# Plan

1) Identify a use case (question/opinion)

Prof. Dr. Jan Kirenz

# Identify a promising data science use case

# How to figure out where to apply AI?

- Consider the jobs of the company's employees and contractors, and break down the jobs into tasks.
- Examine each commonly done task to see if it's amenable to either assistance (augmentation) or automation using AI tools
- Assess the value of doing so.

Source: DeepLearningAI (2023) Prof. Dr. Jan Kirenz

## Business Model Canvas

A business model describes the rationale of how an organization creates, delivers and captures value.

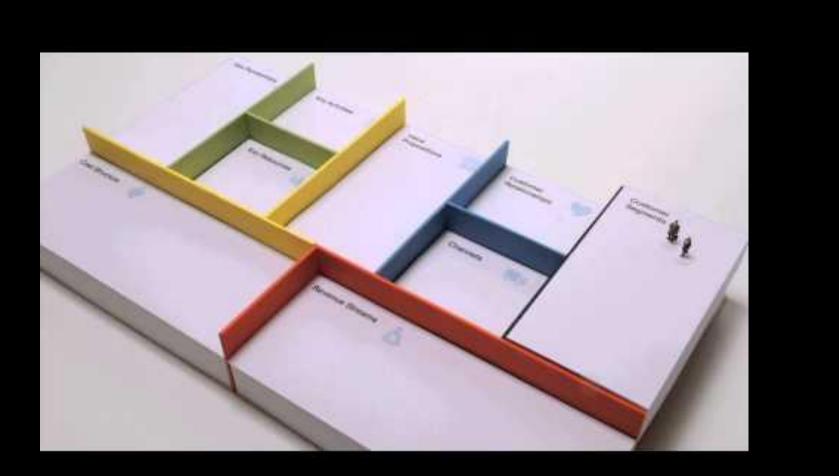


#### **Excellent resources:**

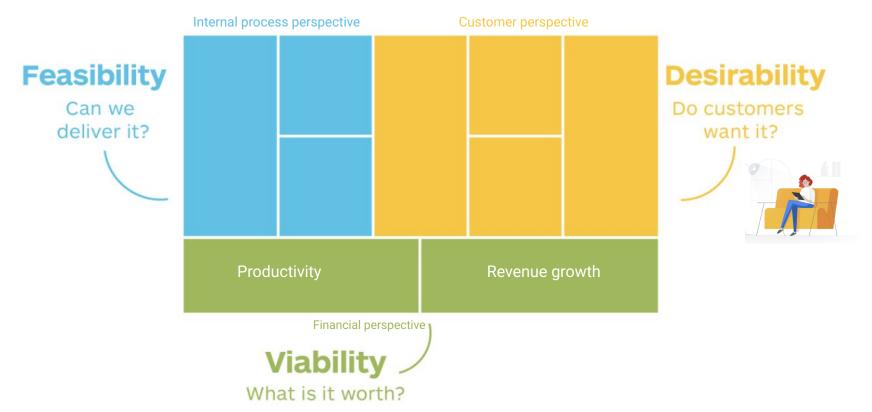
https://www.strategyzer.com/expertise/business-models

Examples of **Business Models** 

Gain insights about the essential building blocks of your business model to discover new growth opportunities

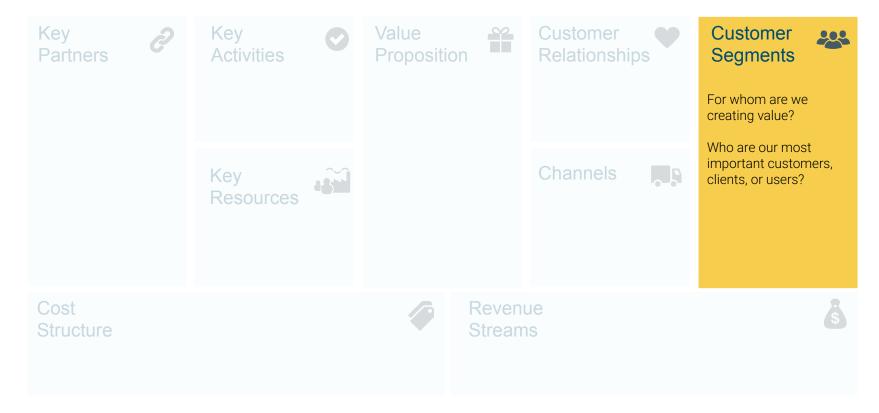


### How do we create, deliver and capture value?

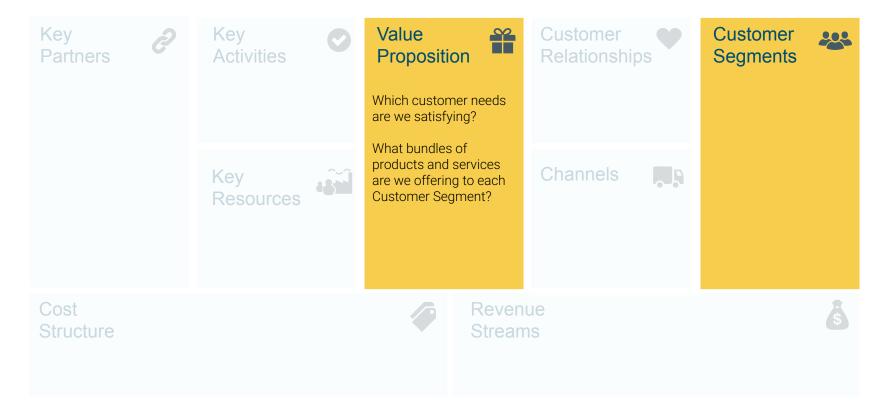


Source: Osterwalder & Pigneur (2010)

## Customer Segments



## Value Proposition



### Channels



# Customer Relationships



### Revenue Streams



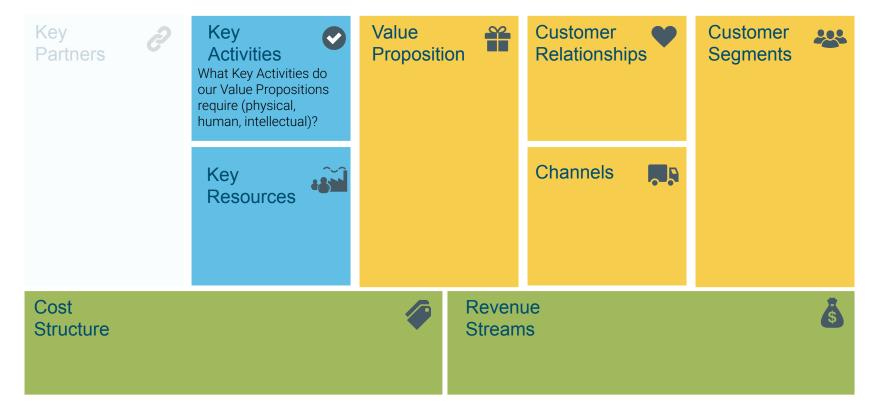
### Cost Structure



## Key Resources



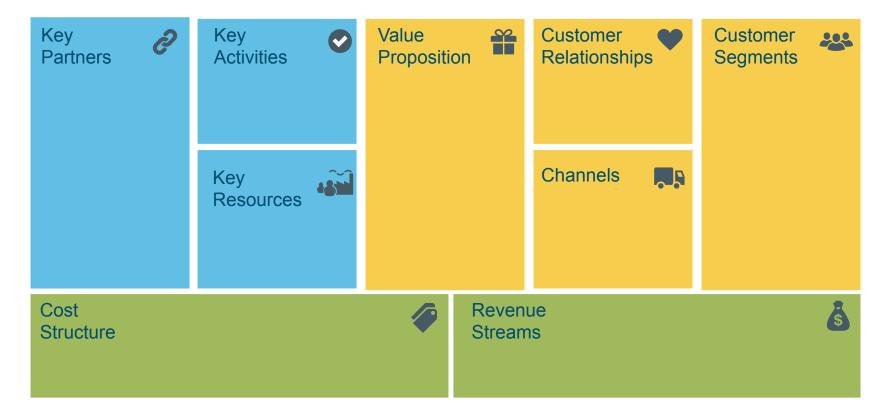
# Key Activities



## Key Partners



### Business Model Canvas



### RESOURCE CASTLES

How to become hard to copy.

#### ACTIVITY DIFFERENTIATORS

How to differentiate with innovative activity configurations.

#### **SCALERS**

How to scale in new ways.

### GRAVITY

How to lock in customers.

### MARKET

How to unlock new market potential.

#### **CHANNEL KINGS**

How to build innovative and strong customer relationships.

#### **COST DIFFERENTIATORS**

How to build innovative cost structures.

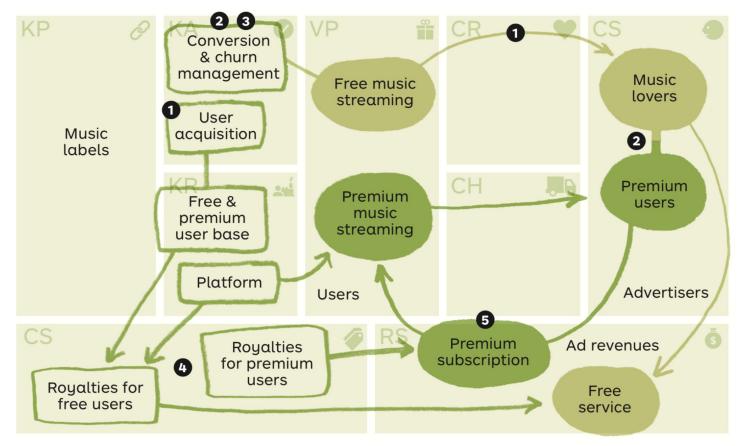
#### **MARGIN MASTERS**

How to boost margins in creative ways.

#### REVENUE DIFFERENTIATORS

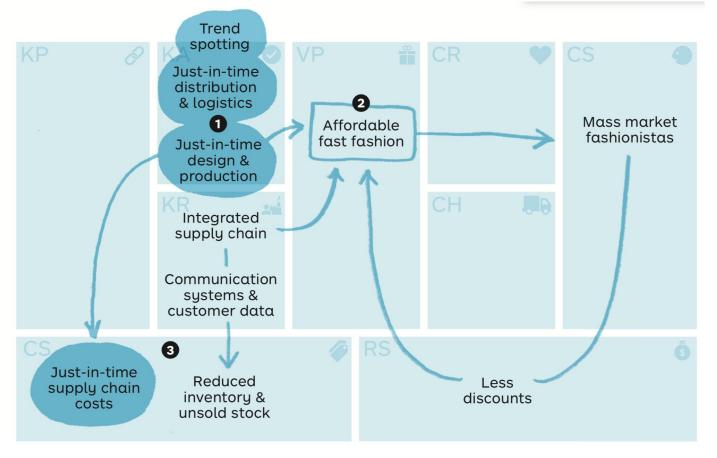
How to better capture value.

Source: Strategyzer (2019) Prof. Dr. Jan Kirenz



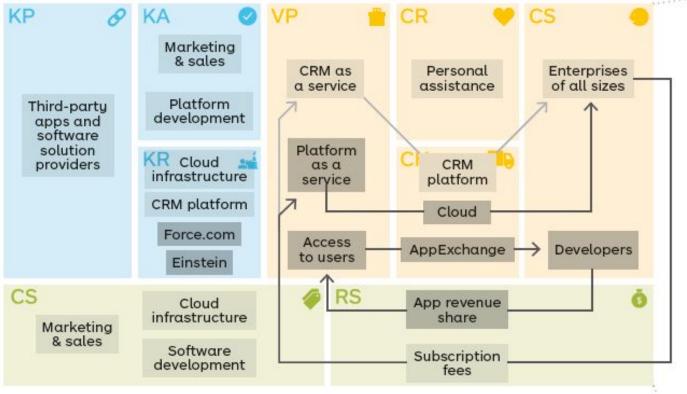
Spotify (detailed explanation); More Examples: Business Model Canvas

Source: Strategyzer (2019)



Zara: Optimize activities for speed (detailed explanation)

Source: Strategyzer (2019) Prof. Dr. Jan Kirenz



Salesforce.com Business Model

### Salesforce

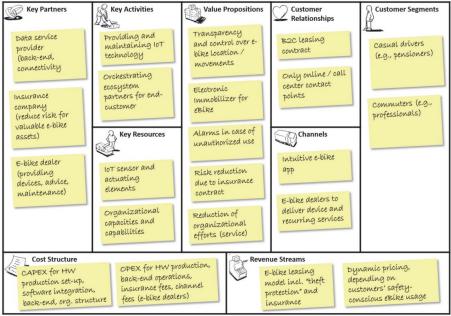
Source: Strategyzer (2019)

Prof. Dr. Jan Kirenz

### The IoT Business Model Builder (Bosch IoT Lab & Bosch Software Innovations GmbH)



#### Business Model Canvas -



http://www.businessmodelgeneration.com

Figure 12: Osterwalder canvas for the node "full service provider" from the e-bike example (adapted from Osterwalder & Pigneur, 2010)

Prof. Dr. Jan Kirenz Bosch IoT Lab Whitepaper 2015

# Example



At 52 factories around the world, John Deere uses the Gas Metal Arc Welding (GMAW) process to weld mild- to high-strength steel to create machines and products.

In these factories, hundreds of robotic arms consume millions of weld wire pounds annually.

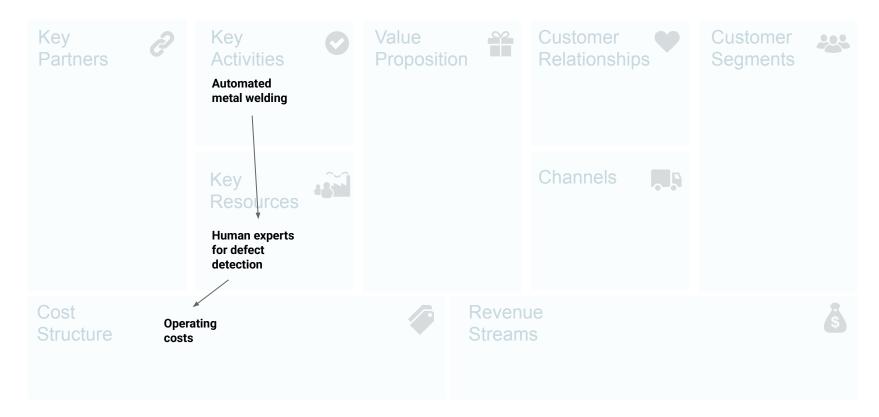
One common welding challenge felt across the industry is porosity, in which cavities in the weld metal are caused by trapped gas bubbles as the weld cools. The cavities weaken the weld strength.

Traditionally, GMAW defect detection has been a manual process requiring highly skilled technicians.



Source: John Deere (2021) Prof. Dr. Jan Kirenz

### Business Model Canvas





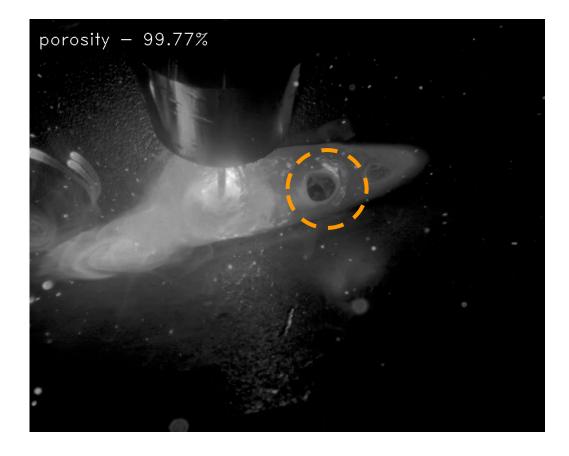






Visualizing welding in-process

Source: MeltTools
Prof. Dr. Jan Kirenz



Porosity weld recognition model

Source: OpenVino (2021)

# Strategy Mapping





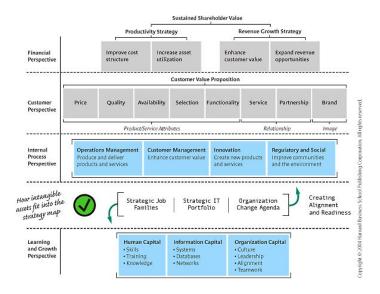
# Measuring the Strategic Readiness of Intangible Assets

by Robert S. Kaplan and David P. Norton

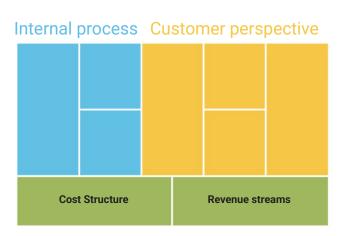
February 01, 2004



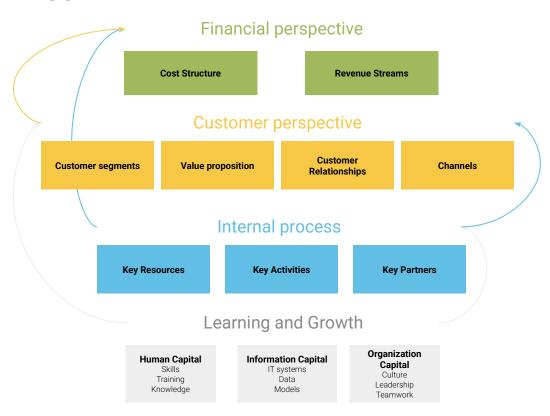
How valuable is a company culture that enables employees to understand and believe in their organization's mission, vision, and core values? What's the payoff from investing in a knowledge management system or in a new customer database? Is it more important to improve the skills of all employees or focus on those in just a few key positions?



# From BMC to Strategy Map

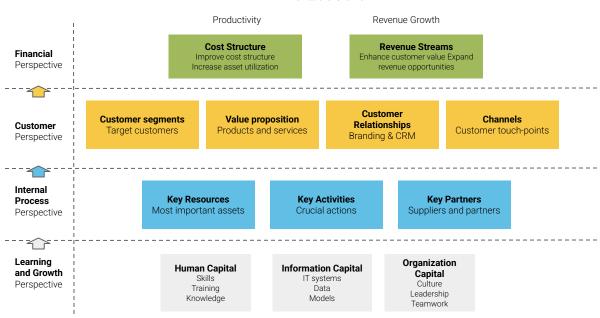


Financial perspective



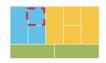


#### **Profitable Growth**

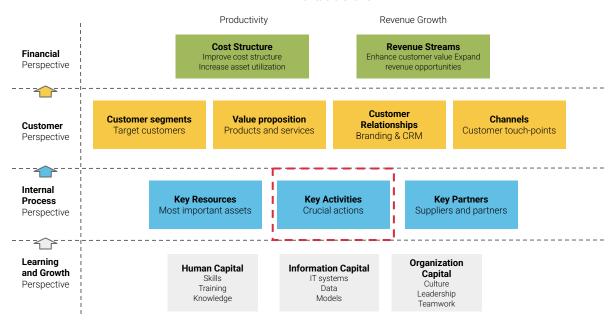


### Strategy Map

### Example

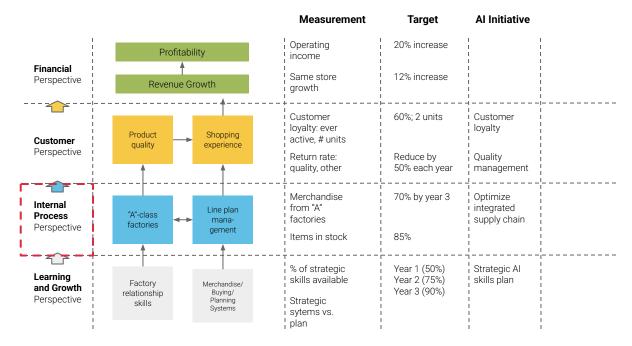


#### **Profitable Growth**



Internal Process: Operational excellence in key activities

## Example





Internal Process: Operational excellence in key activities

How to select between multiple initiatives?

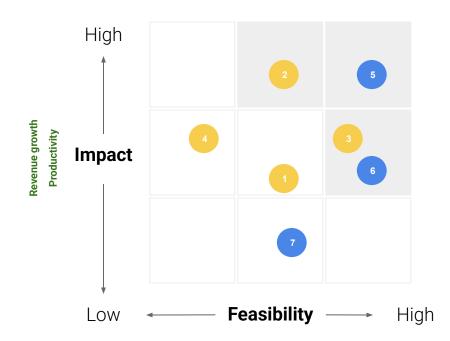
### Prioritization of initiatives

#### **Customer perspective**

- 1. Customer segments initiative
- 2. Value proposition initiative
- 3. Channels initiative
- 4. Customer relationship initiative

#### **Internal process**

- 5. Key activities initiative
- 6. Key resources initiative
- 7. Key partners initiative



Data accessibility and quality; need for change ...

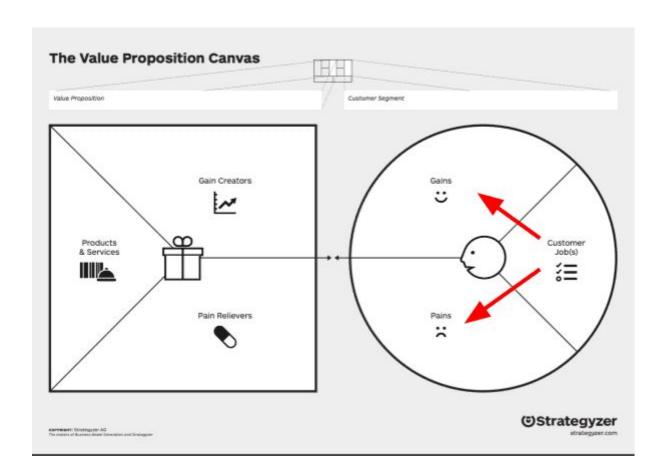
Source: McKinsey & Company (2018) Prof. Dr. Jan Kirenz

# Customer Segments & Value Proposition:

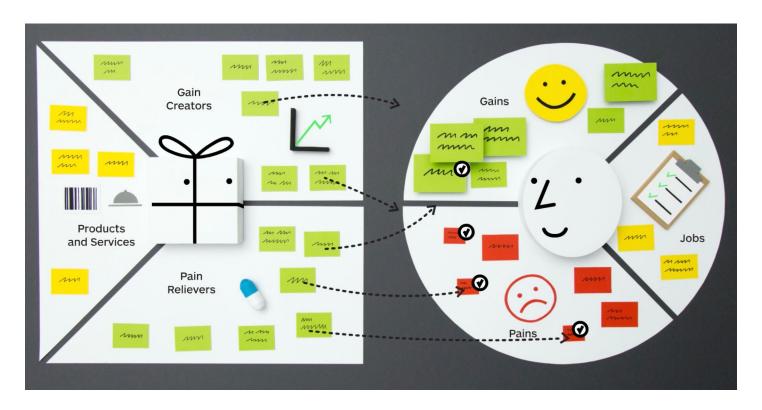
# Value Proposition Canvas

### Business Model Canvas



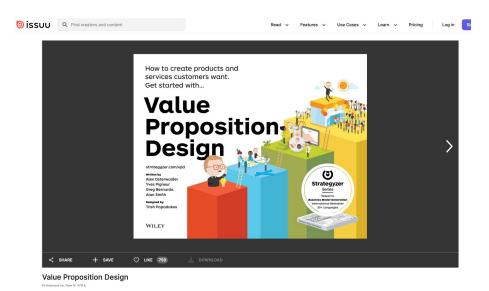


## Value Proposition Canvas



Quelle: Strategyzer Prof. Dr. Jan Kirenz

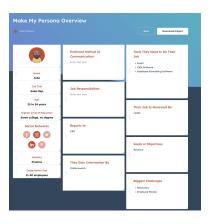
## Value Proposition Design Book



Download book chapter as PDF

### User Persona

A user persona is a detailed description of someone who represents your target audience (person who will use your product)

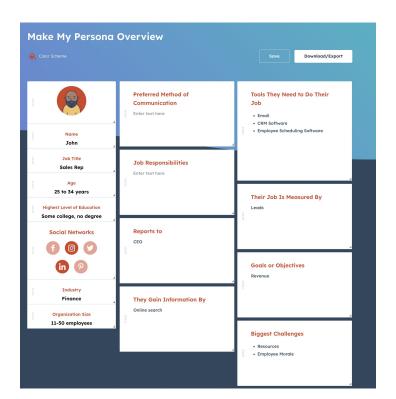


### User Persona

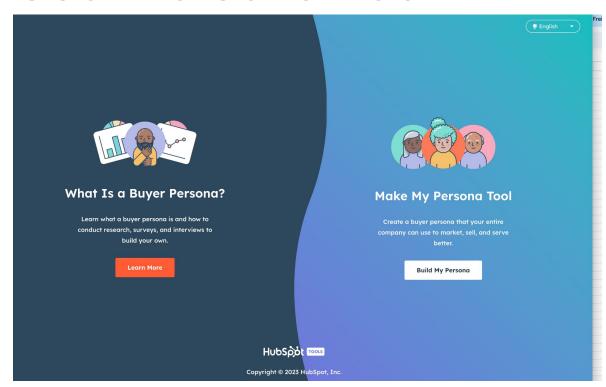
A user persona is a detailed description of someone who represents your target audience.

This persona is fictional but based on deep research of your existing or desired audience.

You might also hear it called a buyer persona, audience persona, or marketing persona.



# User Persona Tool



https://www.hubspot.com/make-my-persona

# Backup

### Some examples

How to optimize our value proposition?

How to build innovative and strong customer relationships?

Customer satisfaction

How to unlock new market potential?





### Value **Proposition**



### Customer Relationships

and Loyalty

(modeling)





#### **Products & Services**

- Concept testing and usability testing (A/B-testing)
- Offer optimization (conjoint analysis)

#### Channels



#### **Customer Experience & Behavior**

 Customer experience & behavior (Customer Decision Journey; modeling, association rule mining)

#### **Customer insights**

 Customer segmentation (clustering)

#### Competitive research

 Market and competitor analysis (market analysis, web scraping, modeling)

#### **Brand**

 Branding and attitudes research (Text mining, social network analysis)



### Revenue Streams

Pricing and customer behavior research (conjoint analysis, modeling)



How to better capture value and boost margins?

Source: Osterwalder & Pigneur (2010)