

# DEMO



# Digital products and services

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# Agenda

- Defining service economy
- Defining digital products and services
- Digital products and services value
- Service design methods

# Learning objectives

- Understand the concept of service economy
- Understand the concepts of digital products and services
- Recognize, describe and implement methods used for service design

# What have we learnt...?

- Digital Platform Ecosystem and Enterprises
  - Revenue Models in Digital Platform Enterprises
  - Data Analytics in Platform Enterprises
  - Technical Aspects of Platform Enterprises
  - Digital Business Models
  - Digital Marketing and Customer Centricity
  - Digital Transformation
- How to design user-centered digital products and services?

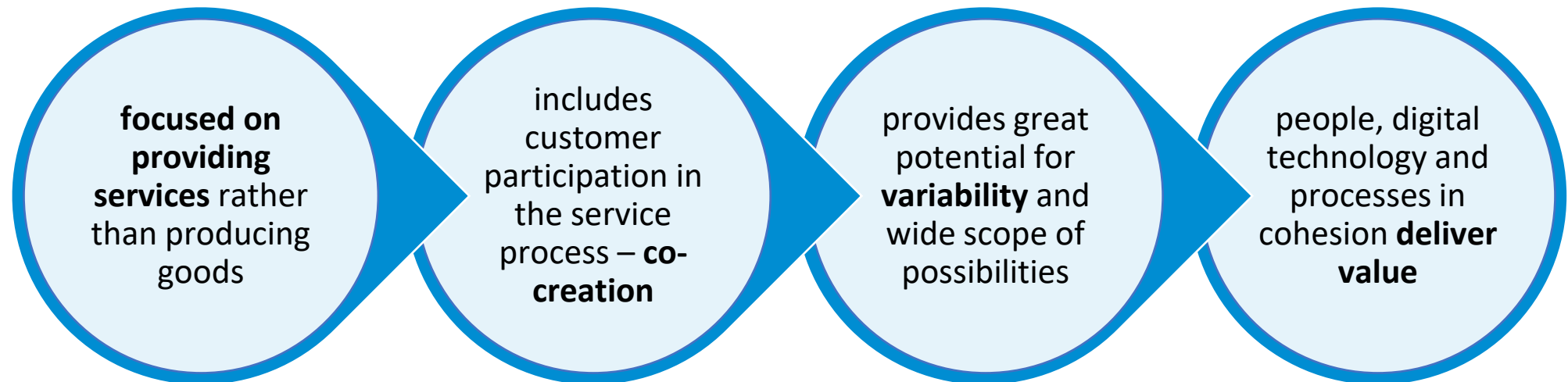


## Defining service economy



# Service Economy

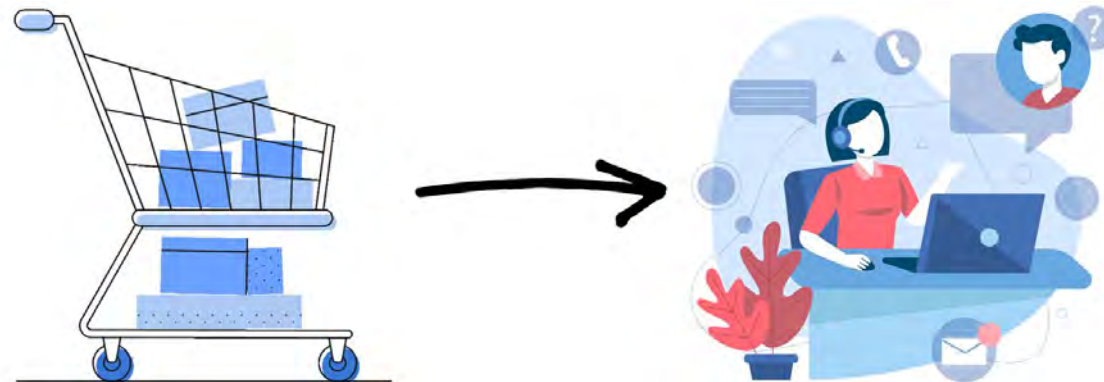
- **Fundamentals and characteristics**
  - Services → central economic activity in any society
  - Service economy:



# Service Economy

- **Evolution**

- early 1990s → 3 of 10 workers were employed in services sector
- 2000s → 8 of 10 are employed in services sector
  - society has changed focus from predominantly manufacturing-based activities to predominantly service-based activities
- **today** → redesign of the boundaries between products and services → digital products and services (digital transformation, digital platforms...)



# Service Economy in numbers

**Table 1. Worldwide IT Spending Forecast (Millions of U.S. Dollars)**

	2021 Spending	2021 Growth (%)	2022 Spending	2022 Growth (%)	2023 Spending	2023 Growth (%)
Data Center Systems	189,506	6.1	209,190	10.4	216,262	3.4
Software	732,030	14.8	790,385	8.0	879,625	11.3
Devices	807,580	15.8	739,982	-8.4	735,394	-0.6
IT Services	1,207,966	12.8	1,258,150	4.2	1,357,914	7.9
Communications Services	1,459,483	3.8	1,435,401	-1.7	1,469,220	2.4
<b>Overall IT</b>	<b>4,396,565</b>	<b>10.2</b>	<b>4,433,108</b>	<b>0.8</b>	<b>4,658,416</b>	<b>5.1</b>

Source: Gartner (October 2022)

**Table 1. Worldwide IT Spending Forecast (Millions of U.S. Dollars)**

	2023 Spending	2023 Growth (%)	2024 Spending	2024 Growth (%)
Data Center Systems	236,179	4.0	259,680	10.0
Devices	664,028	-9.1	687,943	3.6
Software	914,689	12.6	1,042,174	13.9
IT Services	1,385,120	6.1	1,519,928	9.7
Communications Services	1,487,161	3.3	1,551,288	4.3
<b>Overall IT</b>	<b>4,687,177</b>	<b>3.8</b>	<b>5,061,013</b>	<b>8.0</b>

Source: Gartner (April 2024)

Source: <https://www.gartner.com/en/newsroom/press-releases/2022-10-19-gartner-forecasts-worldwide-it-spending-to-grow-5-percent-in-2023>

Source: <https://www.gartner.com/en/newsroom/press-releases/2024-04-16-gartner-forecast-worldwide-it-spending-to-grow-8-percent-in-2024>

# Technology trends

## Gartner Top 10 Strategic Technology Trends for 2023

1. Digital Immune System
2. Applied Observability
3. AI Trust, Risk and Security Management (AI TRISM)
4. Industry Cloud Platforms
5. Platform Engineering
6. Wireless-Value Realization
7. Superapps
8. Adaptive AI
9. Metaverse
10. Sustainable Technology

## Gartner Top 10 Strategic Technology Trends for 2024

1. AI Trust, Risk and Security Management (AI TRISM)
2. Continuous Threat Exposure Management (CTEM)
3. Sustainable Technology
4. Platform Engineering
5. AI-Augmented Development
6. Industry Cloud Platforms
7. Intelligent Applications
8. Democratized Generative AI
9. Augmented Connected Workforce
10. Machine Customers

Source: <https://www.gartner.com/en/articles/gartner-top-10-strategic-technology-trends-for-2023>

Source: <https://www.gartner.com/en/articles/gartner-top-10-strategic-technology-trends-for-2024>

## Defining digital products and services



# Discussion

- *What types of digital products and services did you use in the last week?*
- *Which ones do you use daily?*
- *Which new services have you used in the past month?*
- *Which of those services are platforms?*

# Defining Digital Products

- **Digital Products (1/2)**
  - are physical elements, characterized by intelligence based on embedded technology, where technology provides a more convincing offer created for specific customers
  - technological features enabled their interaction, communication and connection with the environment



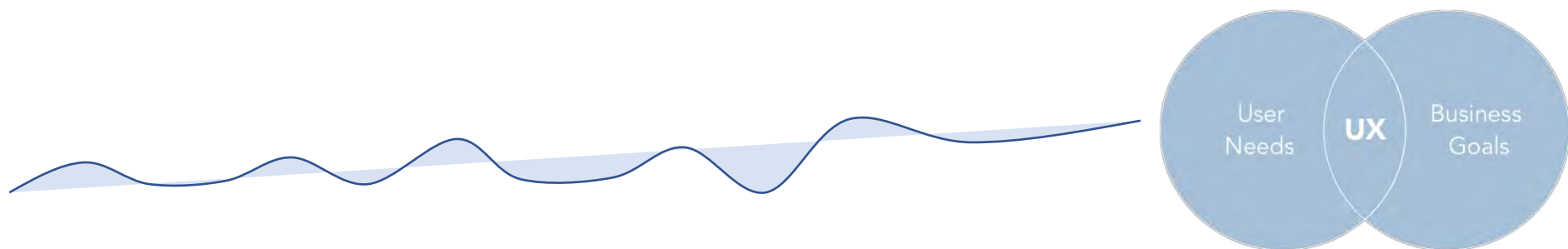
# Defining Digital Products

- **Digital Products (2/2)**
  - uses data obtained from interaction with the environment, and based on the data take proactive steps addressed to customers
  - learn from experiences in the wider ecosystem, which further influences adaptations and improvements in end product performance
  - *digital products are new types of products with already built-in services*



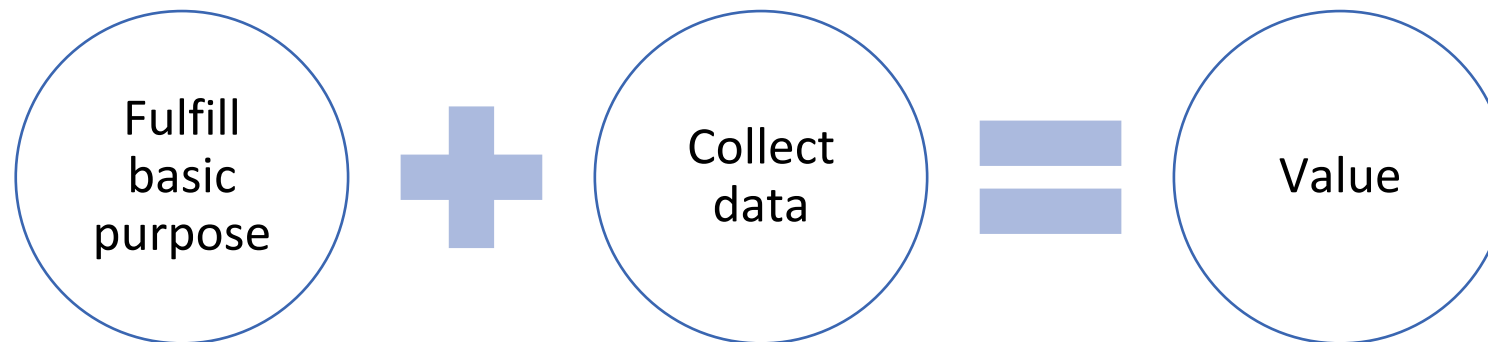
# Digital Products Value (1/2)

- 1) A digital product should meet the technical features such as unique identity, location, connectivity, sensors, data storage and processing capabilities, and interactive interfaces.
- 2) Most of these products perform tasks independently and, based on algorithms, bring autonomous decisions.



# Digital Products Value (2/2)

- 3) The primary role of digital products is to fulfill their basic purpose.
- 4) The secondary role is to **collect data for the purpose of creating improved and innovative products and services**, based on connecting the smart product with the other resources.



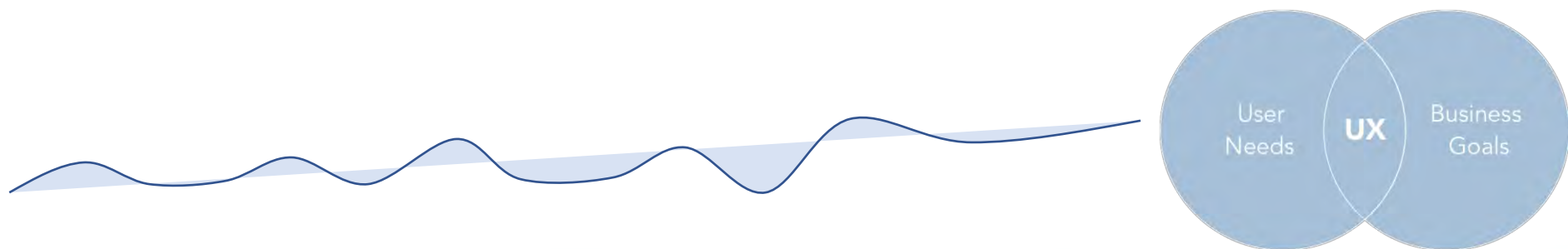
# Defining Digital Services

- **Digital Services**
  - considers data as a raw material → data-driven services
  - *digital products and related services go beyond traditional value creation, creating indispensable relationships between people and tangible objects in the wider ecosystem*



# Digital Services Value

- 1) The offer of digital services implies the establishment of a connection with the information system, i.e. database, without the presence of digital products.
- 2) Offering a digital service means providing information to customers that are the result of collected data and their analysis, connection and optimization.



*An offer that combines a **product** and a **service** implies that the customer can use a digital product with its physical capabilities and data is collected for further purposeful analysis to create additional **value**.*



# Assignment for students

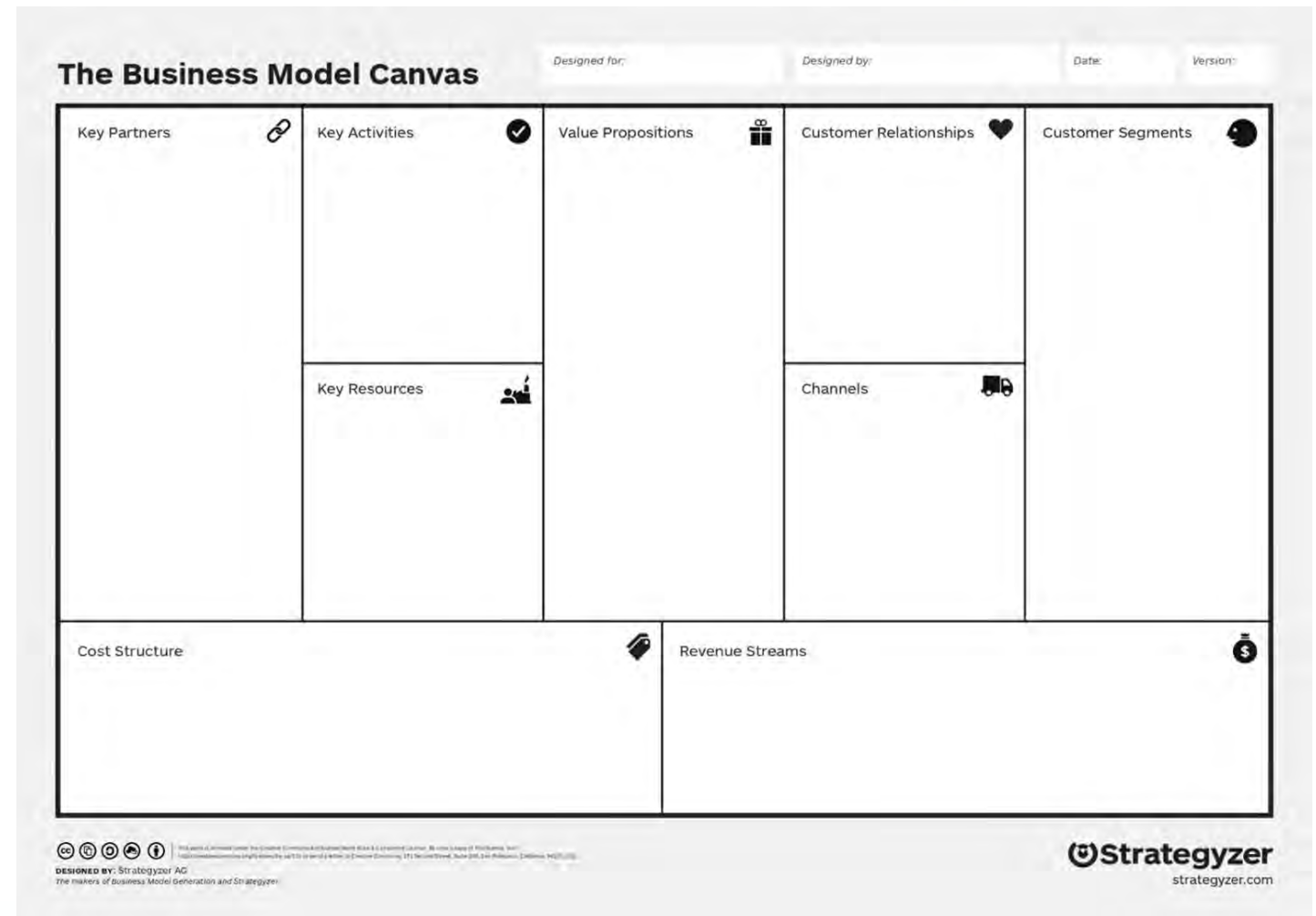
- *Search for the example of companies that focused too much on products and not enough on creating platforms (i.e. Garmin vs Google Maps).*

*How to create completely customer-centric products and services?  
Get started with analysing your current **business model**.*

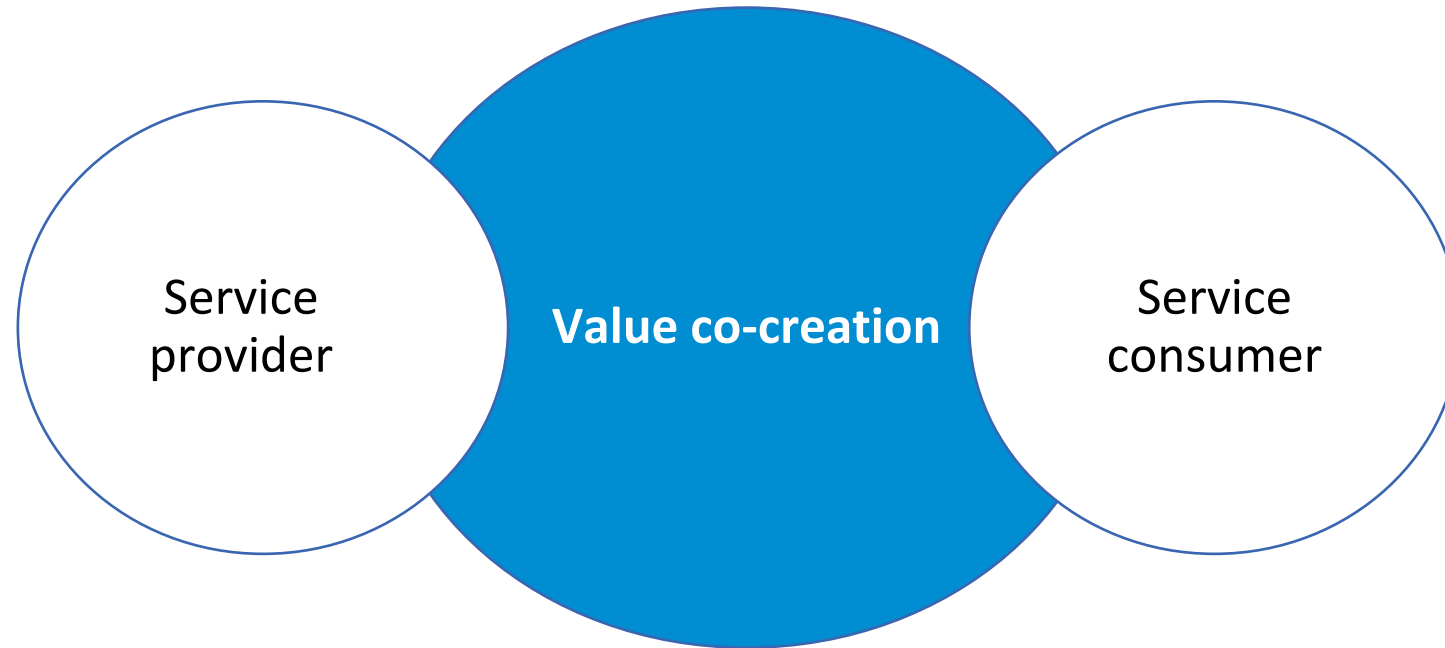


# Business Model Canvas

- BMC → strategic management tool used for documenting existing and developing new business models
- enables users to visually represent business model elements and potential interconnections and impacts on value creation
- created in 2005 by Alexander Osterwalder & Yves Pigneur
- consist of 9 blocks



## Value co-creation



## Discussion

- *Can you identify main values of Airbnb business model?*
  - seller perspective?
  - buyer perspective?



Source: <https://slidemodel.com/business-model-canvas/airbnb-business-model-canvas-example/>

# DEMO

*Focus on value proposition.*



## Service design methods



# 6 reasons platforms fail

- 1. Failure to optimize “openness”** - the degree of access that consumers, producers, and others have to a platform, and what they’re allowed to do there
- 2. Failure to engage developers**
- 3. Failure to share the surplus** - the consumer, the producer, and the platform all win if the division of value works for everyone
- 4. Failure to launch the right side** – should focus be on attracting consumers or producers?
- 5. Failure to put critical mass ahead of money**
- 6. Failure of imagination** – selling a product, not seeing that the platform is playing

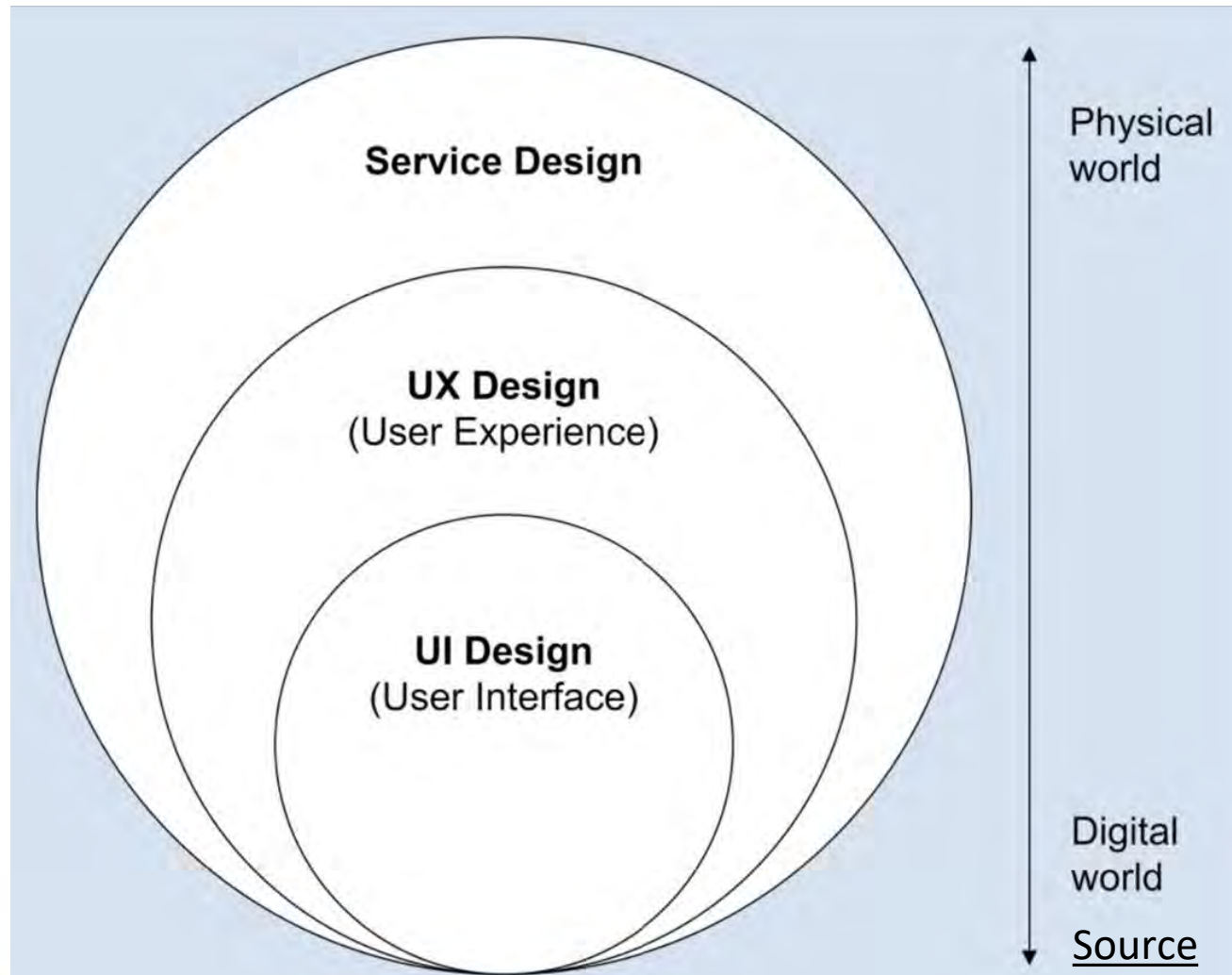
Source: <https://hbr.org/2016/03/6-reasons-platforms-fail>

## Discussion

- *Do you know any platform that failed?*
- *What was the reason?*



# Service Design



## Service design

Involves designing a complete user experience: it takes into account every touch point between an organization and its user, whether physical or digital.

## User Experience Design (UX)

Refers to all interactions between a user and a specific (usually digital) product. It's goal is to create a product/service that provides users with meaningful and relevant experiences.

## User Interface (UI) Design

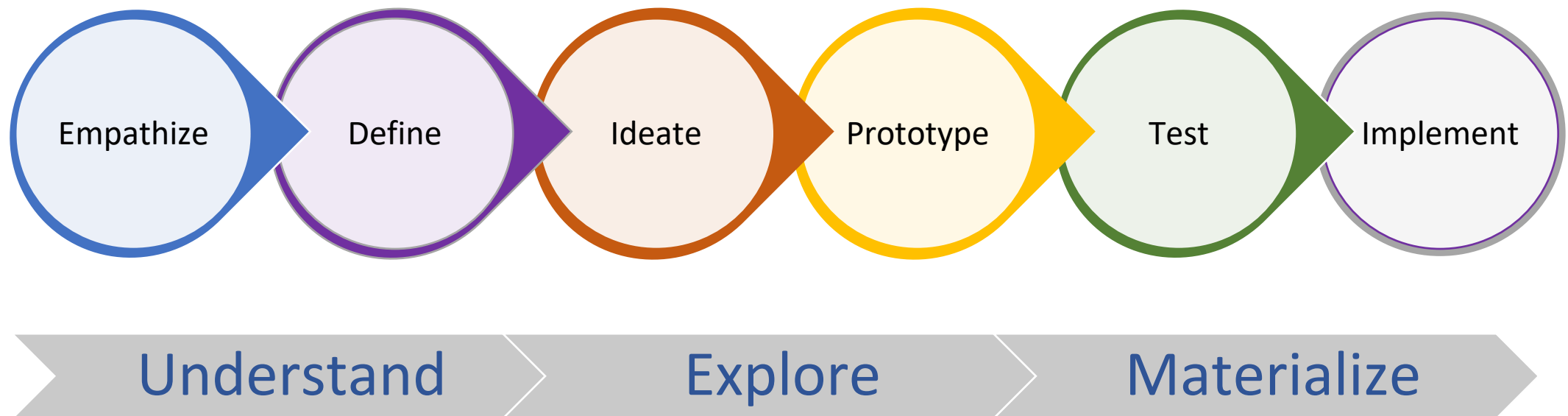
It's more about the look and feel of digital interfaces. It focuses on making interactions with the product simple and effective, and making the product pleasing to the eye.

# Discussion

- *Explain user experience and user interface desing in the context of Airbnb.*

# Design thinking

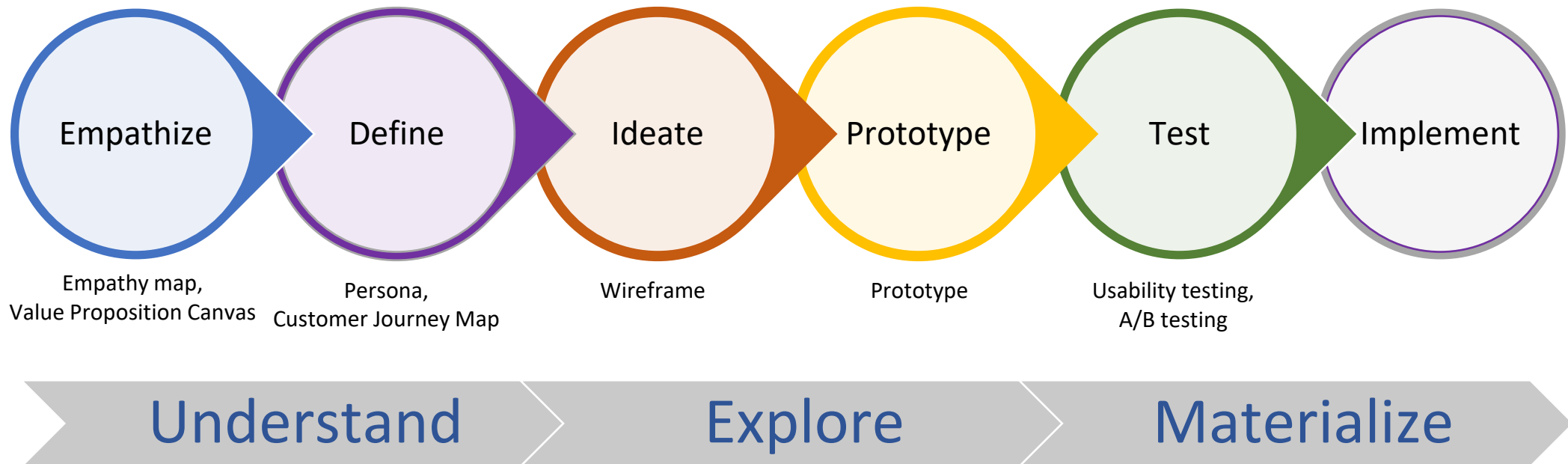
- Nielsen Norman Group defines it as „**ideology supported by an accompanying process**” that comprises 6 distinct phases:



Source: <https://www.nngroup.com/articles/design-thinking/>

# Design thinking

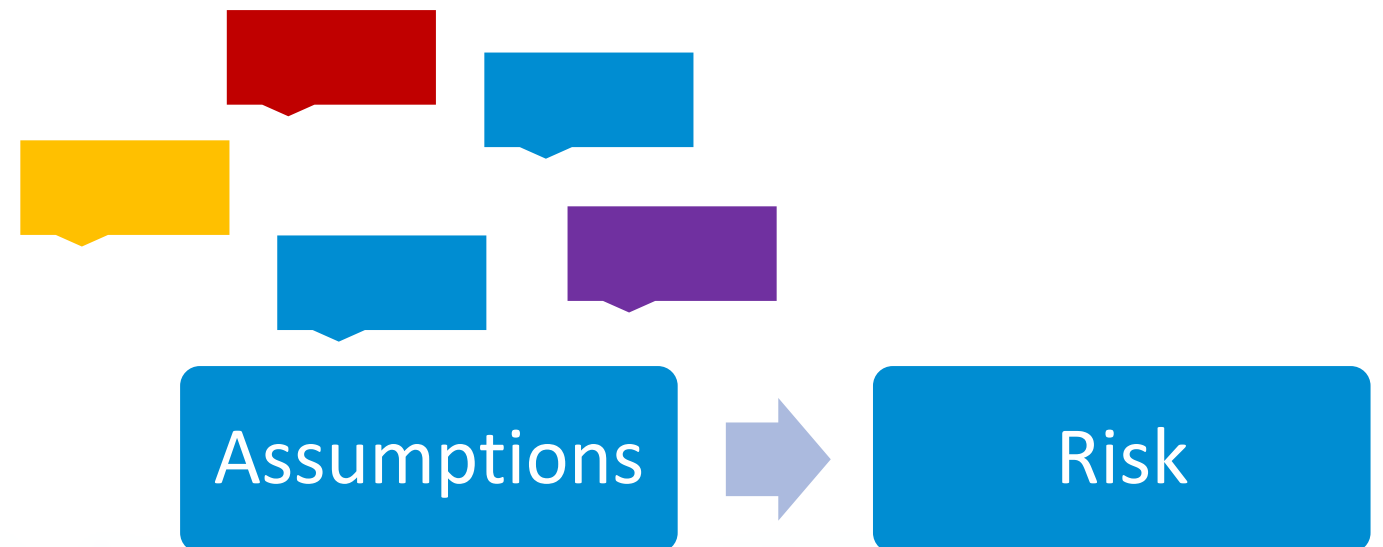
- Includes different methods that helps to create products and services tailored to users' needs



Source: <https://www.nngroup.com/articles/design-thinking/>

# Understanding users

- Who are the potential users?
- Which problems do they have?
- What are their needs, feelings, thoughts?
  - Assumptions about the users and their needs lead to risk that we do not understand our users well



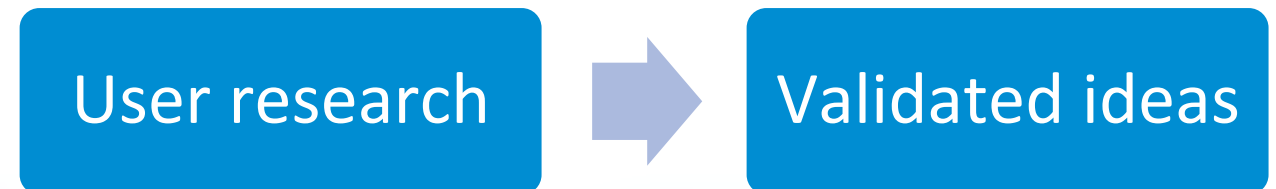
# User research

To avoid risk, different user research methods should be used to understand potential users:

- Qualitative and quantitative
- Interviews, surveys, observations, diary...

Data obtained through user research can be visualized in a form of:

- Empathy Map
- Value Proposition Canvas

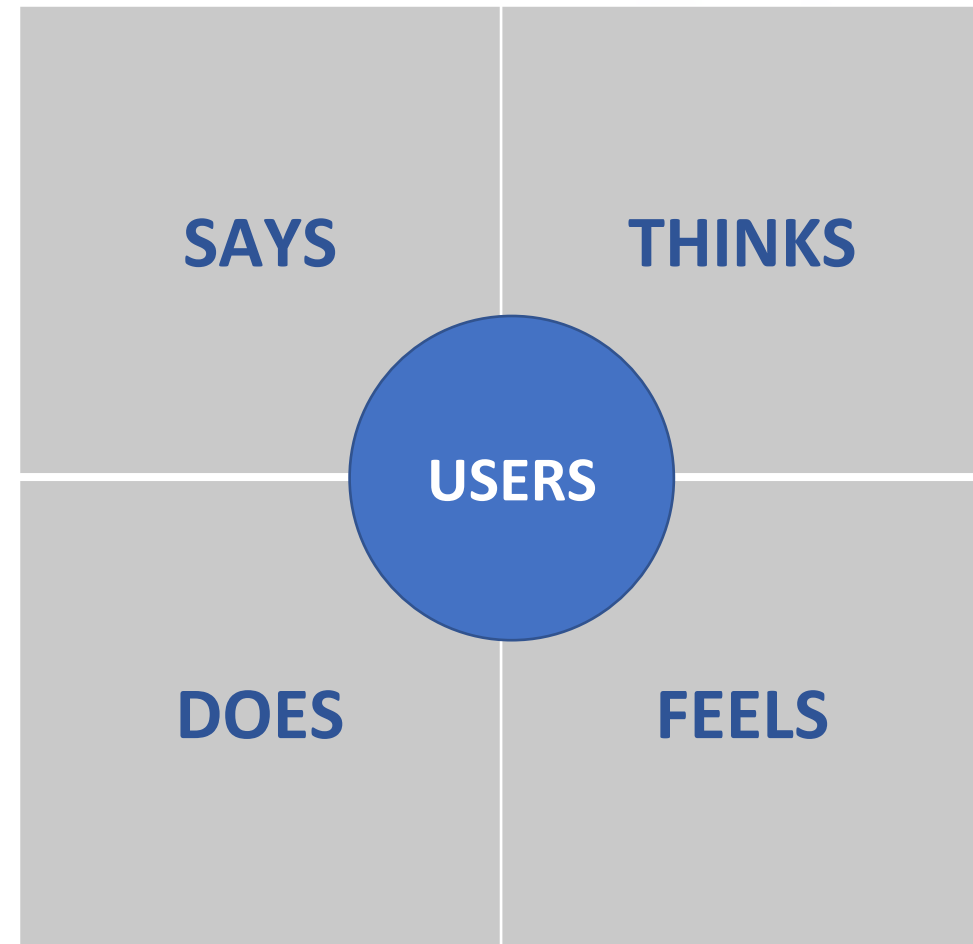


# Empathy Map

According to Nielsen Norman Group: „An empathy map is a collaborative visualization used to articulate what we know about a particular type of user. It externalizes knowledge about users in order to:

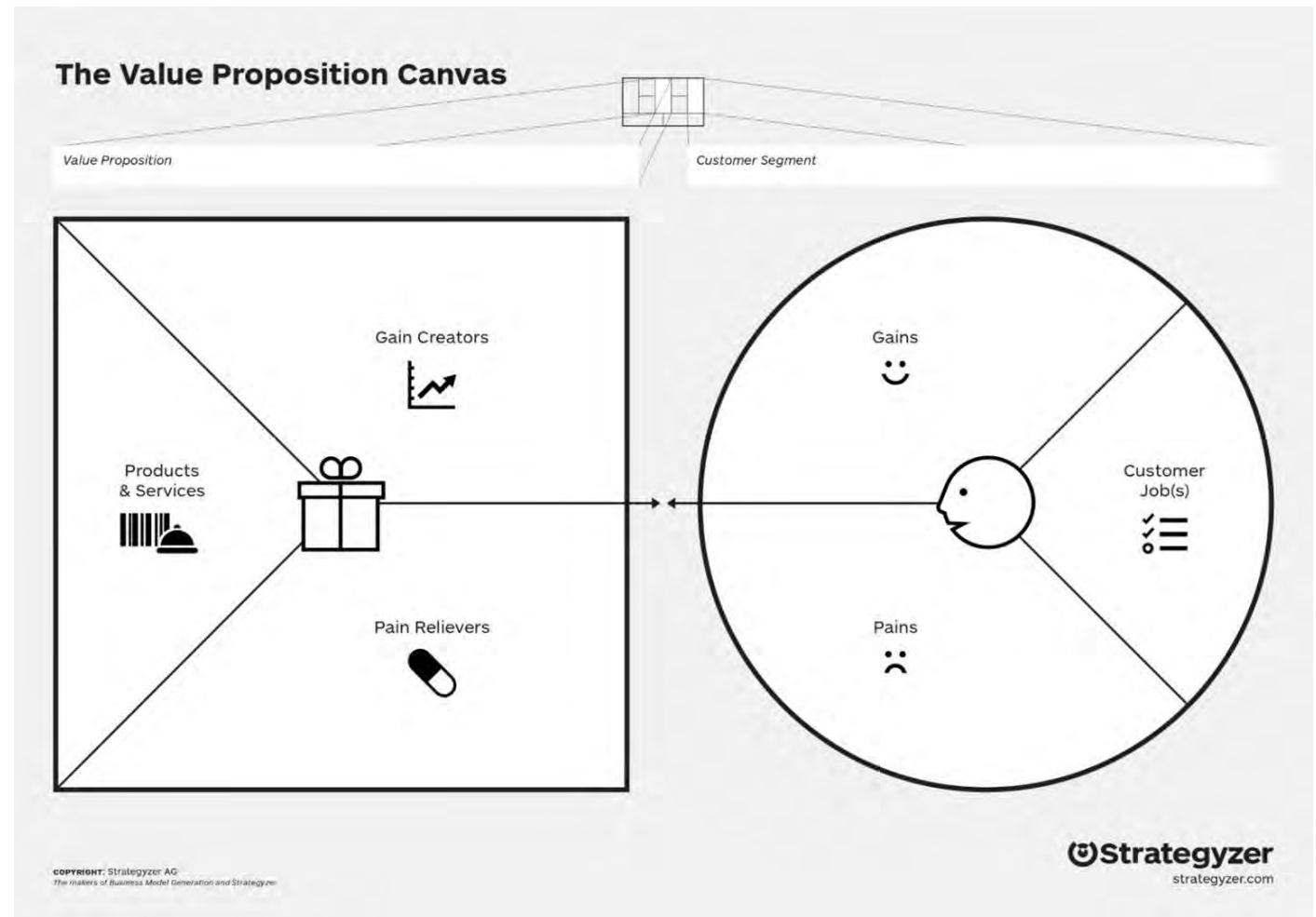
- 1) create a shared understanding of user needs, and
- 2) aid in decision making.”

Source: <https://www.nngroup.com/articles/empathy-mapping/>



# Value Proposition Canvas

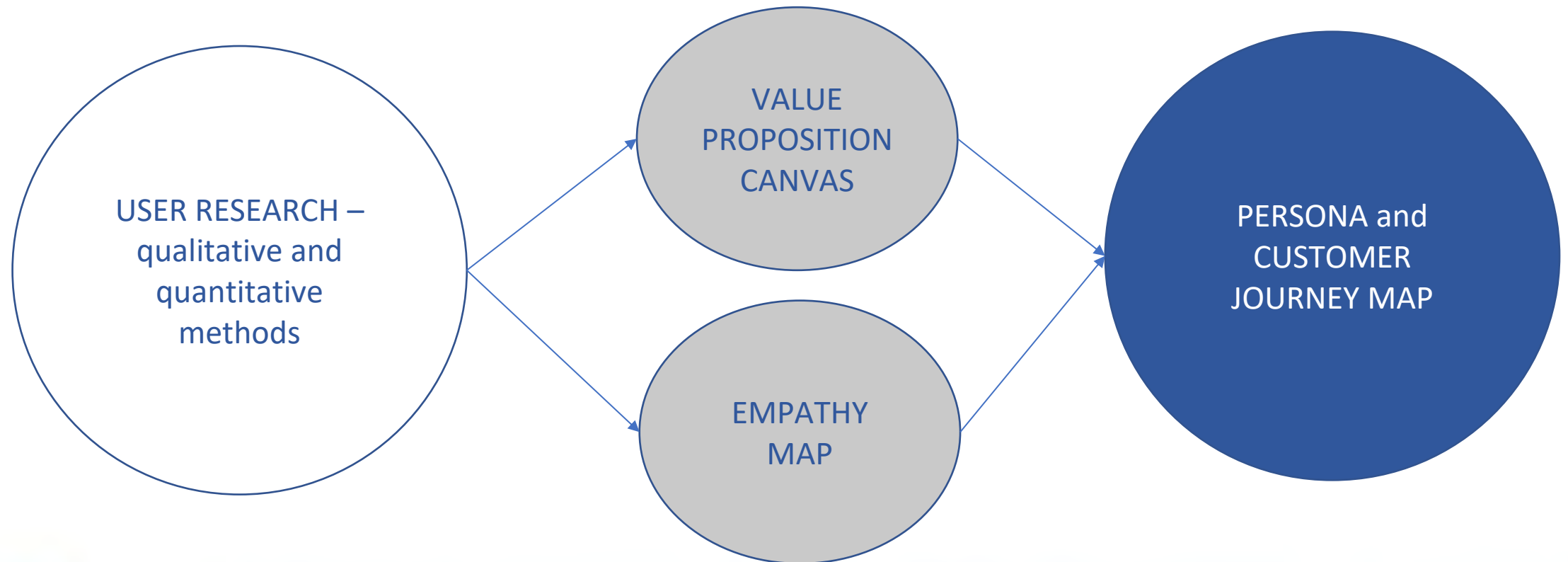
- VPC → tool that helps organizations align products and/or services to customer values and needs
- Goal: mapping customer perceived value to create product/service-market fit
- Created by Alexander Osterwalder & Yves Pigneur
- Explores two BMC blocks: Customer Segment and Value Proposition



Source: <https://www.strategyzer.com/canvas/value-proposition-canvas>

# Define

From empathising to defining users:




# Persona

- represents ideal user of products or services (fictional character)
- typical persona is mainly based on knowledge obtained through observed behavior patterns of target audience and conducted user research
- empathy is created towards the target groups/users that company will address with the digital products or services

## Customer Persona

Customer Profile
✕



**Olivia, 27**

Archetype	The Innocent
Gender	Female
Income	\$85,000.00
Education	MBA in Graphic Design
Occupation	Illustrator and Designer
Location	London

Customer Personality Slider
✕

Introvert Extrovert

○ — ○ — ● — ○ — ○ — ○ — ○

Creative Analytical

○ — ● — ○ — ○ — ○ — ○ — ○

Messy Organised

○ — ○ — ○ — ○ — ○ — ○ — ● — ○

Emotional Rational

○ — ○ — ○ — ● — ○ — ○ — ○ — ○

Active Passive

○ — ○ — ● — ○ — ○ — ○ — ○ — ○

Plays safe Takes risk

○ — ○ — ○ — ○ — ○ — ○ — ○ — ● — ○

# Persona – relevant information

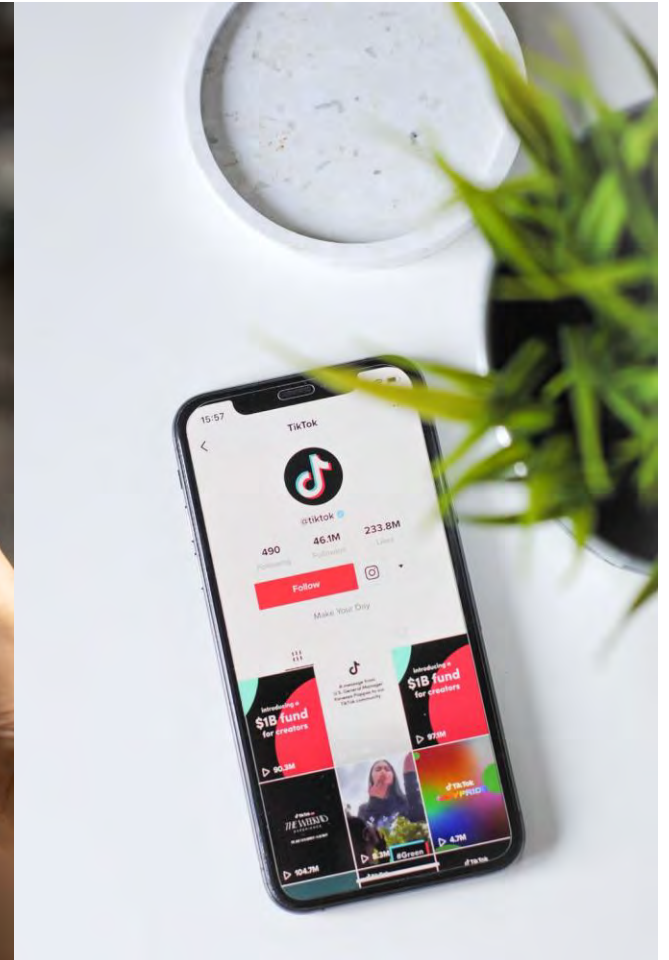
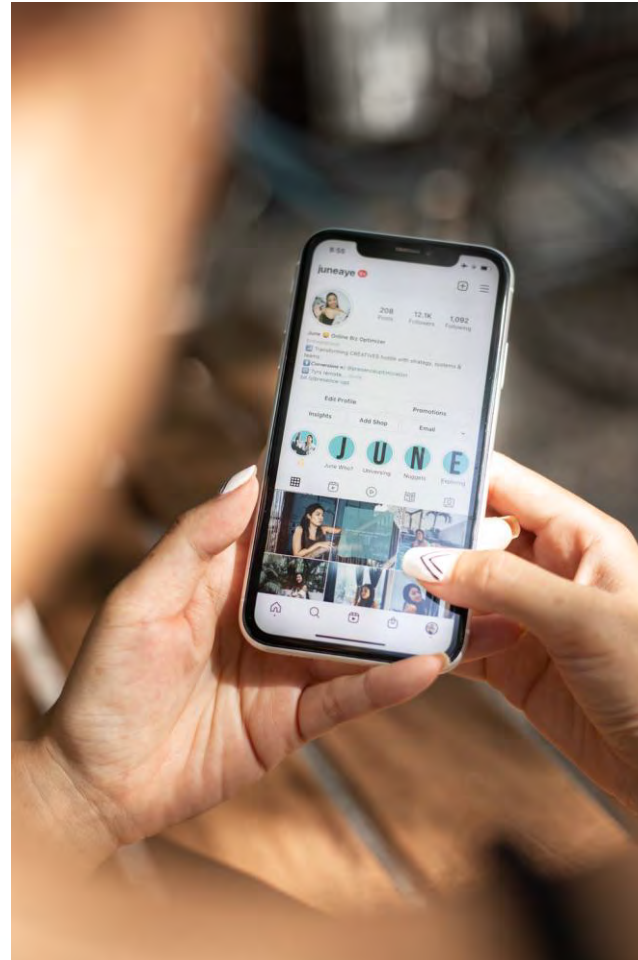
- **Personal information:** Name, Age, Occupation..
  - Short bio:
  - **Interests / hobbies:** sport, reading, travelling...
  - **Values:** prefers organic food, volunteers for different organizations...
  - IT usage:
  - Needs:
  - **Future Goals:**
- **Describe only elements relevant in the context of certain product / service!**

# Discussion

*How would you describe users (personas) of Instagram and TikTok?*

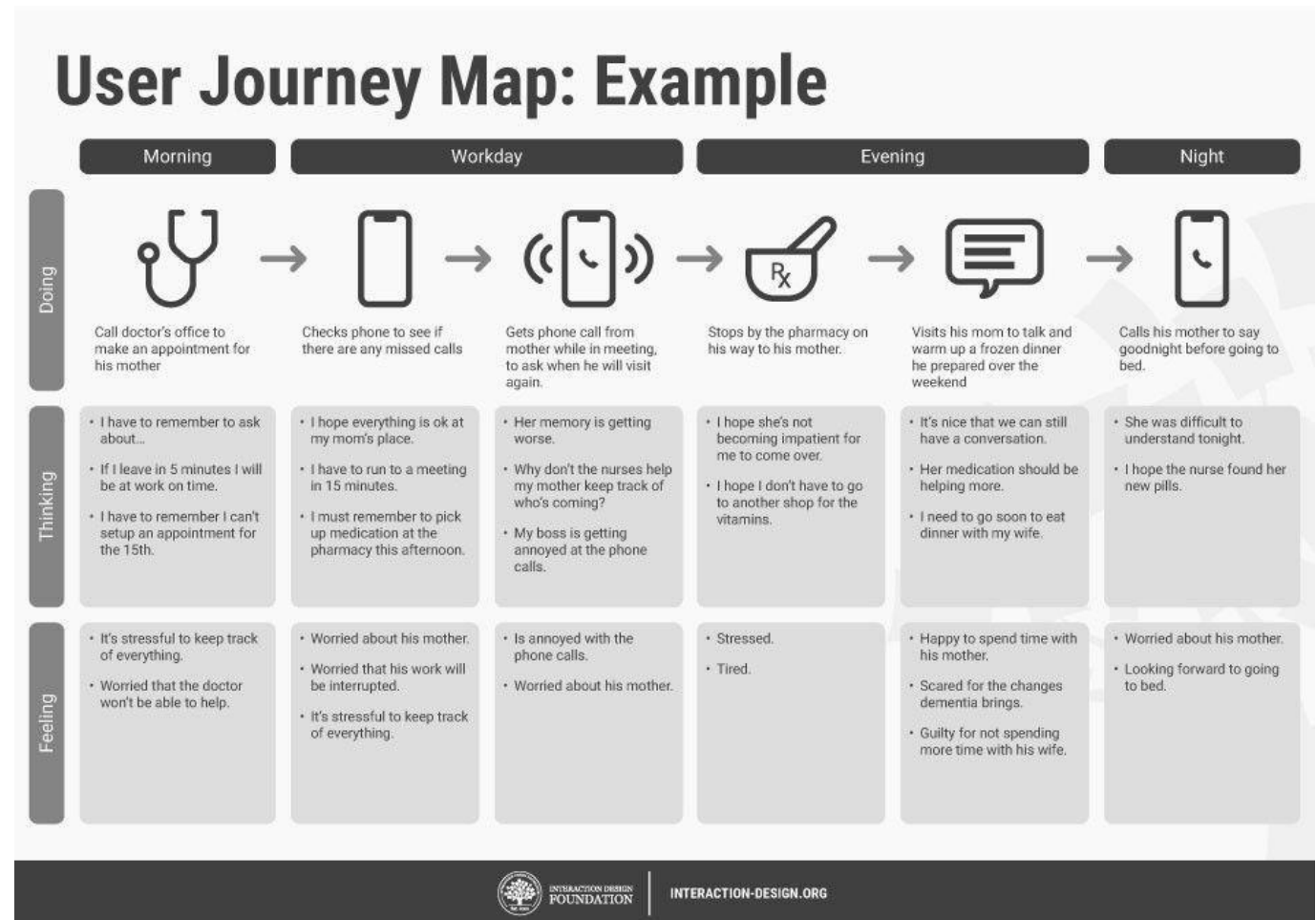
- Age?
- Interests?
- Hobby?

*For a streaming platform (i.e. Youtube), can you recognize different persona based on the business model?*



# Customer Journey Map – Persona in action

- helps to better understand the customer on the way to purchasing a product or service
- reflects how the customer will behave during a certain situation:
  - Before using a service
  - During the service usage
  - After using the service
- creating a journey map is a great way to systematically consider the steps or milestones of customer behaviour



Source: <https://www.interaction-design.org/literature/topics/customer-journey-map>

# Assignment for students

- *Choose one digital platform and identify its users.*
- *For one type of user define the following elements:*
  - *User research methods,*
  - *Customer segment of VPC (Customer jobs, pains and gains),*
  - *Recognized different persona types.*

# Wireframing

- First iteration of a product or service solution
- Visualize the solution based on the *define* step
- Helps to communicate idea
- Types according to detail representation:
  - Low-fidelity wireframe
  - High-fidelity wireframe
- Created in pen-and-paper option or in a tool such as Balsamiq, Figma...



Source: <https://balsamiq.com/learn/articles/what-are-wireframes/>

# Prototyping

- initial physical, functional innovation model
- designed with the purpose of including all necessary functionalities for future launch
- prototype = paper, gadget, storyboard,..
- includes design elements (UI)
- high-fidelity prototypes are interactive (i.e. created in Figma)



Source: learning materials Blended International Bootcamp Global Build, 2021

# Assignment for students

- Read the article:

Venegas, Javi. 2022. „A streaming platform user persona study”

<https://bootcamp.uxdesign.cc/a-streaming-platform-user-persona-study-f02bd9848a2e>



# Further reading

- **User research**

- <https://www.interaction-design.org/literature/topics/user-research>

- **Persona**

- <https://www.interaction-design.org/literature/article/personas-why-and-how-you-should-use-them>

- **Value Proposition Canvas**

- <https://www.strategyzer.com/canvas/value-proposition-canvas>

- **Customer Journey Map**

- <https://www.interaction-design.org/literature/topics/customer-journey-map>

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# DEMO



*Thank you for your attention!*

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SCAN ME



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