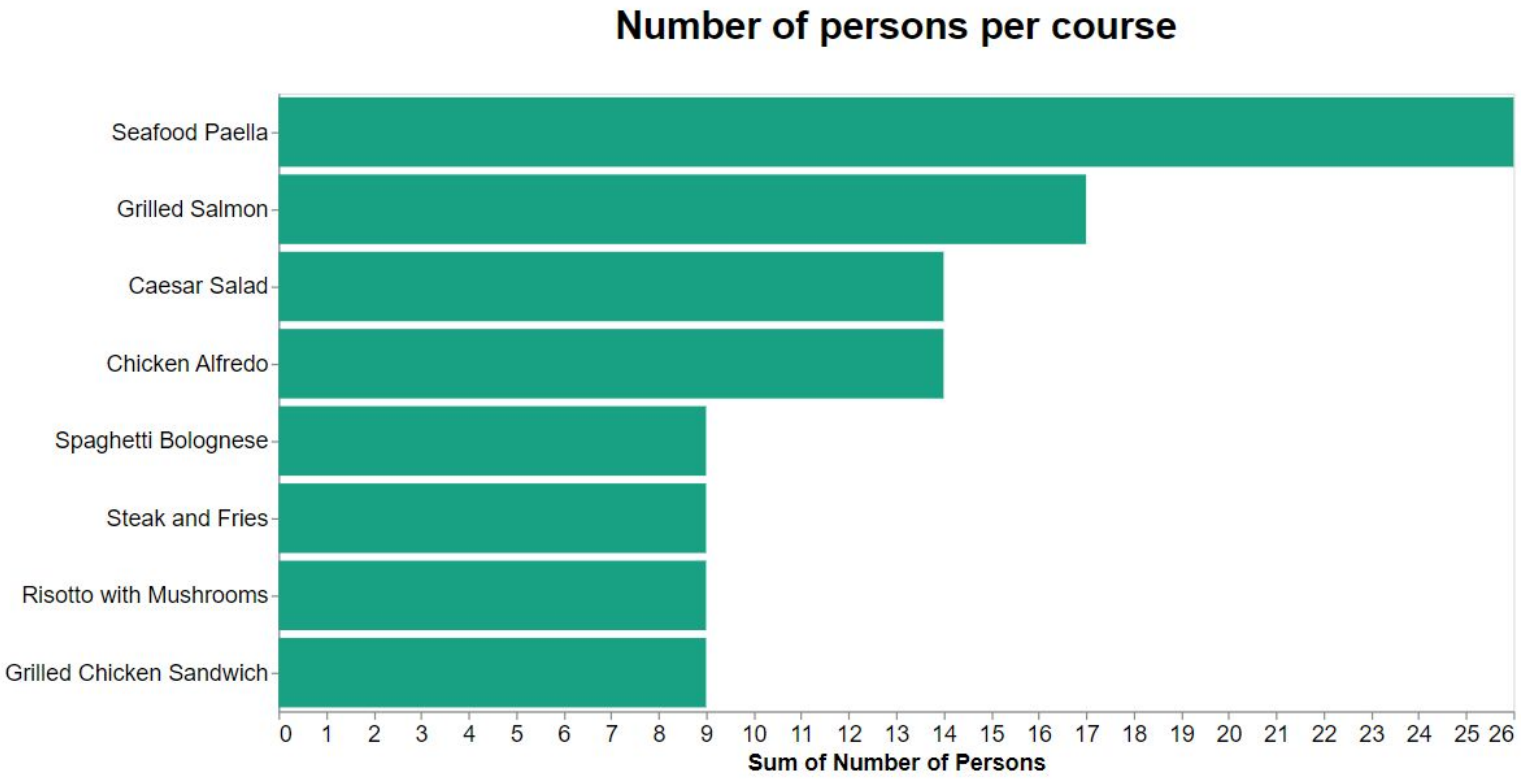
We decide to study **which days of the week the waiter will have to work**.

**OBJECTIVE**: Show the days of week the waiter will have to work

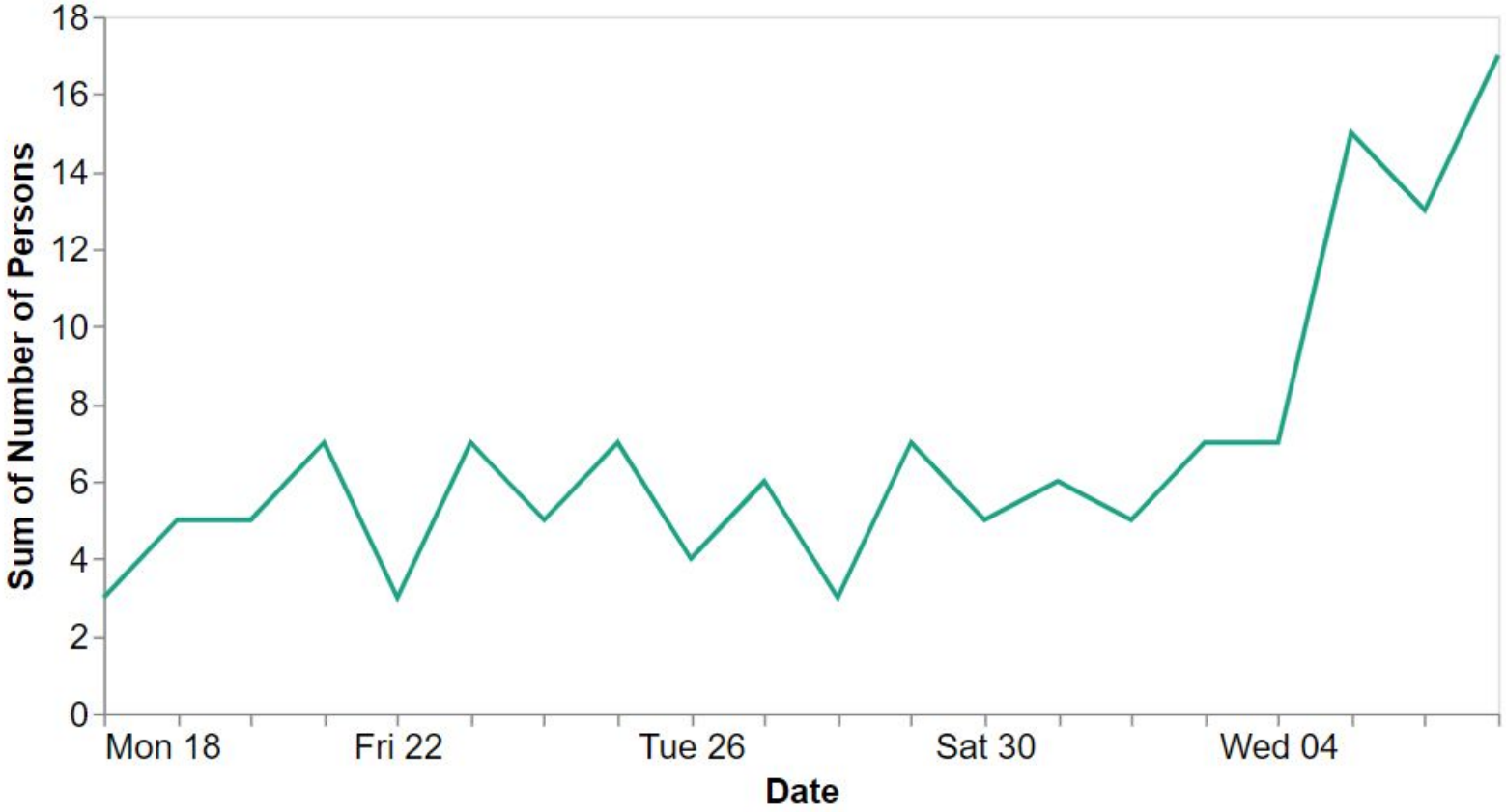
restaurant

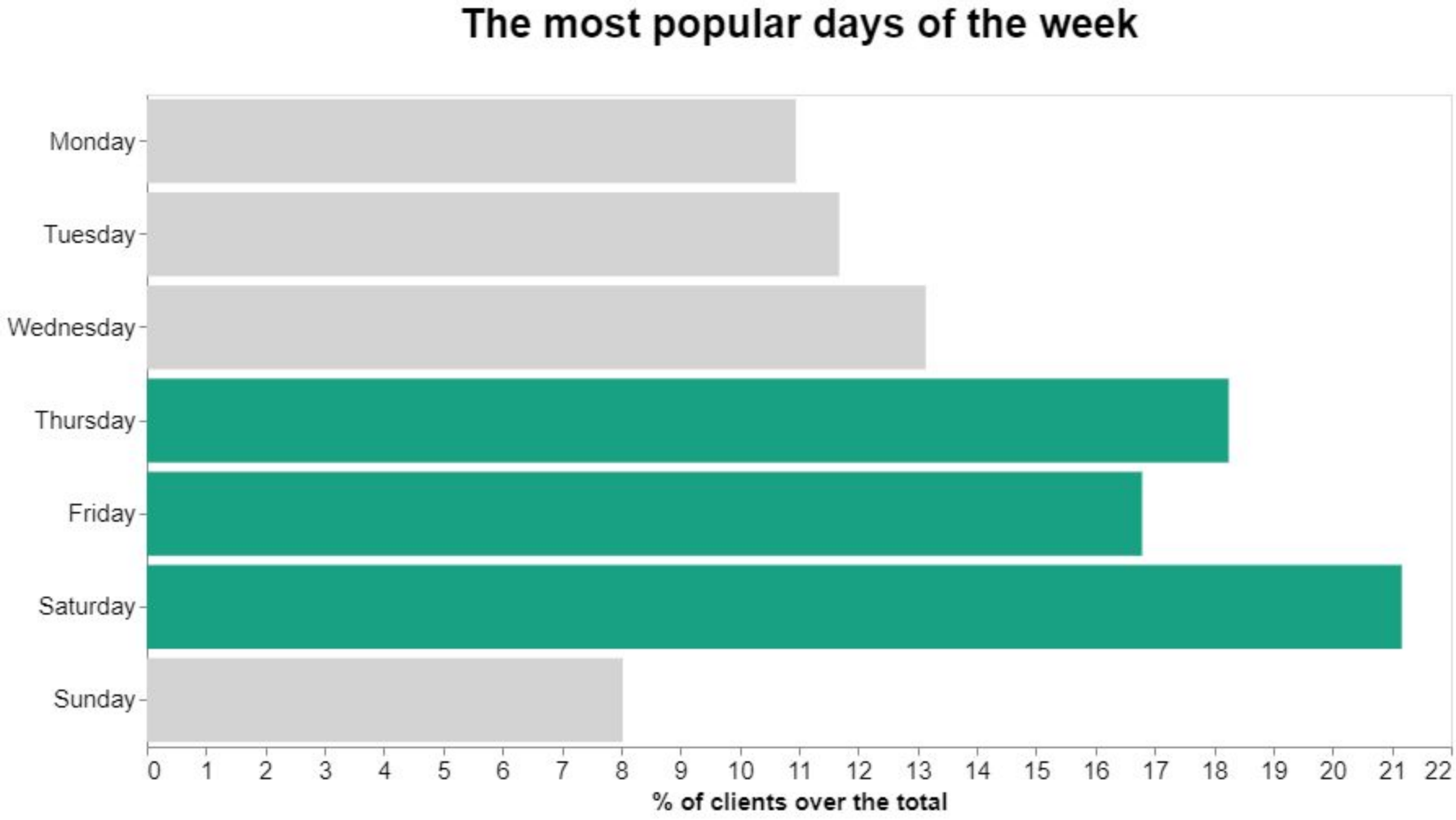
| Course | Number of Persons | Date |
|---|---|---|
| **Spaghetti Bolognese** | 2 | 2022-04-18 |
| **Steak and Fries** | 1 | 2022-04-18 |
| **Grilled Salmon** | 3 | 2022-04-19 |
| **Caesar Salad** | 2 | 2022-04-19 |
| **Chicken Alfredo** | 4 | 2022-04-20 |
| **Risotto with Mushrooms** | 1 | 2022-04-20 |
| **Grilled Chicken Sandwich** | 2 | 2022-04-21 |
| **Seafood Paella** | 5 | 2022-04-21 |
| **Spaghetti Bolognese** | 1 | 2022-04-22 |
| **Steak and Fries** | 2 | 2022-04-22 |
| **Grilled Salmon** | 4 | 2022-04-23 |
| **Caesar Salad** | 3 | 2022-04-23 |
| **Chicken Alfredo** | 2 | 2022-04-24 |
| **Risotto with Mushrooms** | 3 | 2022-04-24 |
| **Grilled Chicken Sandwich** | 1 | 2022-04-25 |
| **Seafood Paella** | 6 | 2022-04-25 |

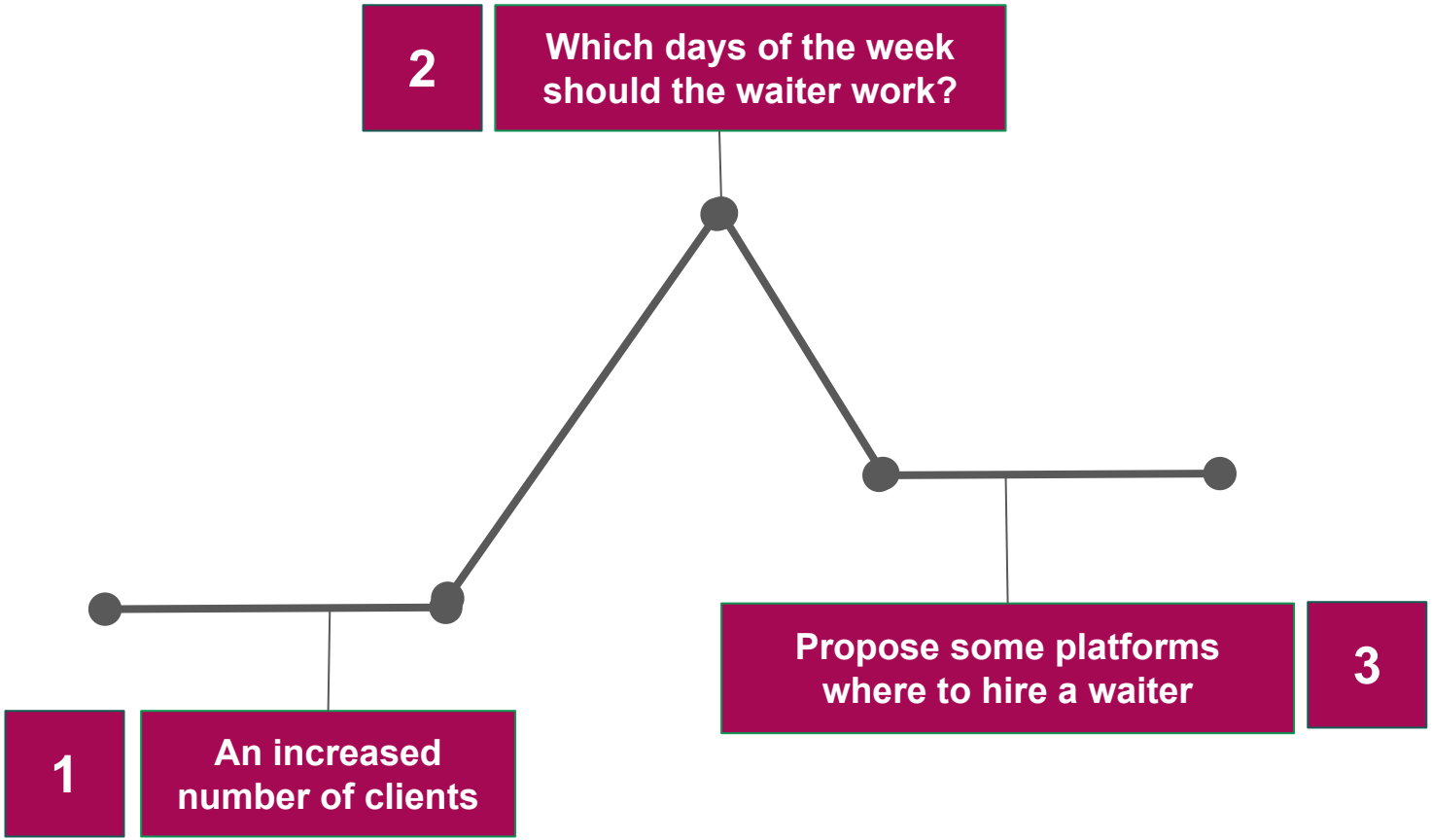
# Data Exploration

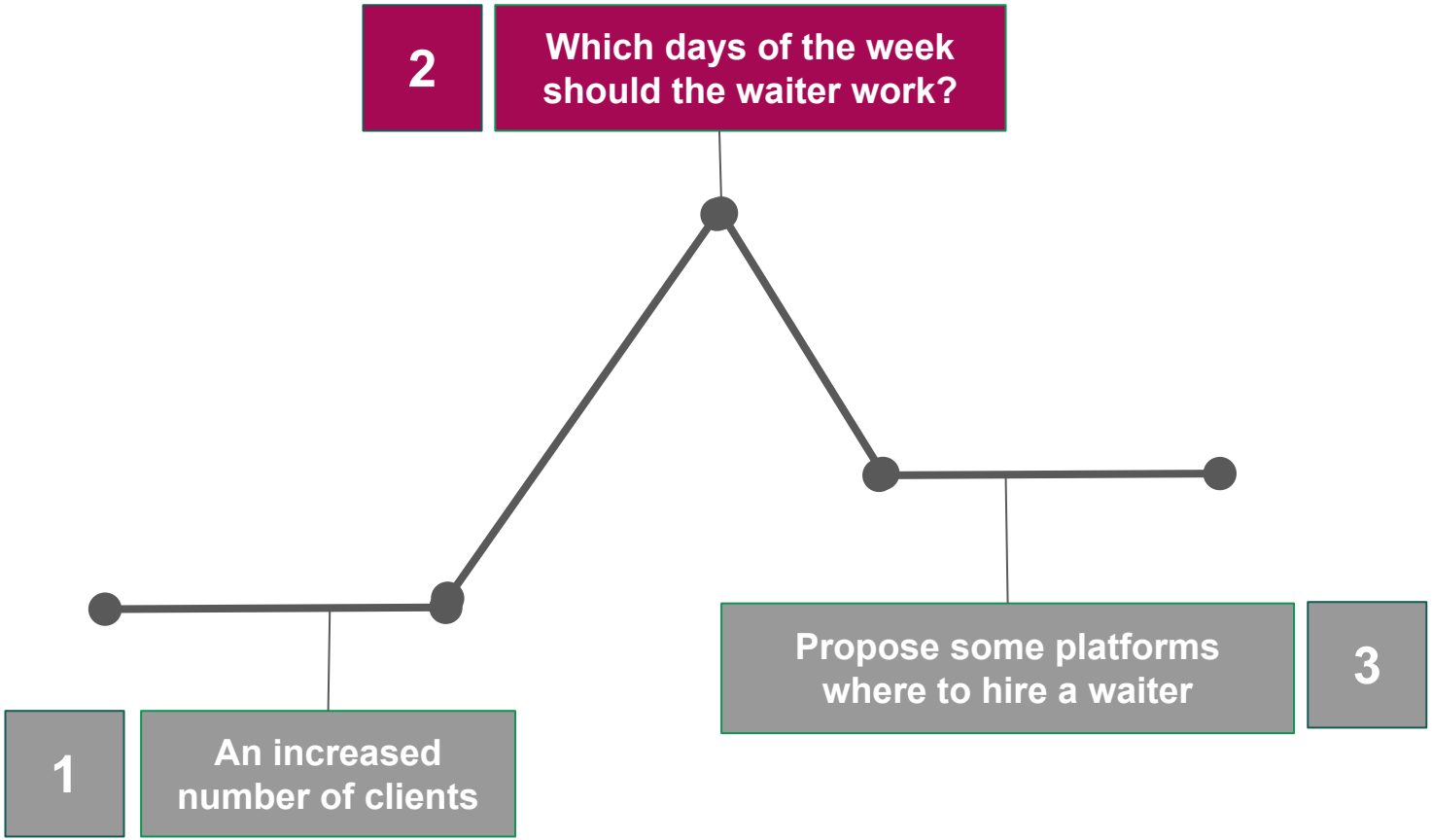


# Number of clients




The most popular days of the week
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
% of clients over the total


2
Which days of the week should the waiter work?
1
An increased number of clients
Propose some platforms where to hire a waiter
3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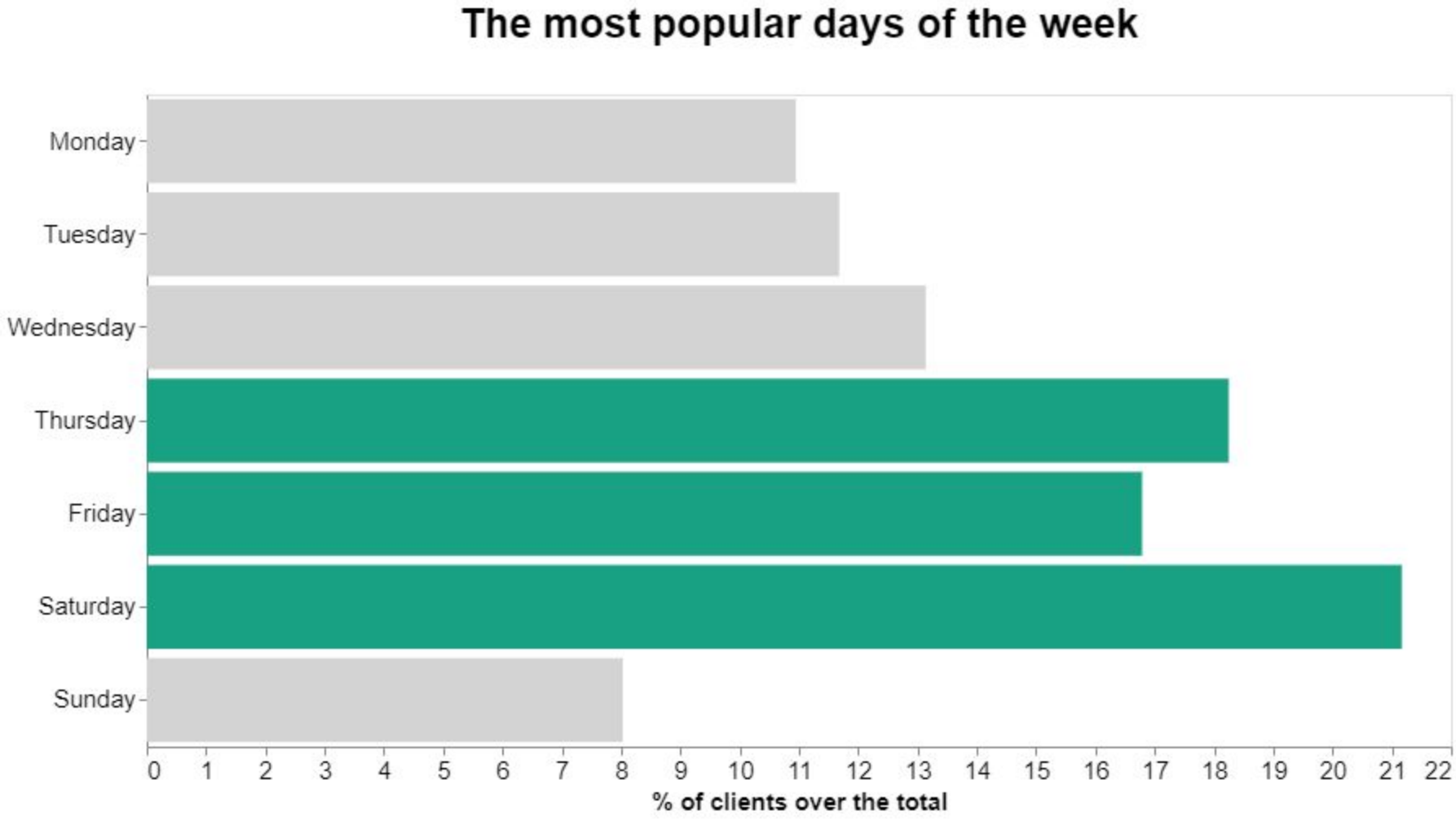
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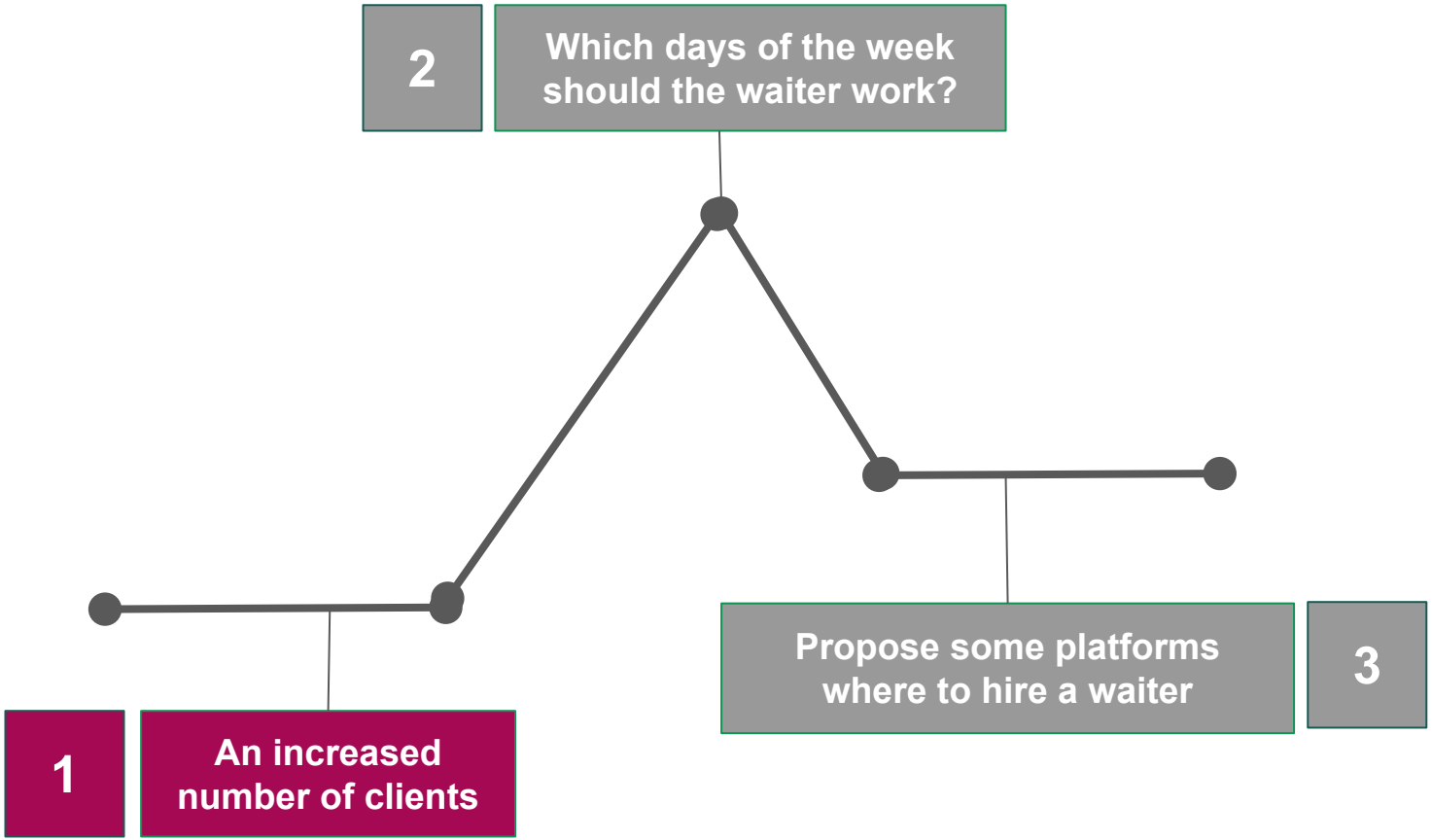
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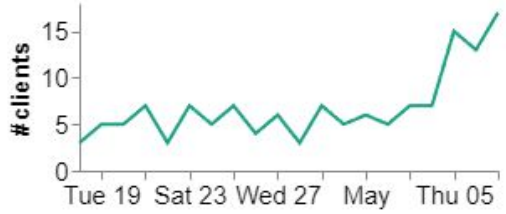
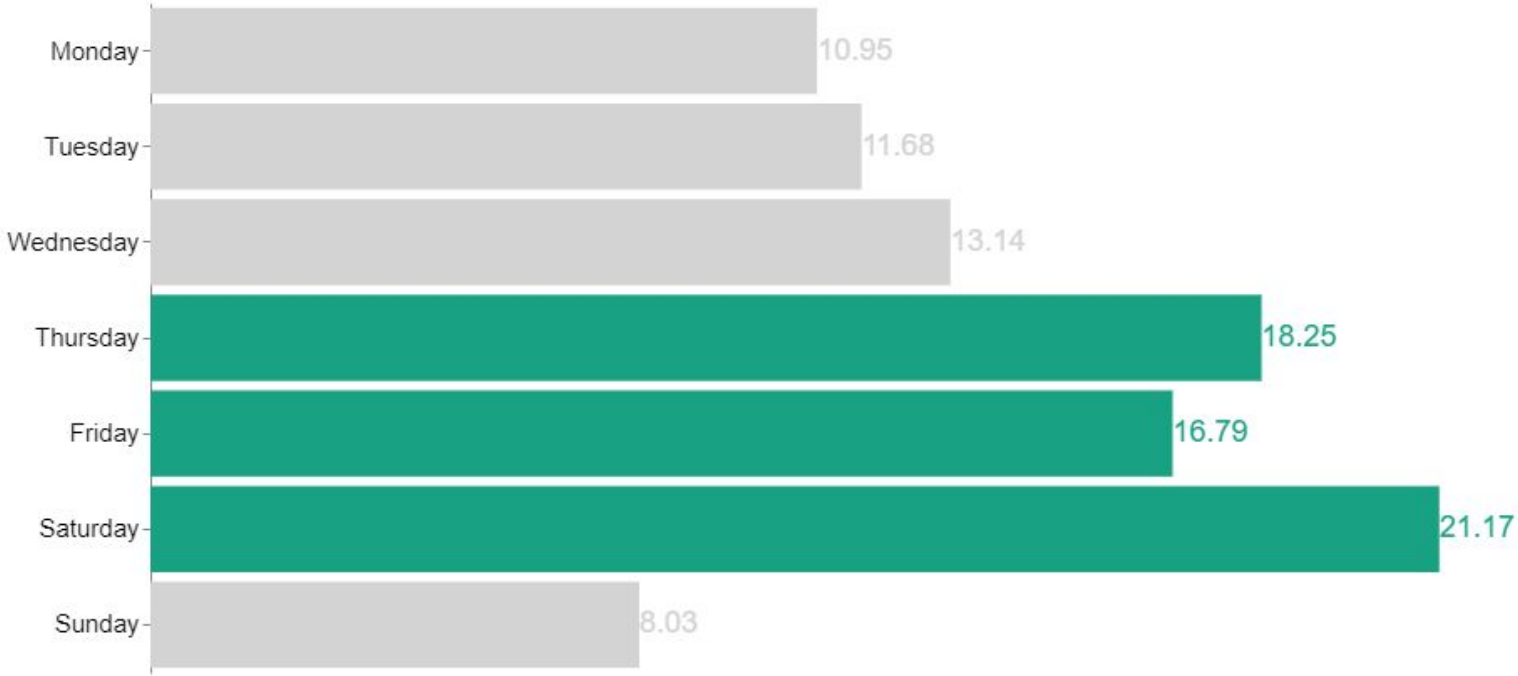
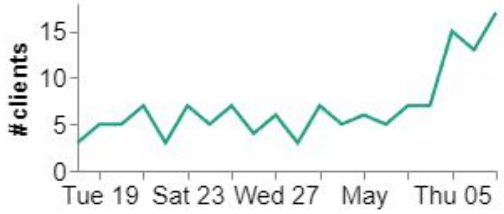



Our restaurant is booming with more hungry customers than ever before!
To keep up with the demand, we need a waiter to join our team.

## The most popular days of the week






Our restaurant is booming with more hungry customers than ever before!
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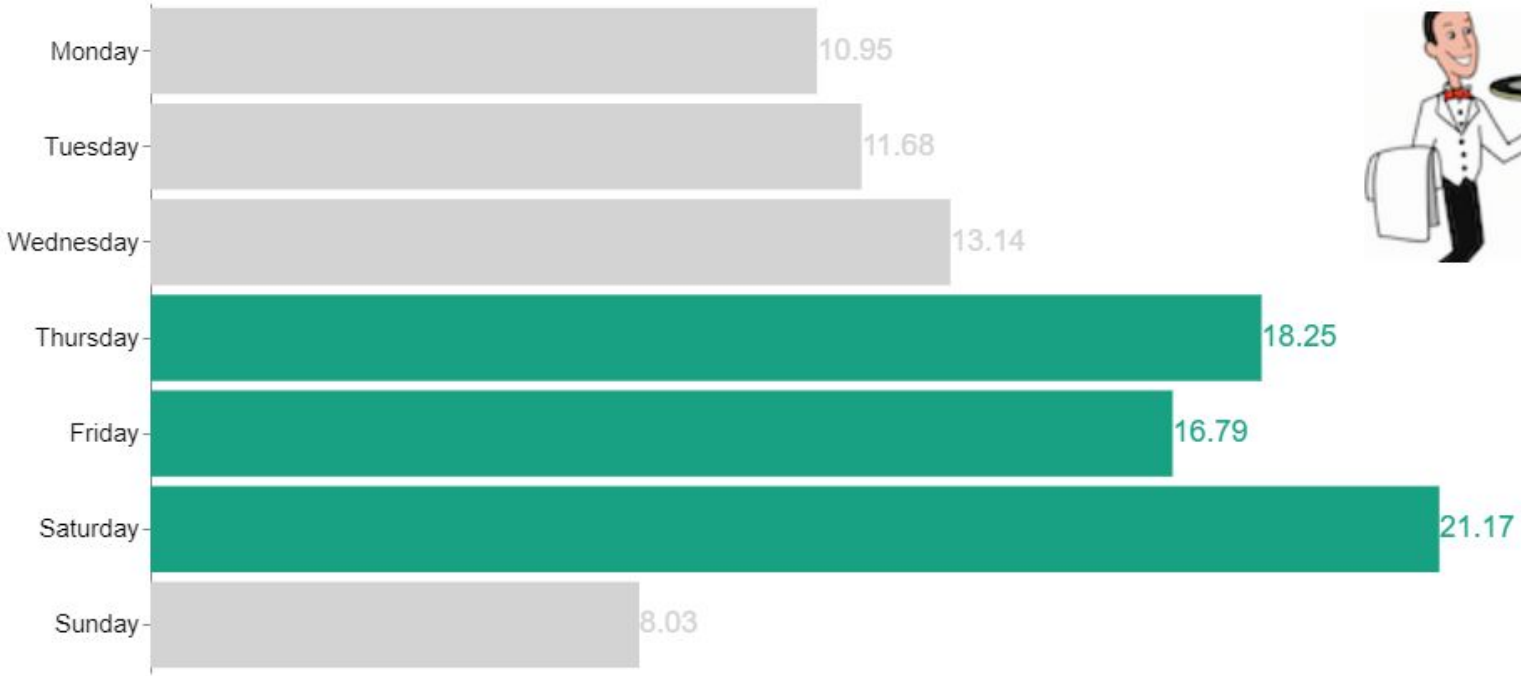

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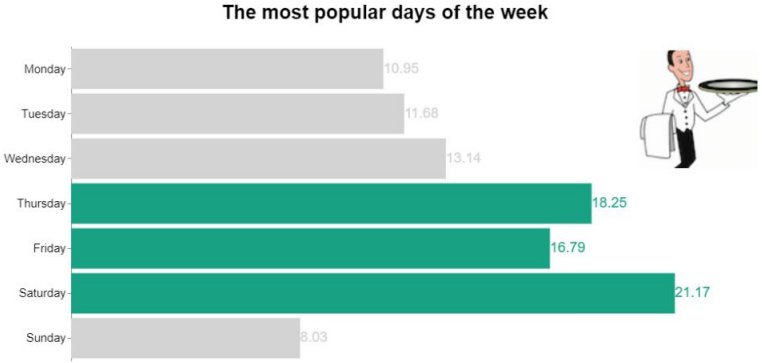

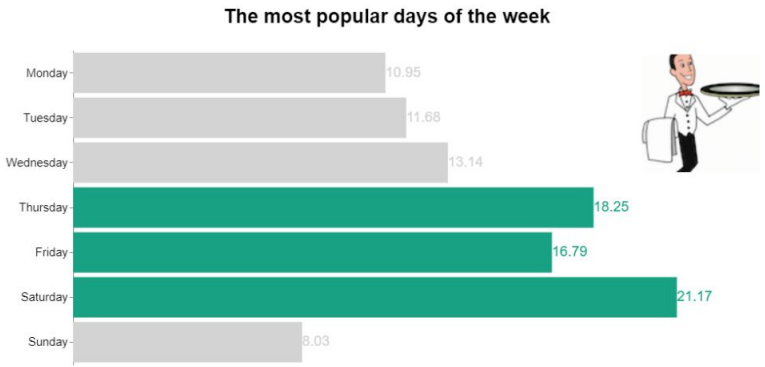


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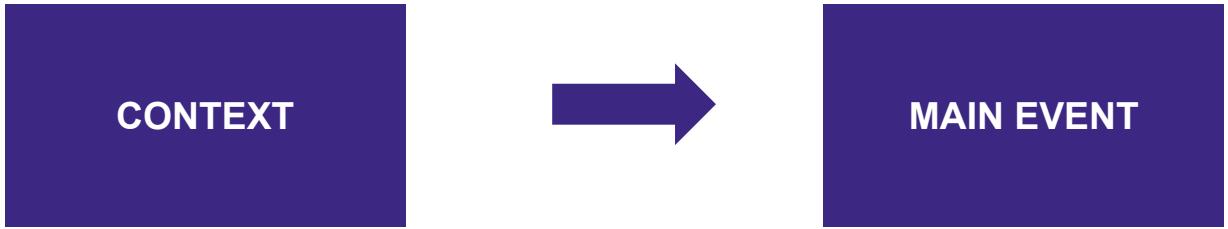
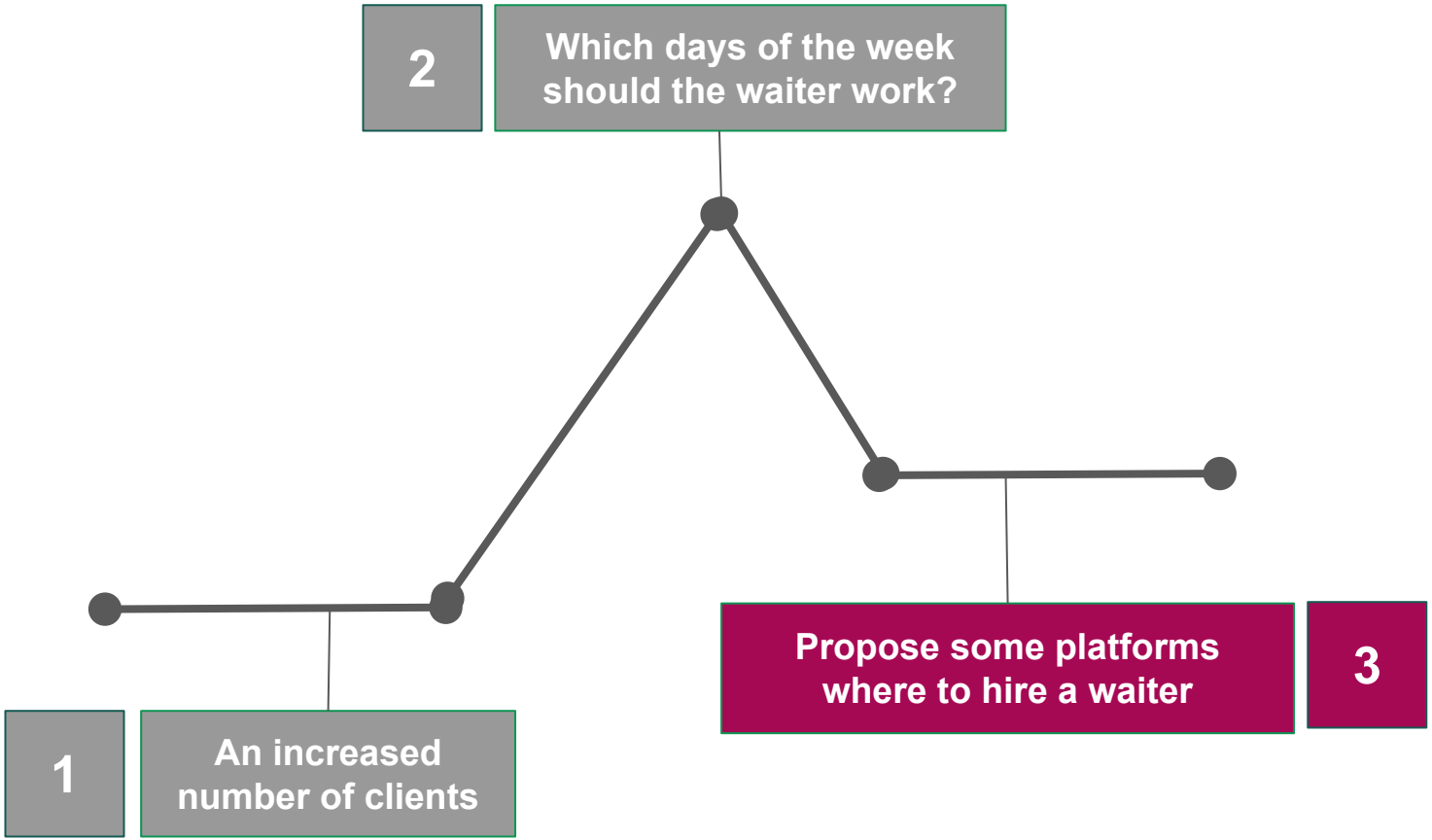

CONTEXT
MAIN EVENT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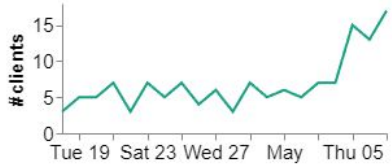


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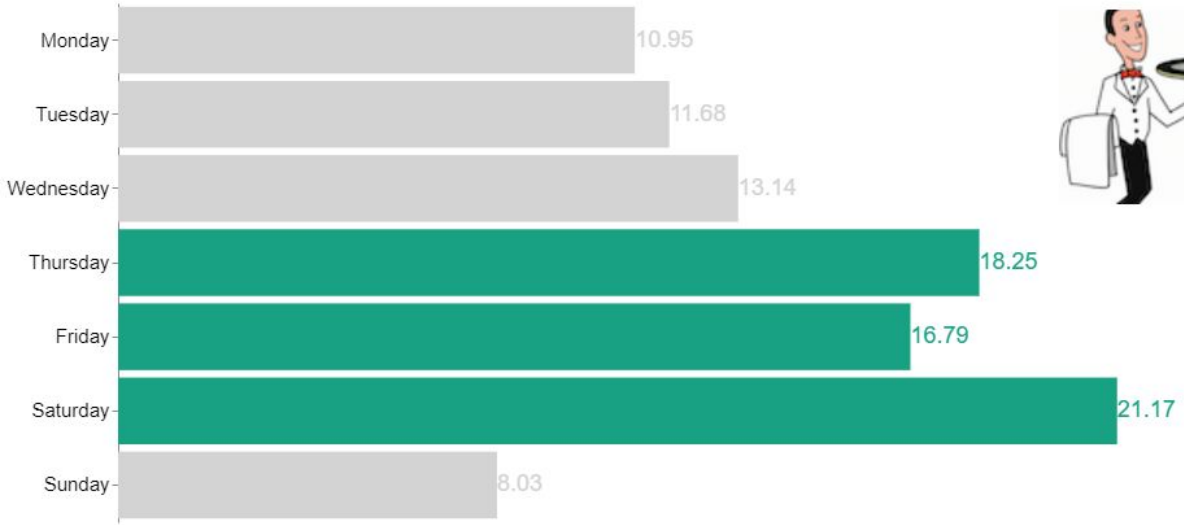
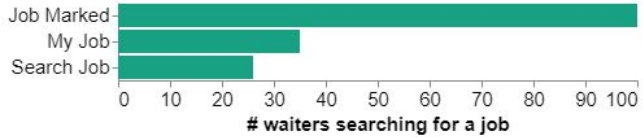
## Search here for a waiter!