

# 10. Instruments for Customer Analysis and Validation

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<http://st.inf.tu-dresden.de/teaching/saab>

- 1) Customer Analysis
- 2) Value Proposition Analysis with the VPC
- 3) Customer Analysis
  - 1) Situation Analysis
  - 4) Jobs-to-be-Done Framework
  - 5) Role in the Company
  - 6) Relationships

# Obligatory Literature

- ▶ A. Osterwalder, Y. Pigneur et al. Value Proposition Design. Wiley.
- ▶ [BettenUlwick] LA Bettencourt, AW Ulwick. The customer-centered innovation map. Harvard Business Review, 2008 – [iimagineservicedesign.com](http://iimagineservicedesign.com)
  - [https://www.researchgate.net/publication/5313092\\_The\\_customer-centered\\_innovation\\_map](https://www.researchgate.net/publication/5313092_The_customer-centered_innovation_map)

At one period of those early days I think that I must have had fully three hundred watches. I thought that I could build a serviceable watch for around thirty cents and nearly started in the business. But I did not because I figured out that watches were not universal necessities, and therefore people generally would not buy them.

Henry Ford. My Life and Work. [www.gutenberg.org](http://www.gutenberg.org) Ebook #7213

# Other Literature

- ▶ [BlankDorf] Steve Blank, Bob Dorf, Nils Högsdal, Daniel Bartel. Das Handbuch für Startups – die deutsche Ausgabe von 'The Startup Owner's Manual'. Deutsche Übersetzung von Kathrin Lichtenberg. 2014. O'Reilly.
  - ▶ <http://www.daniel-bartel.de/das-handbuch-fuumlr-startups.html>
- ▶ Alan Klement. When Coffee and Kale compete. Free web book <http://www.whencoffeeandkalecompete.com/>
- ▶ Free web book: Anthony W. Ulwick Jobs to be Done. Theory to Practice. Idea Bite Press [www.ideabitepress.com](http://www.ideabitepress.com), <https://jobs-to-be-done-book.com/>



## 10.0. Begeisterung Startups

Use your own flow to create customer flow

Gain: Flow of visitors, Flow of entrepreneurs

# Startup of the Day – Miniatur Wunderland Hamburg

- ▶ Founders in 2001 Gerit and Frederik Braun: Hamburger Speicherstadt has empty levels
- ▶ “The largest model railway of the world”
- ▶ 2000: first film <https://www.youtube.com/watch?v=mjcEVLV02f4>
- ▶ <https://www.youtube.com/watch?v=VAvej5HLyVE>
- ▶ <https://www.youtube.com/watch?v=9CZy5-wB4cQ>
- ▶ <https://www.youtube.com/watch?v=VAvej5HLyVE>
- ▶ English: [https://www.youtube.com/watch?v=ff4RWuPx8Co&feature=emb\\_rel\\_end](https://www.youtube.com/watch?v=ff4RWuPx8Co&feature=emb_rel_end)
- ▶ >300 employees, > 1000 trains, 21M€ costs so far
- ▶ Tracks under surface, countries Switzerland, Venezia, Scandinavia, South America (2022), shadow railway stations, airport with “real” starting planes
- ▶ The control software
  - <https://www.miniatur-wunderland.de/wunderland-entdecken/technik/carsystem/steuerungssoftware/>
  - 168kLOC, of which are 100kLOC control on 50 PC , 42kLOC fire brigades, 18kLOC vehicle clients
- ▶ <https://video.golem.de/software-entwicklung/18614/it-im-miniaturwunderland-bericht.html> (with video)

# So Many Videos..

- ▶ Gerrits Tagebuch (Diary)
  - Airbus Beluga maiden flight  
<https://www.youtube.com/watch?v=FSpYUFmA-XI>
- ▶ The founders <https://www.youtube.com/watch?v=BPBRtNUw9Vk> “most beloved place-to-see in Germany”
- ▶ Airport inauguration video <https://www.youtube.com/watch?v=bIAYb6oBwQA> “There were many moments when I wanted to give up..”
- ▶ Gerrit debugs the airport software <https://www.youtube.com/watch?v=v4QvJoBc-HA>
- ▶ Drives
  - Driving through “Switzerland”  
<https://www.youtube.com/watch?v=RBArNAyODLc>
  - Driving through “Austria”  
<https://www.youtube.com/watch?v=NwTRW3fllgA>

# Flow-based Startups

## 'Designing for Flow' "Made with Love"

7 Software as a Business [Schaffer] Owen Schaffer. Crafting Fun User Experiences: A Method to Facilitate Flow. Human Factors International.  
[https://www.researchgate.net/publication/272181532\\_Crafting\\_Fun\\_User\\_Experiences\\_A\\_Method\\_to\\_Facilitate\\_Flow](https://www.researchgate.net/publication/272181532_Crafting_Fun_User_Experiences_A_Method_to_Facilitate_Flow)  
[Flow] [https://en.wikipedia.org/wiki/Flow\\_\(psychology\)](https://en.wikipedia.org/wiki/Flow_(psychology))

- ▶ **Flow** is a form of hyperfocus humans run doing a beloved activity [Flow]
  - Flow makes happy
  - Most of the employees of Wonderland are Flow-employees
- ▶ Seven conditions for getting into flow [Flow] [Schaffer]:

1

- Knowing what to do

4

- High perceived challenges

2

- Knowing how to do it

5

- High perceived skills

3

- Knowing where to go (if navigation is involved)

6

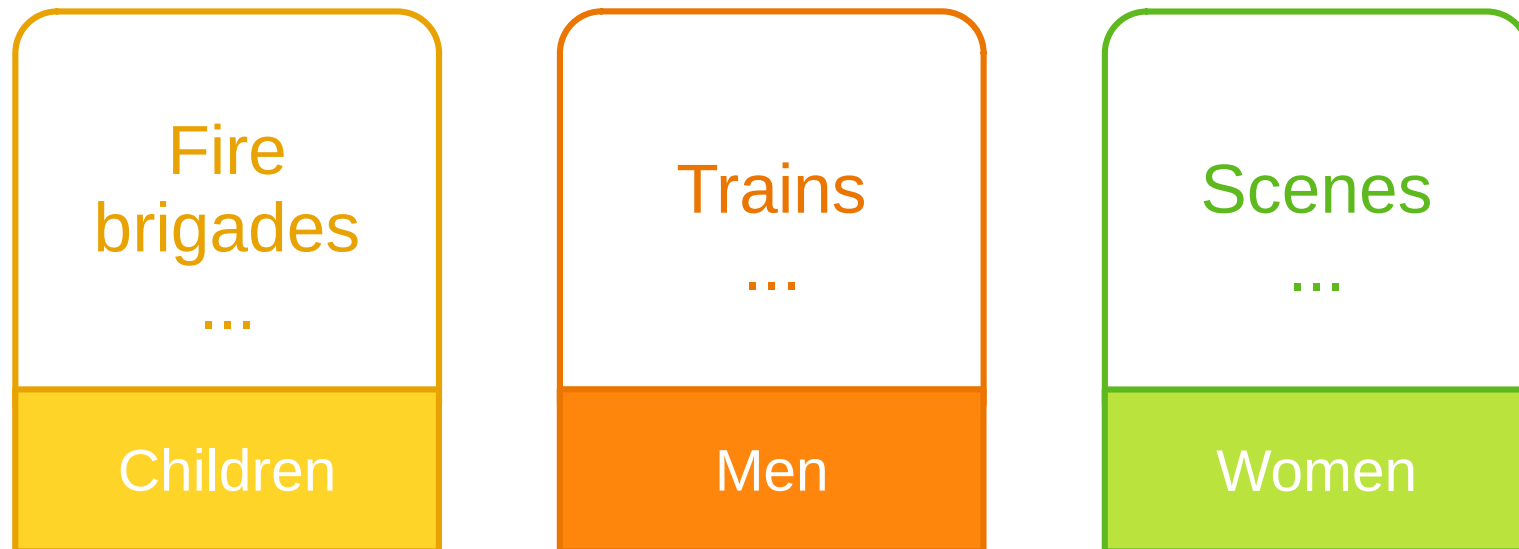
- Knowing how well you are doing

7

- Freedom from distractions

# Customer Segments

- ▶ Watch the youtube videos to find out why visitors get into flow in the Wunderland:





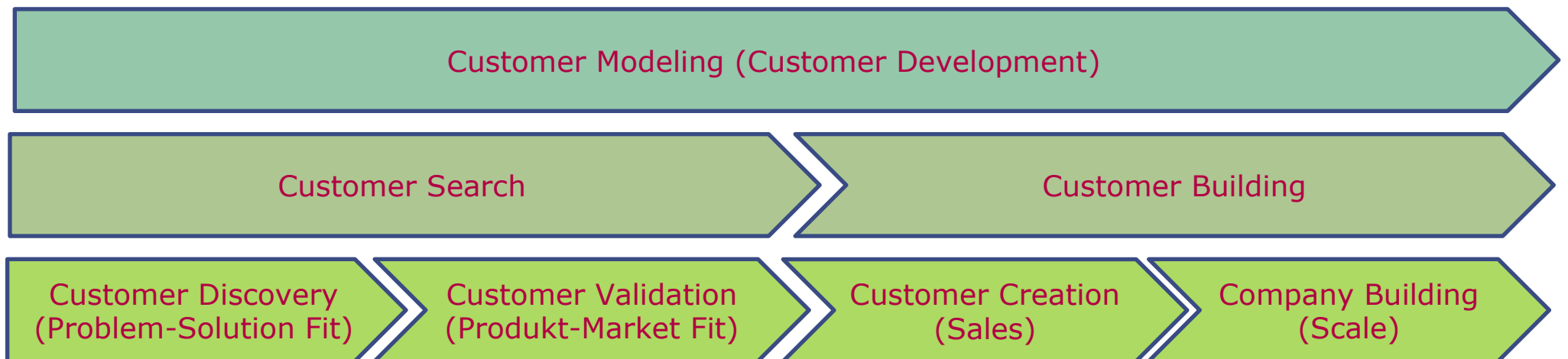


## 10.1. Customer Modeling

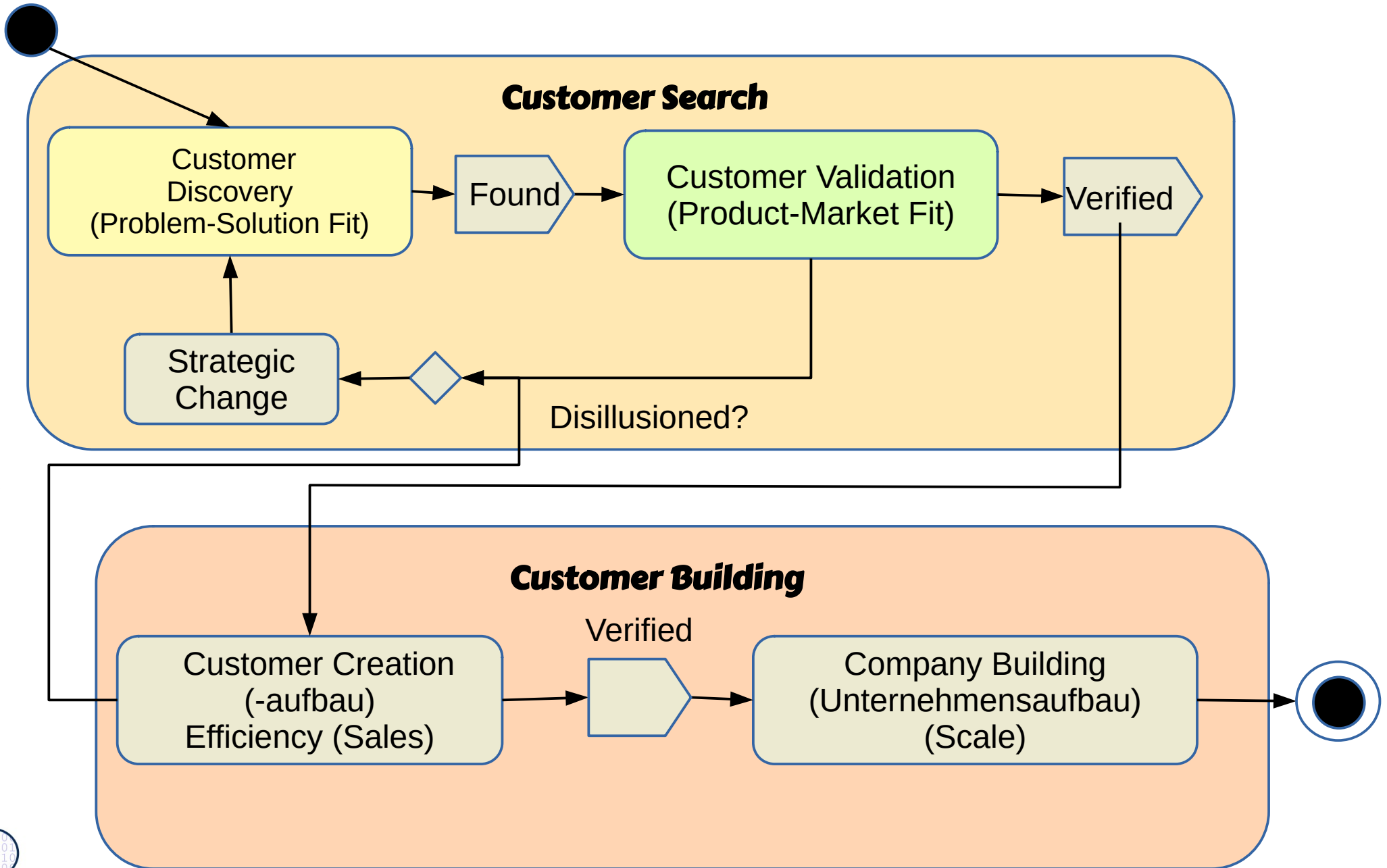
Find out who the customer is, what she needs and desires  
.. a specific part of the Lean Innovation process  
[Blank]

# The Customer Modeling Process, Refined by S. Blank

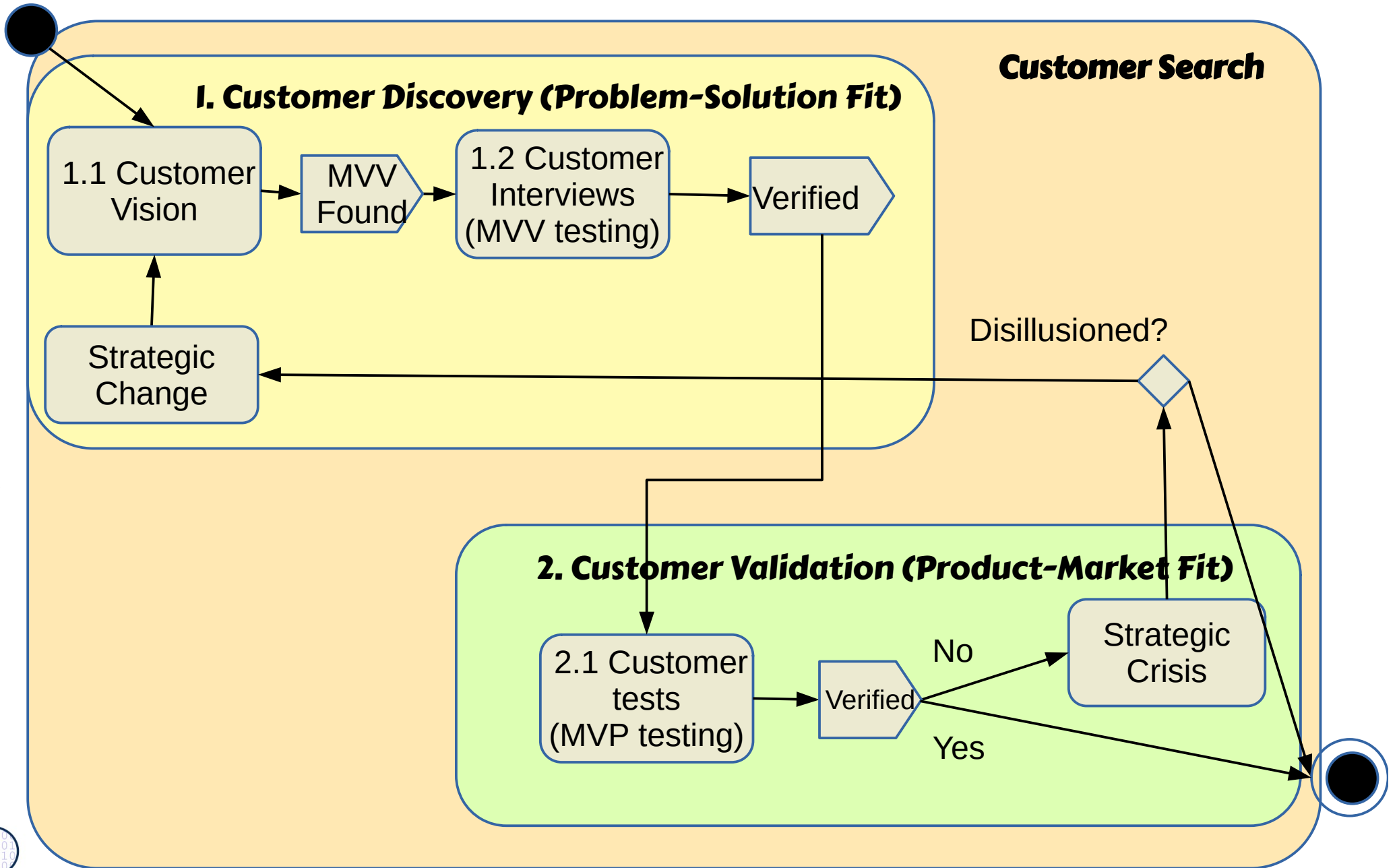
- ▶ Customer Modeling, a company-centric process [Blank/Dorf] 2008
  - Originally called “Customer Development”, but we use this differently in this course



# Q3: Blank's Customer Development Process Blended with Maurya's Running Lean Process



# Q4: Step 1: The Customer Discovery Subprocess (Problem-Solution Fit)





## 10.2 Basic Pain-Gain Analysis (Value Proposition Analysis) of Osterwalder

Value Proposition Canvas  
From “Value Proposition Design”

# Killing Pain and Filling Desire

- ▶ **Customer Analysis** is something different than Selling.
  - Selling addresses an individual customer
  - Customer Analysis analyses the *world of a potential customer*
- ▶ Needs do not make a customer buy – only pain.
- ▶ Value does not make a customer buy – only desire.
- ▶ Osterwalder refined the *value proposition field* of the BMC with a new canvas, the **Value Proposition Canvas**.

Pain and Gain create value proposition.

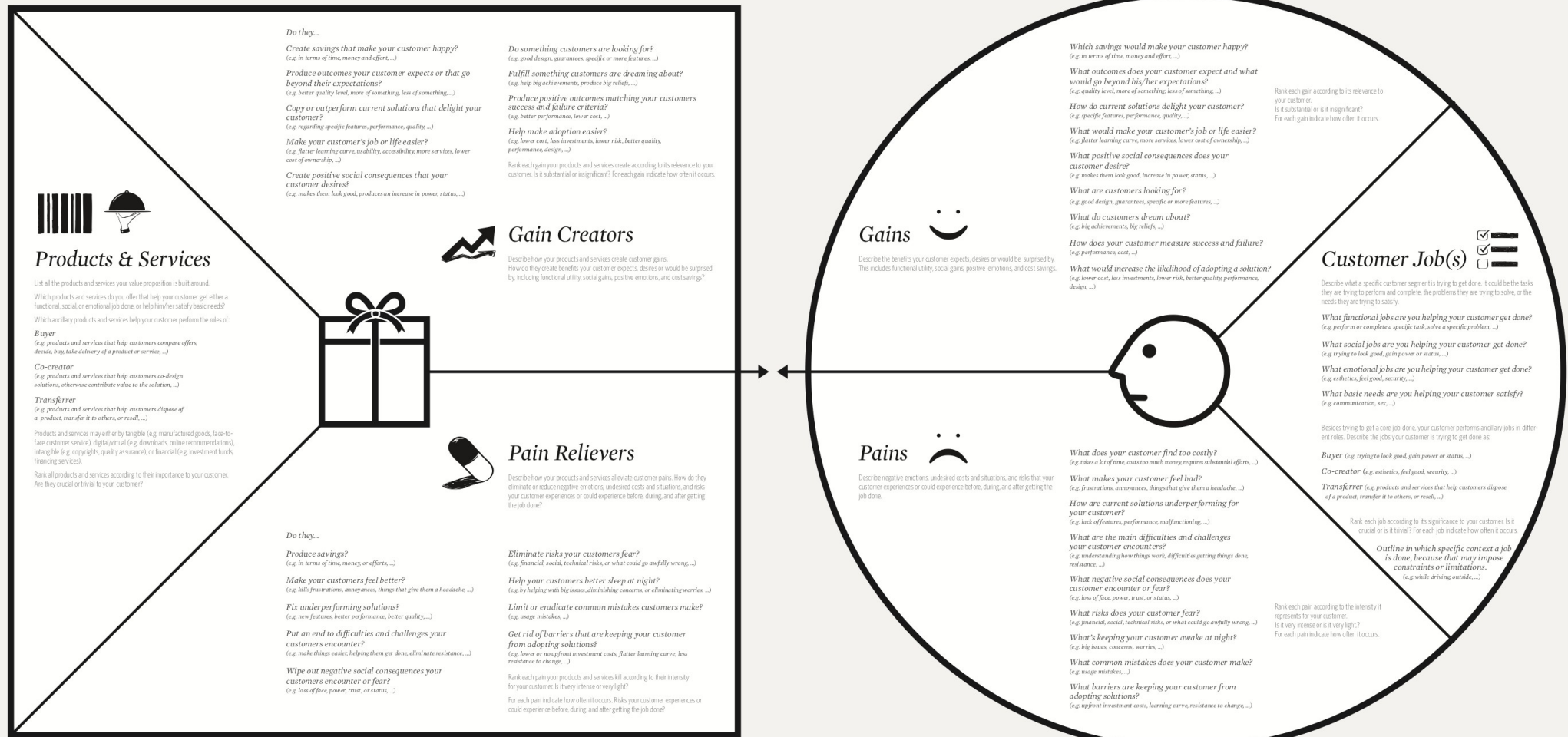
# The Value Proposition Canvas

Designed for:

Designed by:

On: Day Month Year

Iteration: No.



## Value Proposition

Create one for each Customer Segment in your Business Model

## Customer Segment

[www.businessmodelgeneration.com](http://www.businessmodelgeneration.com)

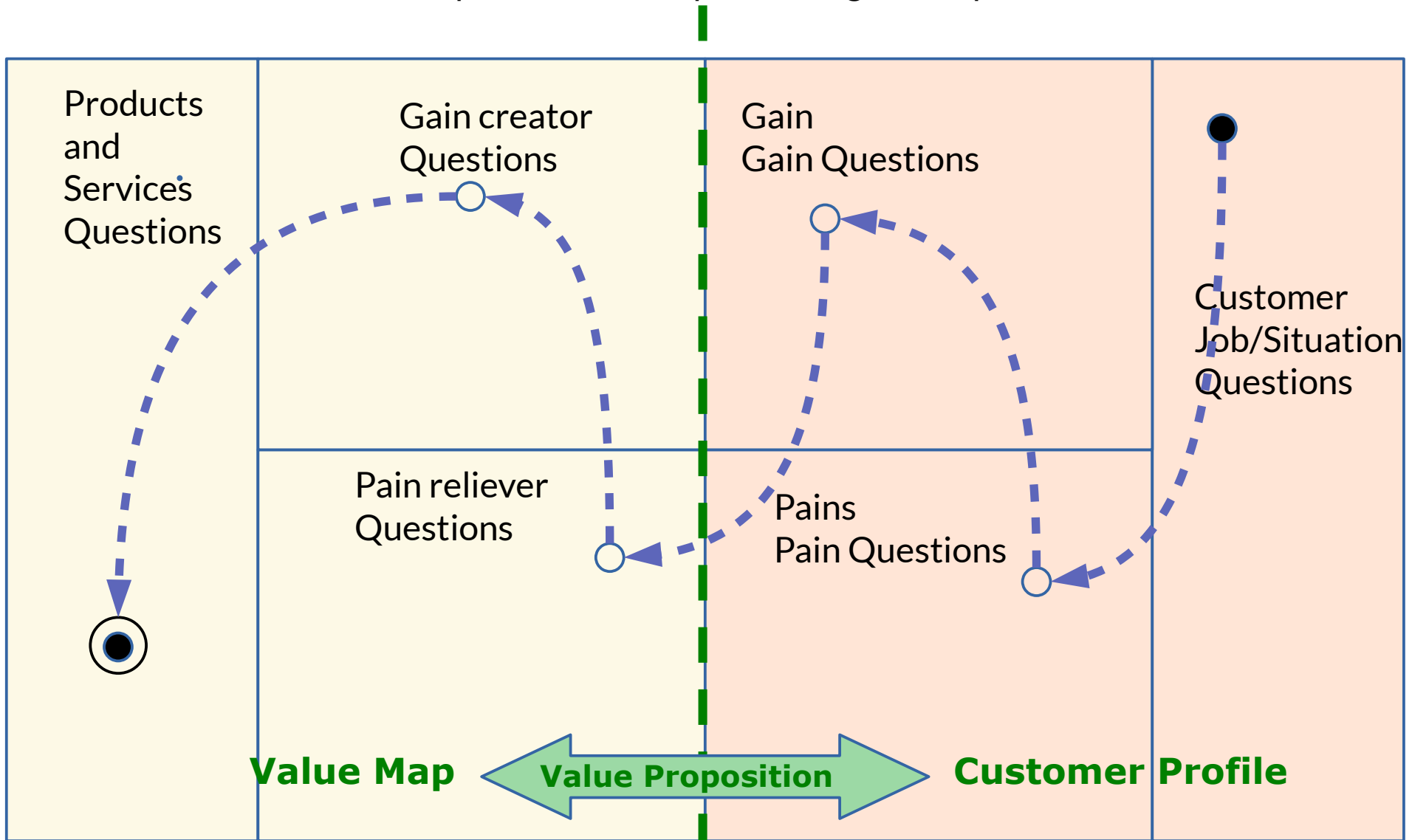
Use in Conjunction with the Business Model Canvas

Copyright of Business Model Foundry GmbH



# VP Canvas Process and Filling Order

- ▶ VPA uses a canvas to map the customer pains and gains to products and services

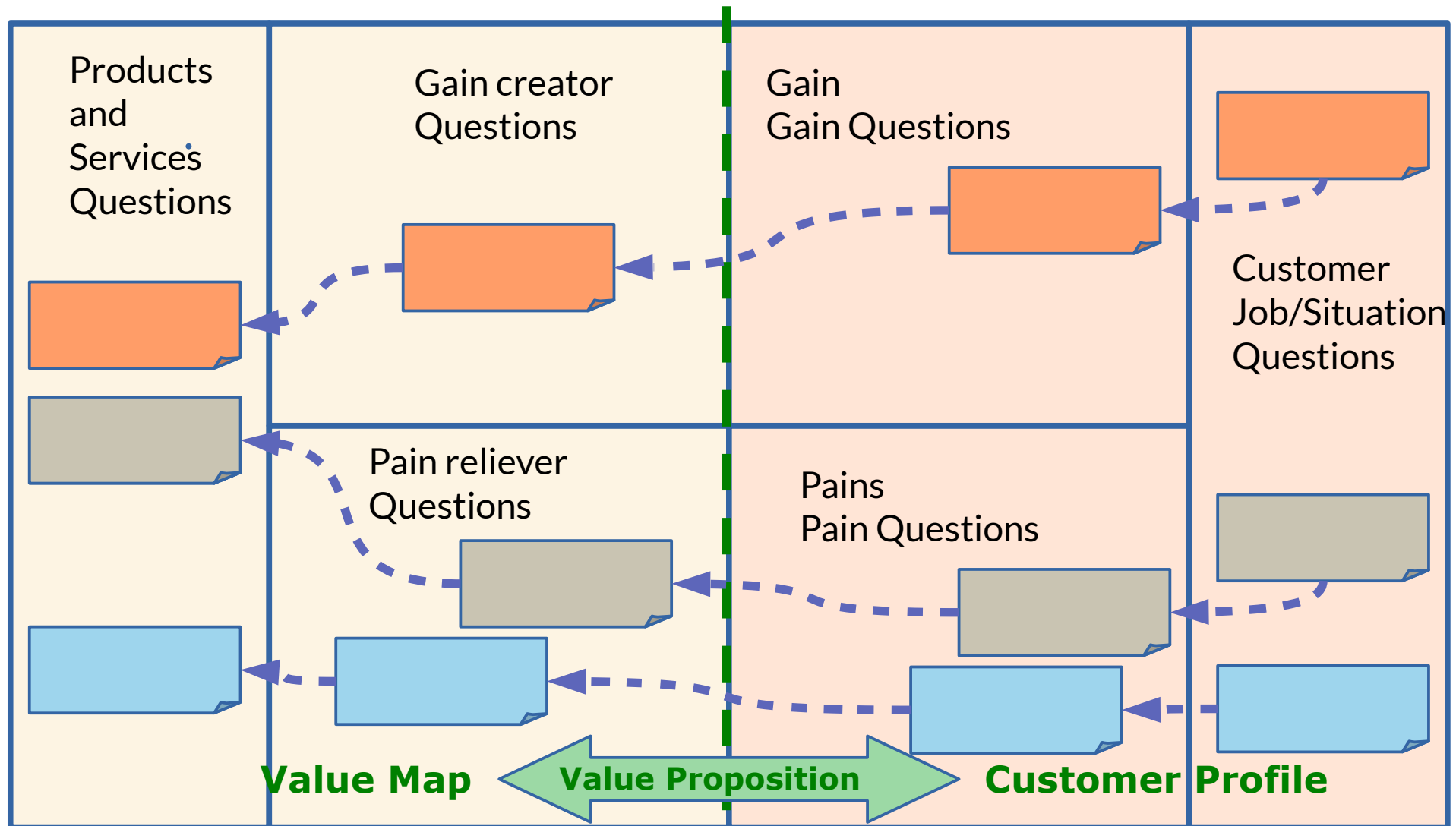




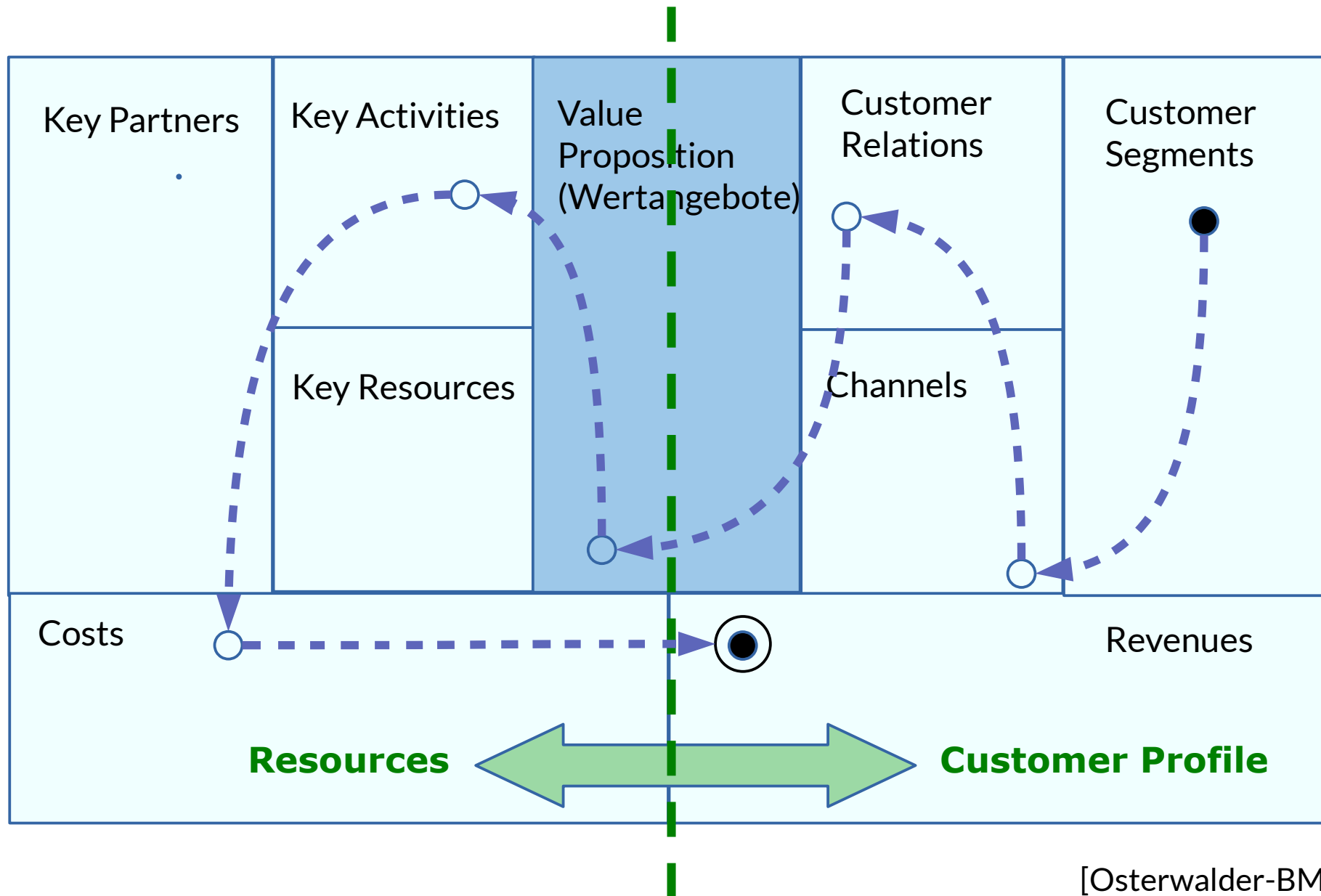
# VP Canvas Mapping and Fit

[Osterwalder-VPD]

- ▶ VPA creates mappings between the entries of the customer profile and entries of the value map (value proposition **fit**)
- ▶ Check completeness, consistency of fit!



# VPC is a Subcanvas of the Business Model Canvas

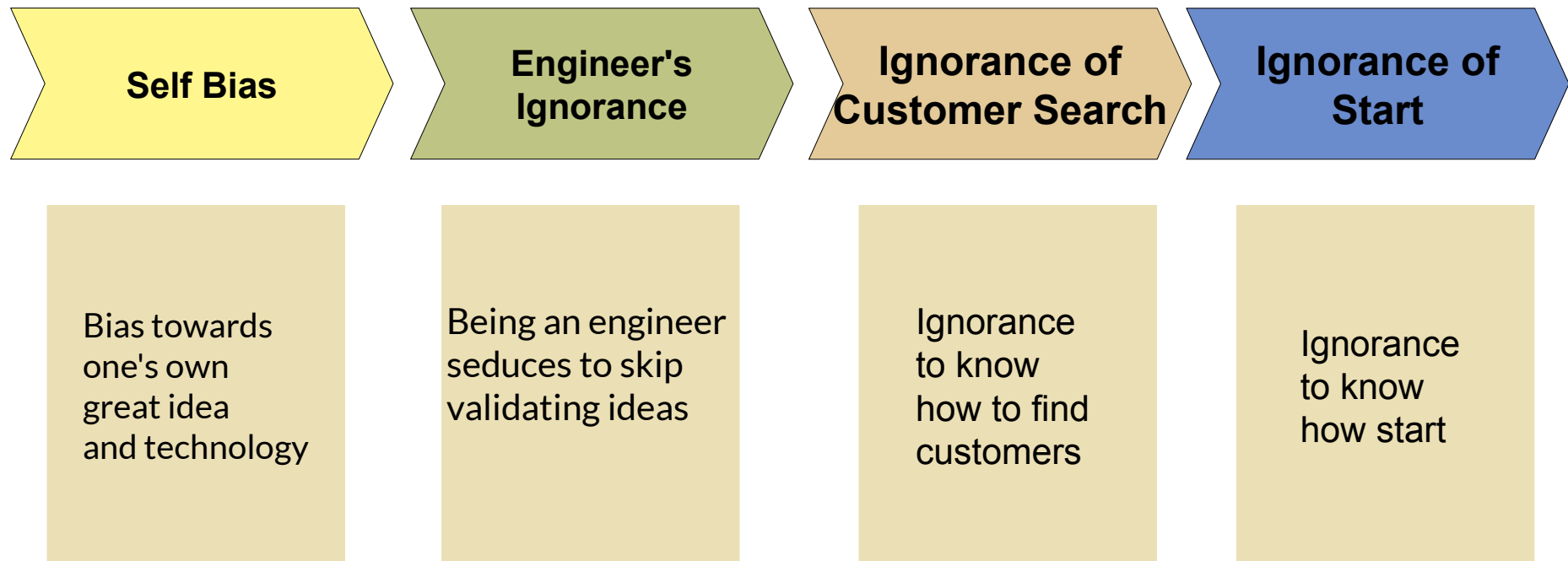




## 10.3 Customer Discovery in the Problem-Solution Fit: Analysis of the Customer's World

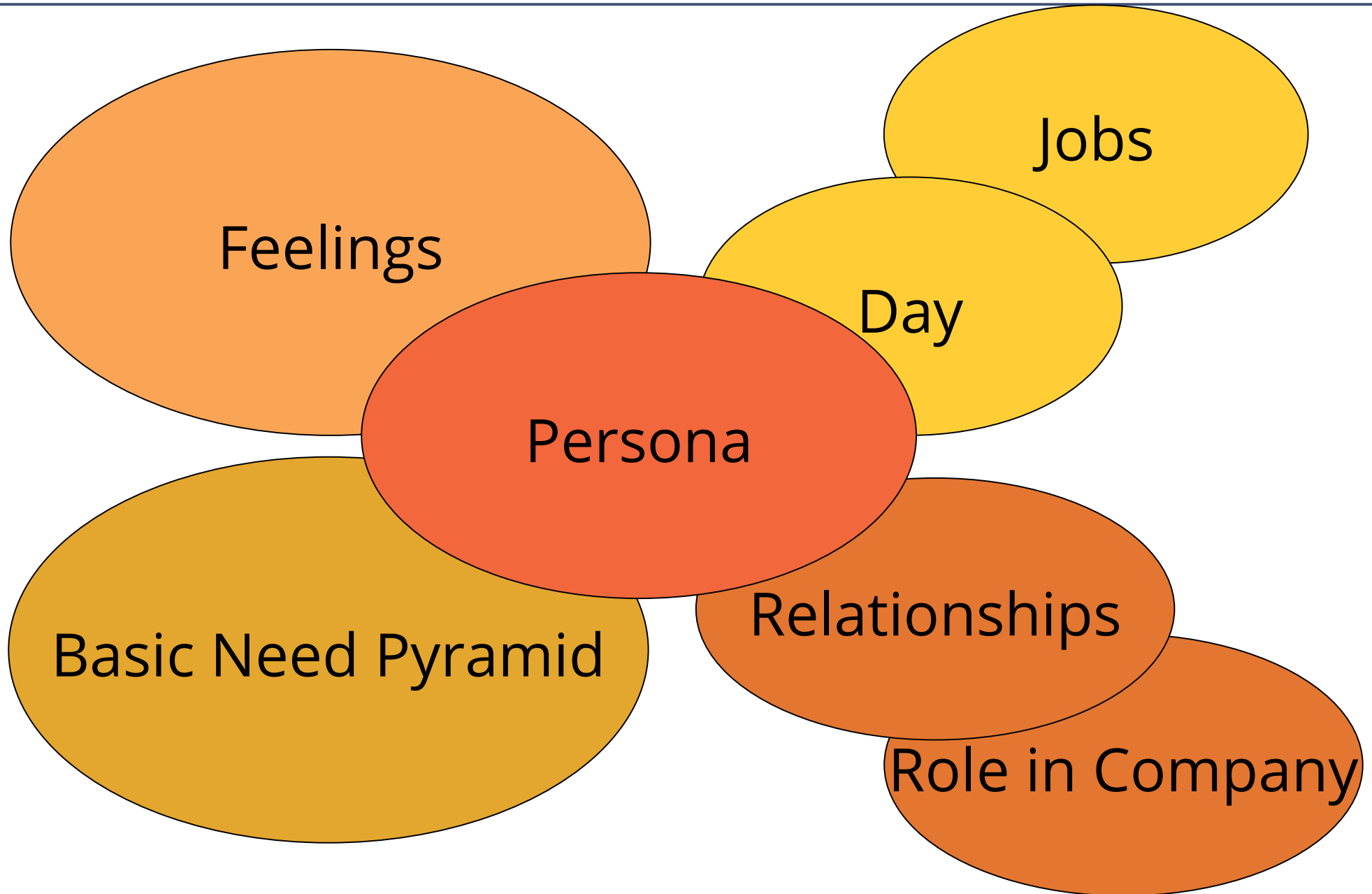
Before understanding the pain and gain of the customer, we need to understand its world

# The Major 4 Obstacles to Customer Know-How Can Only Be Remedied by Testing the Customer Hypotheses



- ▶ In a group, *untested information about the customer* can be collected by canvases
- ▶ **Hypotheses about the customer** have to be formed (in a Sprint planning)
- ▶ Hypothesis must be **tested** by **getting out of the building**
- ▶ Backlog of hypotheses tests must be burnt down

# Aspects of Customer Analysis



# Personal Value Proposition with the Personal BMC (BMYC)

[<http://businessmodelyou.com/>]

- ▶ The BMYC is for the development of your career and yourself, also for customer analysis

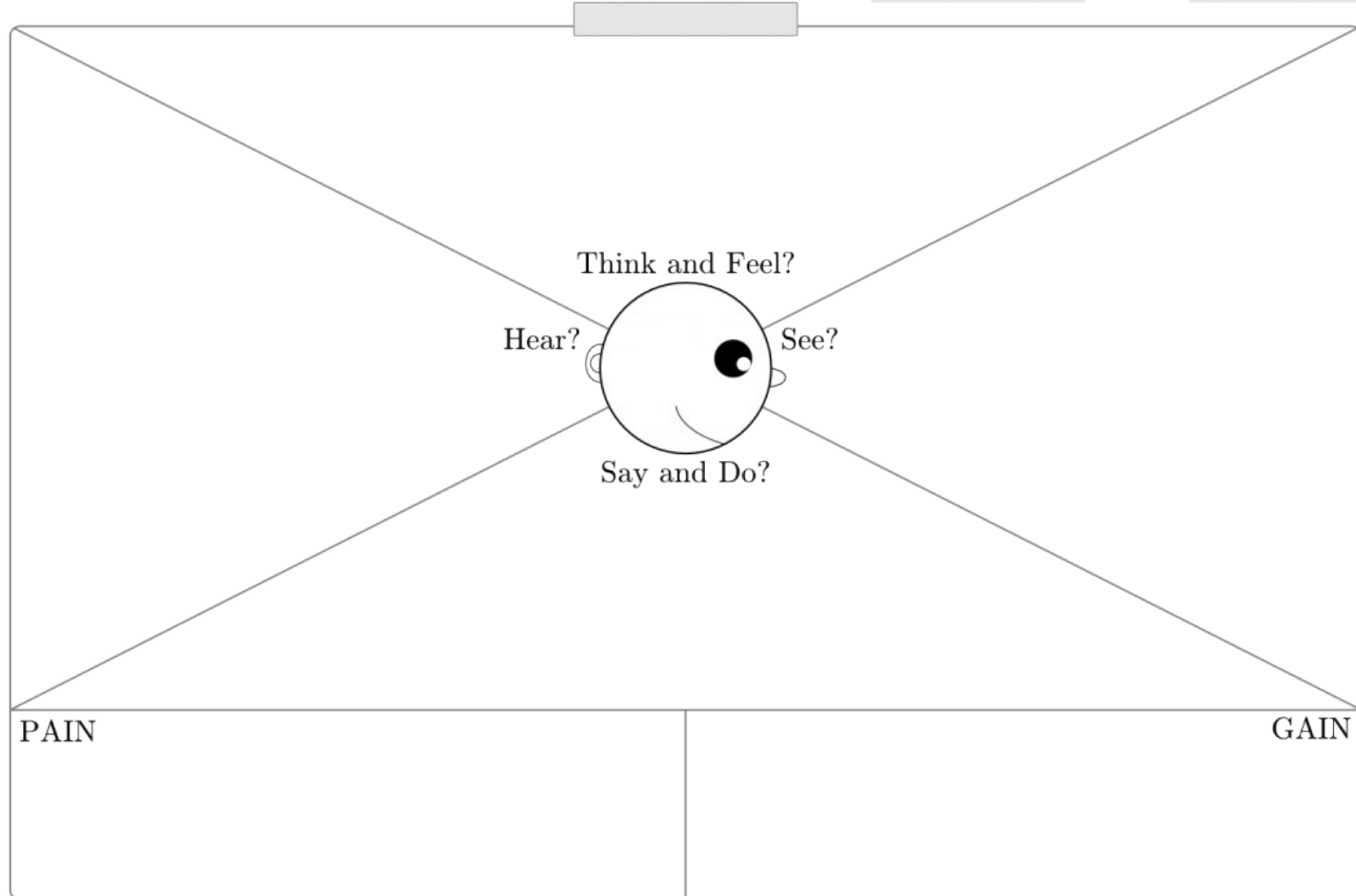
|   |  |   |   |  |
|---|--|---|---|--|
| <b>Key Partners</b><br><b>Who helps You?</b>      | <b>Key activities</b><br><b>What do you do?</b>      | <b>Value Proposition</b><br><b>How do you help?</b> | <b>Customer Relationships</b><br><b>How do you interact?</b>                  | <b>Customer Segments</b><br><b>Whom do you help?</b> |
|   | <b>Key Resources</b><br><b>What you are and have</b> |   | <b>Channels</b><br><b>How do they know you?</b><br><b>How do you deliver?</b> |  |
| <b>Cost Structure</b><br><b>What do you give?</b> |  |   | <b>Revenue Streams</b><br><b>What do you get?</b>                             |  |



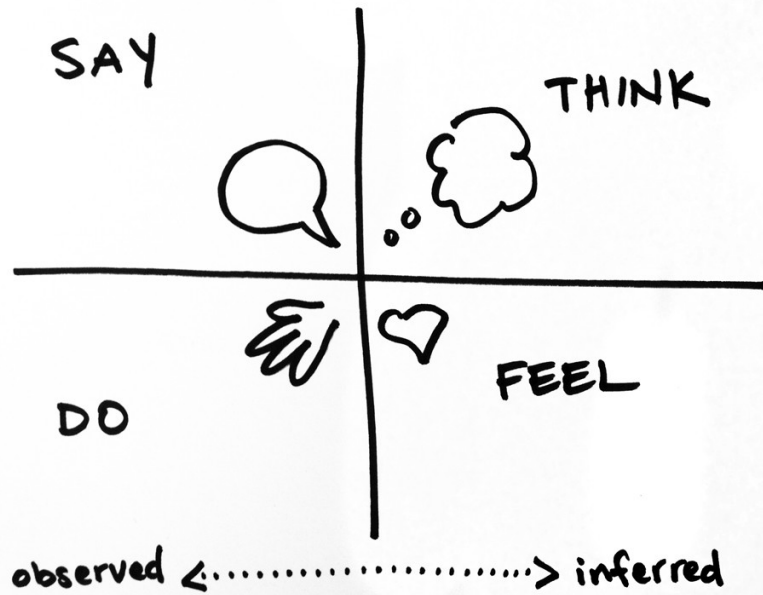
# Empathy Map for Customer Modelling

## Business Model - The Empathy Map

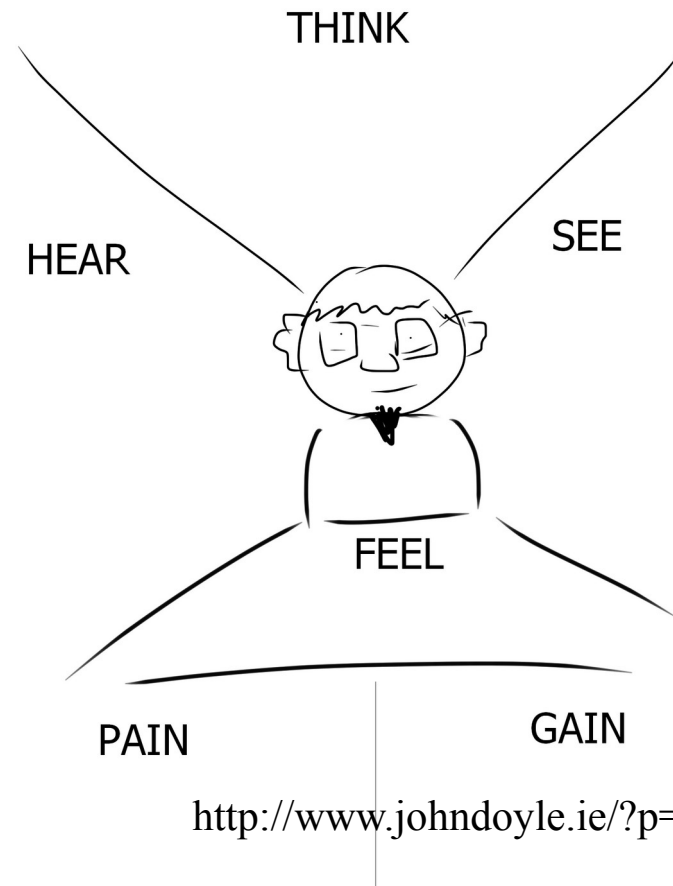
Author:   
Date:  Iteration:



# Simpler: Modelling the Customer's Feelings



10. wp-content/uploads/2013/02/mitroff.fig2\_.jpg

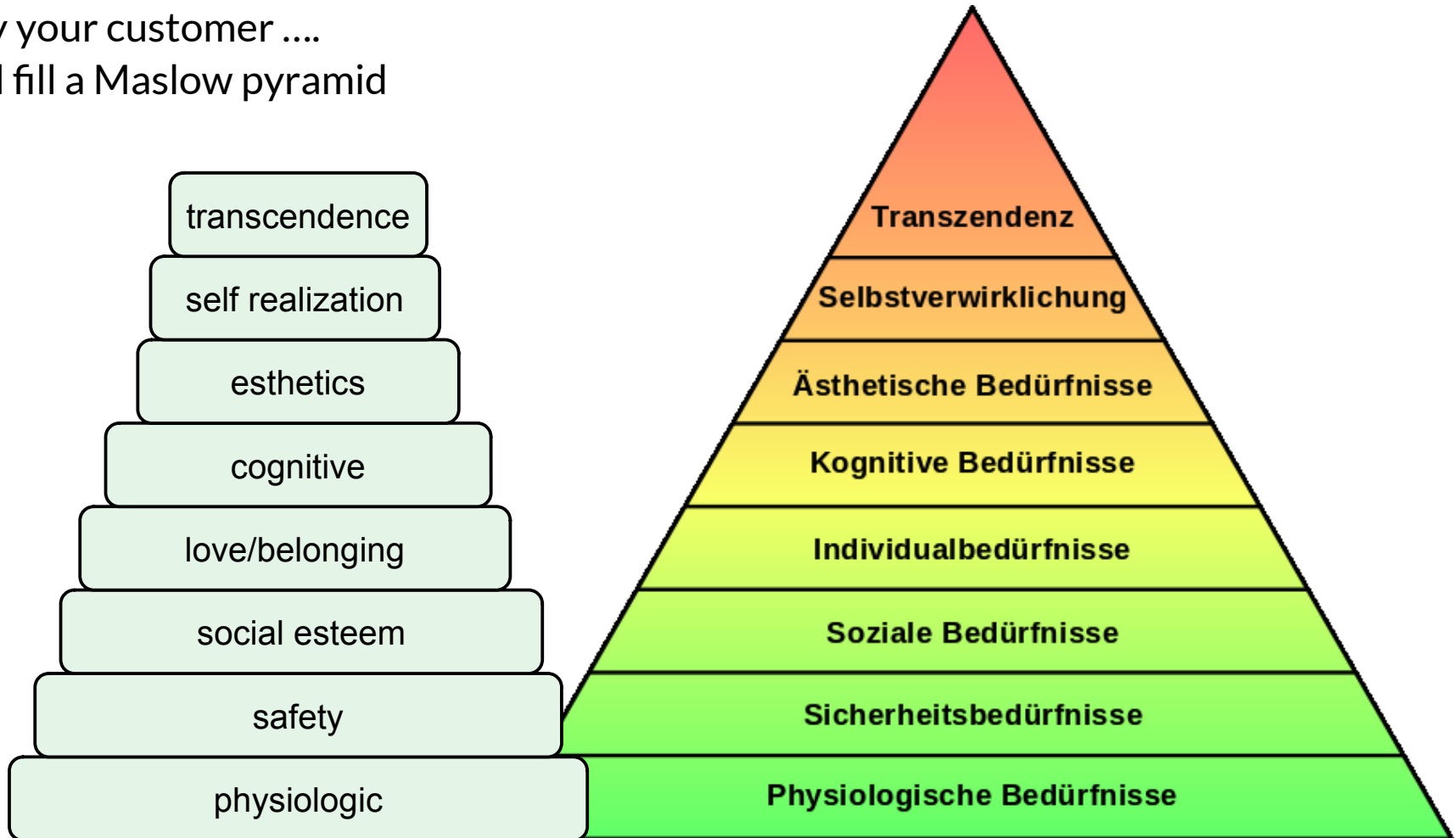


<http://www.johndoyle.ie/?p=92>



# Customer Need Analysis with Maslow

- ▶ Play your customer ....  
and fill a Maslow pyramid



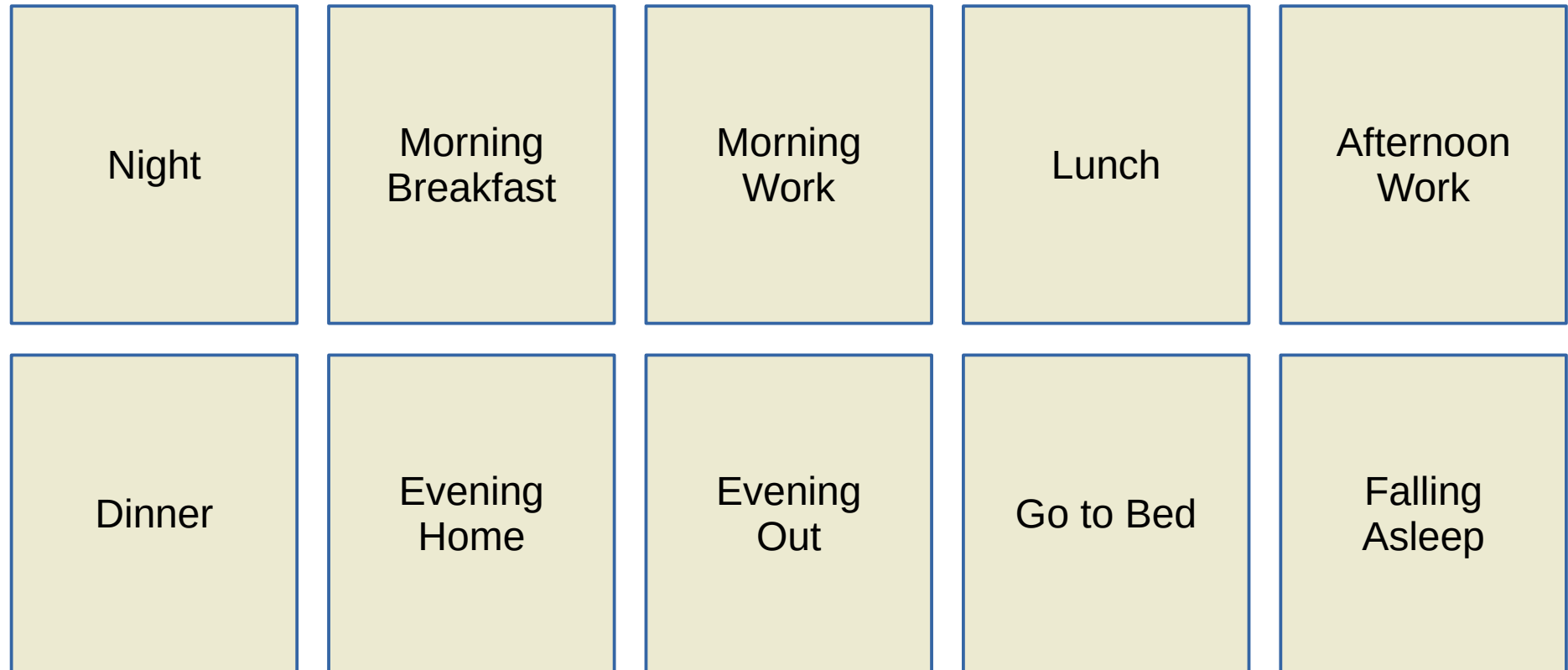
[http://upload.wikimedia.org/wikipedia/commons/thumb/2/2c/Erweiterte\\_Bed%C3%BCrfnishierarchie\\_%281970%29\\_nach\\_Maslow.svg/600px-Erweiterte\\_Bed%C3%BCrfnishierarchie\\_%281970%29\\_nach\\_Maslow.svg.png](http://upload.wikimedia.org/wikipedia/commons/thumb/2/2c/Erweiterte_Bed%C3%BCrfnishierarchie_%281970%29_nach_Maslow.svg/600px-Erweiterte_Bed%C3%BCrfnishierarchie_%281970%29_nach_Maslow.svg.png)



# Modeling the Customer's Day

## How should a good “Customer Day Canvas” look?

- ▶ Use the Customer Empathy Map to run through the customer’s day



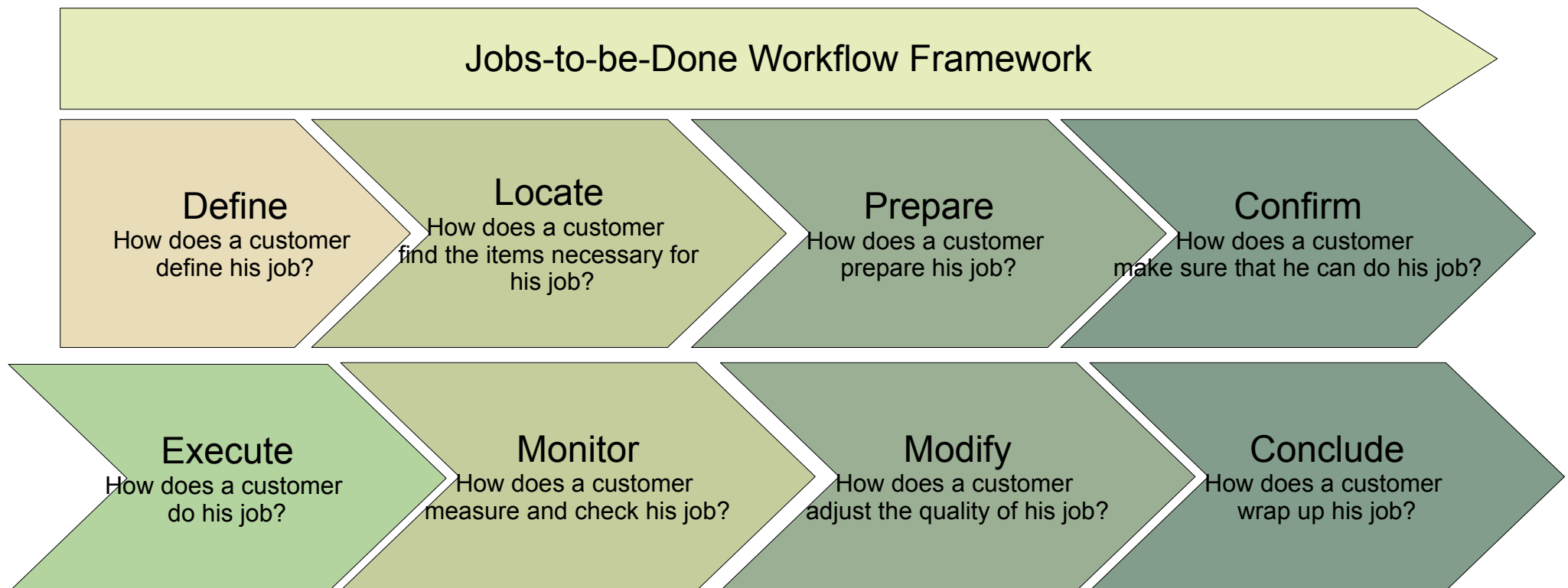


## 10.4 Jobs-to-be-Done (JTBD) Framework and Canvas


[Ulwick]

A method to specialize a generic workflow to the customer's daily workflows

- ▶ [BettenUlwick] claims that most workflows of customer's daily life can be arranged into 8 generic phases
- ▶ Based on the JTBD framework, user jobs and tasks can be analyzed on subtasks. The question **"How can our service/product help the customer executing his job?"** is central.



# JTBD Canvas




**Jobs-To-Be-Done Canvas™**  
Powered by Outcome-Driven Innovation®  
v1.2

**Job Executor** e.g. the end user

**Core Functional Job-to-be-Done** verb + object of verb + contextual clarifier

| CONSUMPTION JOBS  | 1. DEFINE  | 2. LOCATE   | 3. PREPARE   | 4. CONFIRM  |
|---|--|---|--|---|
| <p><u>Executor</u>    <u>Other</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Acquire/Purchase</li> <li><input type="checkbox"/> Receive</li> <li><input type="checkbox"/> Install</li> <li><input type="checkbox"/> Setup</li> <li><input type="checkbox"/> Learn to use</li> <li><input type="checkbox"/> Use/Interface with</li> <li><input type="checkbox"/> Store</li> <li><input type="checkbox"/> Move</li> <li><input type="checkbox"/> Maintain</li> <li><input type="checkbox"/> Repair</li> <li><input type="checkbox"/> Upgrade</li> <li><input type="checkbox"/> Replace</li> <li><input type="checkbox"/> Dispose</li> </ul> <p>What technology or product assumptions are you making? Or are you considering an altogether new product?</p> <p>Which of these jobs must be executed to support product consumption? Who is responsible for execution?</p> | <p>Plan, Select, Determine</p> <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> </ul> <p>What aspects of getting the job done must the customer define upfront to proceed?</p>  | <p>Gather, Access, Retrieve</p> <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> </ul> <p>What items must be located – tangible/intangible – to do the job?</p>      | <p>Setup, Organize, Examine</p> <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> </ul> <p>How must the customer prepare the inputs and the environment to do the job?</p>     | <p>Validate, Prioritize, Decide</p> <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> </ul> <p>What must the customer verify before proceeding to ensure success?</p> |
|   | 5. EXECUTE   | 6. MONITOR  | 7. MODIFY  | 8. CONCLUDE   |
|   | <p>Perform, Transact, Administer</p> <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> </ul> <p>What must customers do to execute the job successfully?</p>  | <p>Verify, Track, Check</p> <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> </ul> <p>What must the customer monitor to ensure the job is successfully executed?</p> | <p>Update, Adjust, Maintain</p> <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> </ul> <p>What might the customer need to alter for the job to be completed successfully?</p> | <p>Store, Finish, Close</p> <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> </ul> <p>What must the customer do to finish the job?</p>                               |
| RELATED JOBS  | DESIRED OUTCOMES   |   |  |   |
| <p>What other functional jobs is the executor trying to get done before, during, and after execution of the core job?</p>   | <p><b>Overserved</b><br/>(reduce cost &amp; complexity)</p> <p>(For core and consumptions jobs)</p> <p><b>Table Stakes</b><br/>(must address)</p>  |   |  |   |
| <p>How do job executors want to feel by getting the job done? How do they want to be perceived by others?</p>   | <p>What outcomes do you hypothesize are not important yet highly satisfied? These are opportunities for cost reduction.</p> <p><b>Appropriately Serviced</b><br/>(maintain status quo)</p> <p>What outcomes do you hypothesize are very important and very satisfied? These must continue to be satisfied.</p> <p>What outcomes do you hypothesize are very important and not very well satisfied? These are opportunities to add value.</p> |   |  |   |
|   | <p>(do not address / stop addressing)<br/><b>Irrelevant</b></p> <p>Outcome = Direction + Metric + Object of Control + Contextual Clarifier</p> <p>(add value)<br/><b>Underserved</b></p>   |   |  |   |



The Jobs-to-be-Done Canvas™ is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](https://creativecommons.org/licenses/by-nc-nd/4.0/).

Use the canvas in a team workshop as a starting point before going into deeper ODI research.

DEVELOPED BY: Tony Ulwick and Mike Boysen of Strategygn, LLC. More information can be found at [jobs-to-be-done.com](https://jobs-to-be-done.com) and [strategygn.com](https://strategygn.com).





## 13.5. Customer Progress Canvas

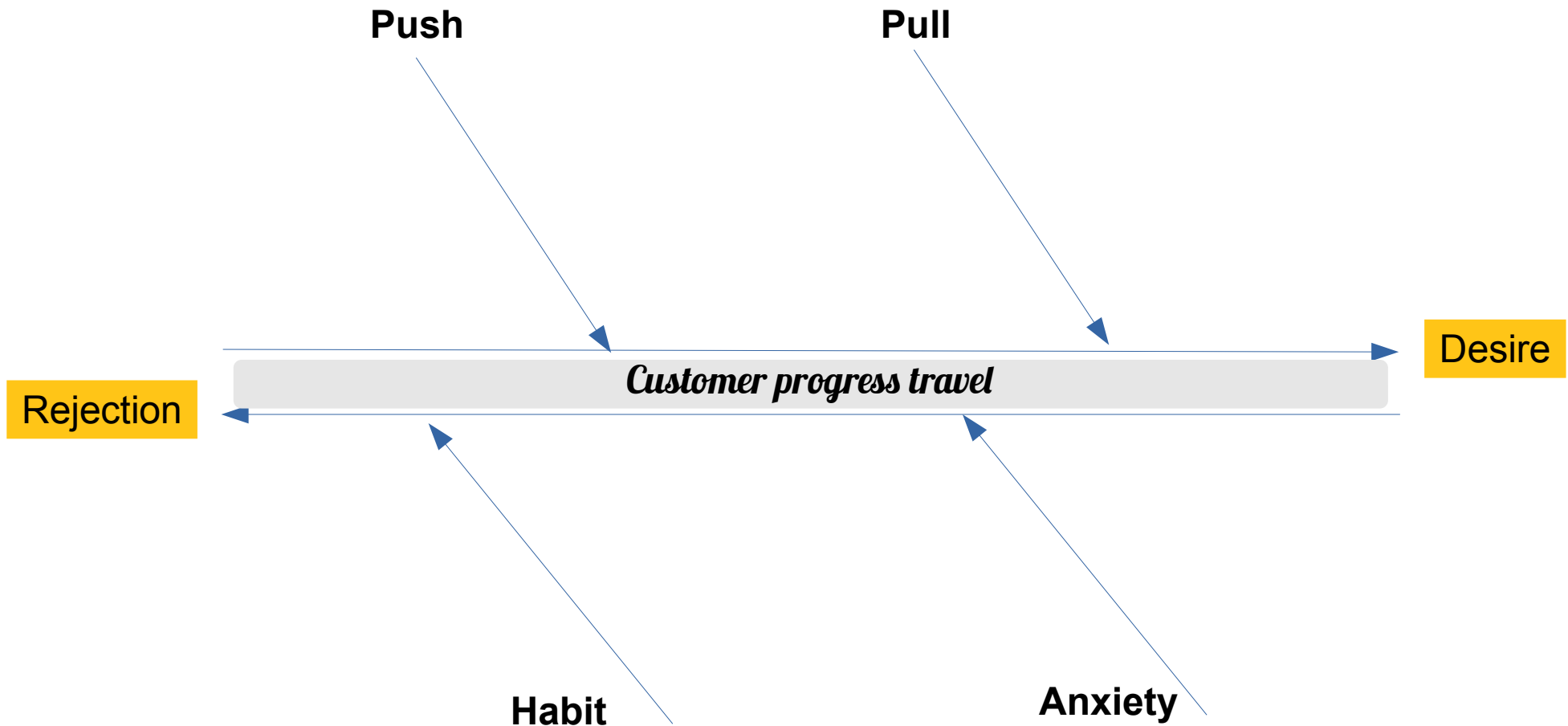
# JTBD Progress Forces

- ▶ Bob Moesta, Chris Spiek, Alan Klement
- ▶ Nice summary of A. Klement, The Forces of Progress. 2017.  
<https://jtbd.info/the-forces-of-progress-4408bf995153>
- ▶ Alan Klement. When Coffee and Kale compete. Free web book  
<http://www.whencoffeeandkalecompete.com/>

There is no demand — unless push and pull work together. [Klement]

# Progress-Forces Canvas (Klement)

- ▶ A Double Fishbone diagram indicates conflicting forces - forward and contradicting forces





# Progress-Forces Canvas (Klement)

## *Silent supporter forces*

**Push of pain**  
(of ugly future)  
(of past, present)  
(external, internal)

**Pull of gain**  
(of bright future)  
(of bright past of others)  
(internal, external)

Desire

Rejection

*Customer progress travel*

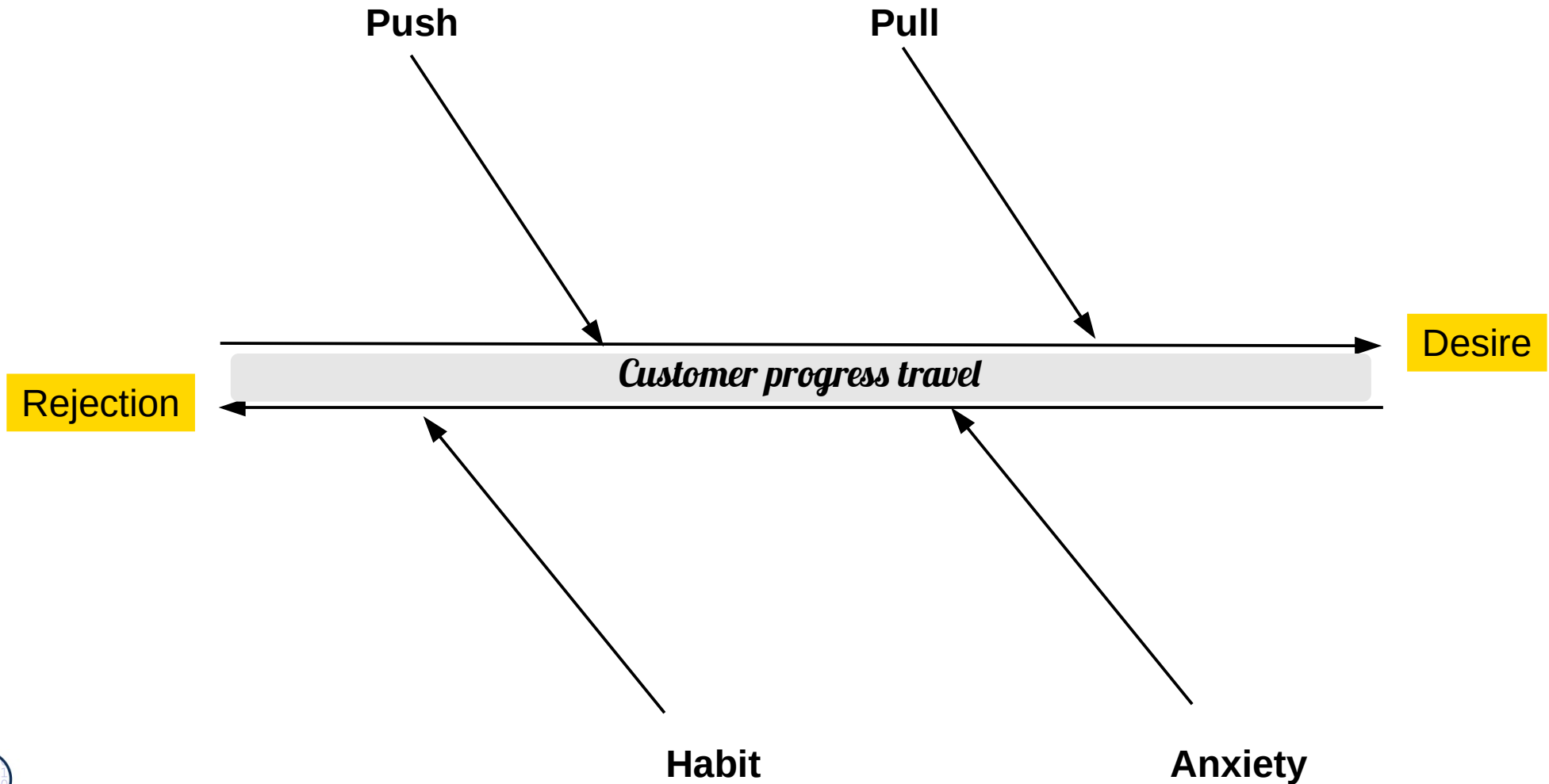
(choice, use)  
**Habit**

(choice, use)  
**Anxiety**

## *Silent competitor forces*

# Example: Progress Forces Canvas (Klement) on Zero Electric Motorcycles

- ▶ First watch the video  
<https://techcrunch.com/video/inside-california-ev-startup-zero-motorcycles/>
- ▶ Then complete the Progress Forces Canvas



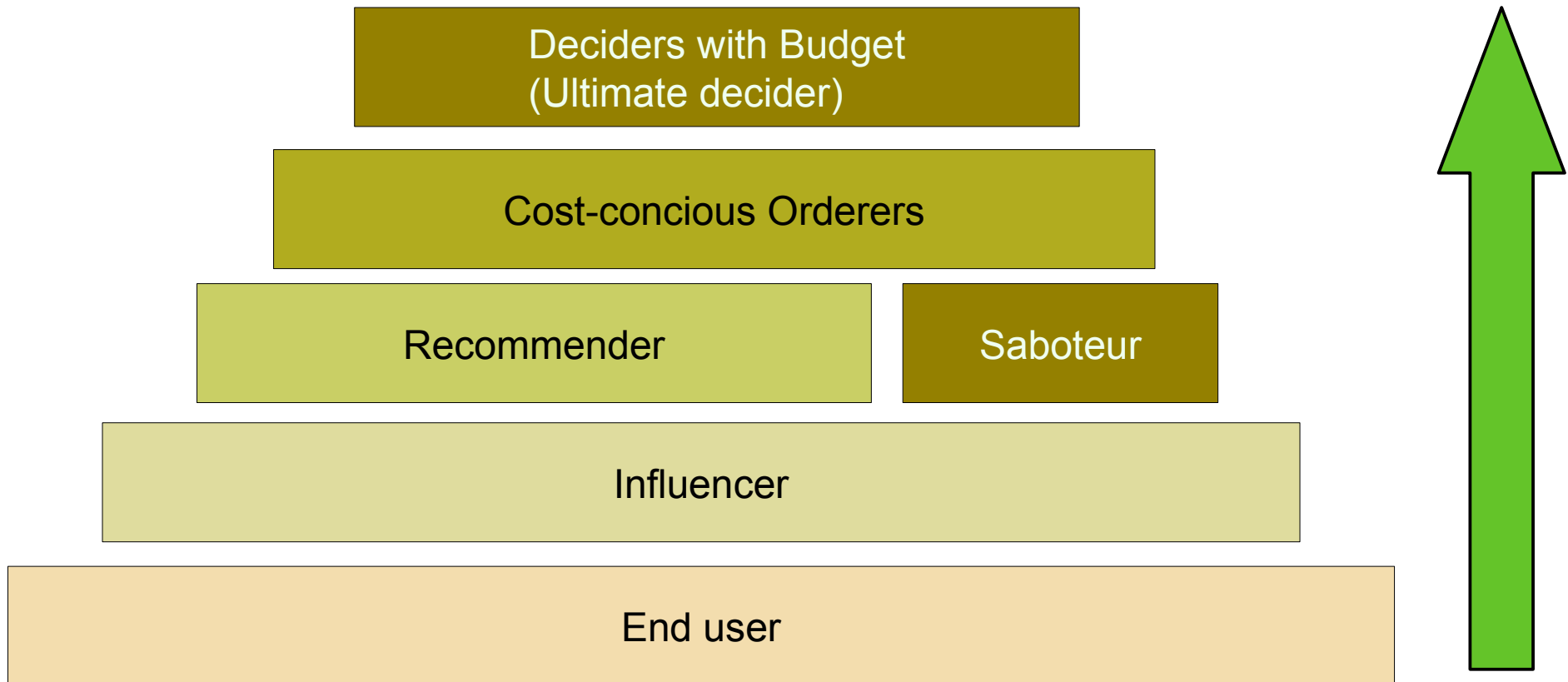


## 10.6 Who is your Customer? (Early Adopters, Early Evangelists, Brand Advocates)

Entry strategies to reach a decider

# Classes of Customer Capabilities in B2B Selling

- ▶ To sell to a company, a decider has to be reached [AccountSelling], but most startups start to interview end users
- ▶ Decider analysis:
  - An **entry strategy** is required to enter the customer's firm and find the decider [AccountSelling]



# Characteristics of an Early Adopter

- ▶ Few visionary people, the *early adopters*, believe in a visionary product (“the Innovators Dilemma”)
- ▶ Early adopters are the first ones to be relieved from the Rumsfeld dilemma

[Der Apple] Newton ist ein eigenartiges Produkt.  
Zu seinen Lebzeiten wurde er belächelt.

**Nur eine kleine Gemeinde erkannte sein Potenzial.**

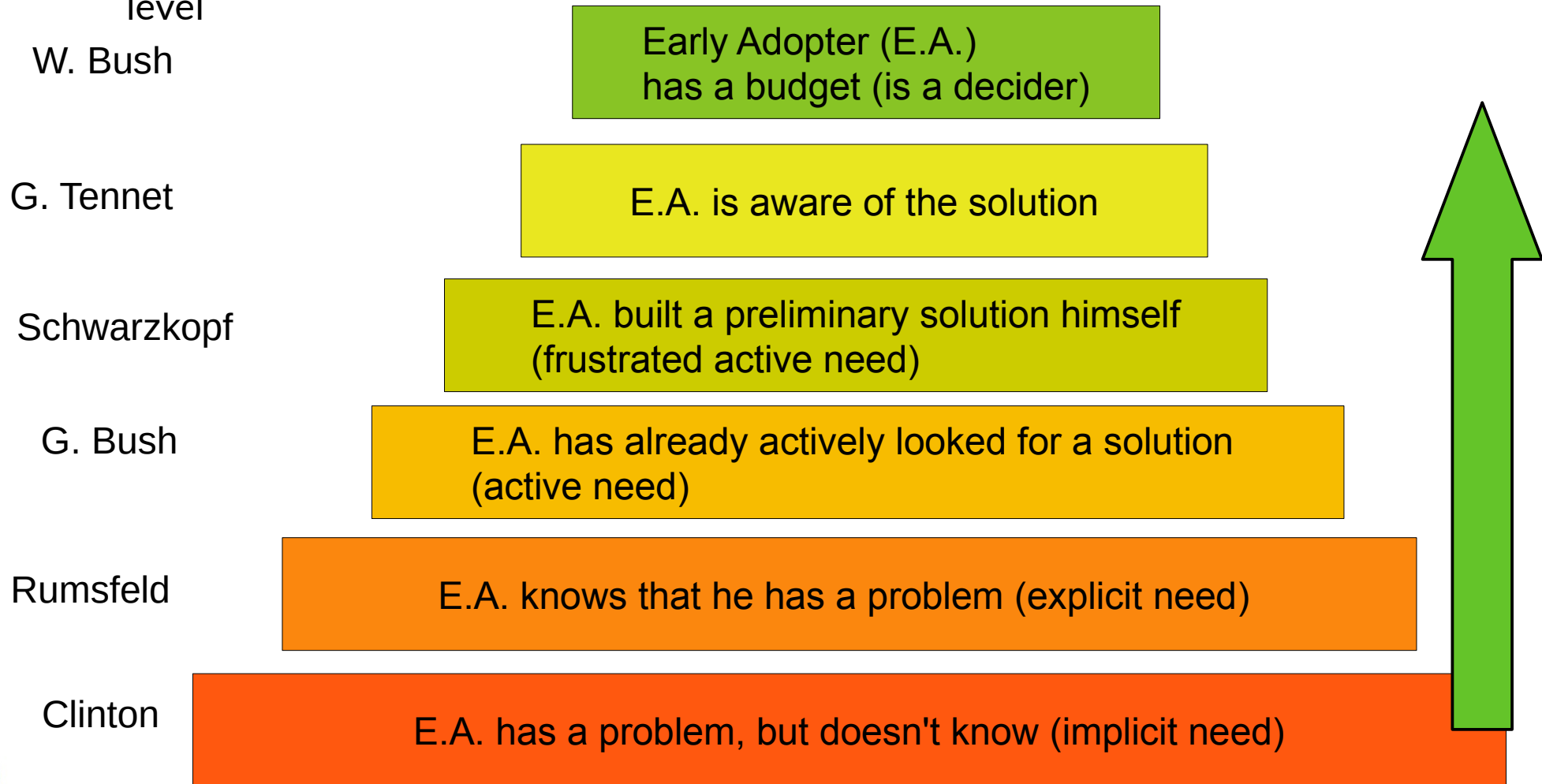
Das Potenzial des Digital Hub.

Dies wäre seine Berufung gewesen, seine Bestimmung, sein Durchbruch.

<http://www.macprime.ch/applehistory/story/apple-newton-im-kreuzfeuer-des-digital-hub/>

# Classes of Dissatisfaction of Early Adopters (and also all Customers)

- ▶ Most startups discover a situation in which customers have already tried in vain to build a solution. [Blank/Dorf] (“Schwarzkopf problems”)
- ▶ [Rackham] claims that need-payoff questions must be used to lift an E.A. to the Tennes level



# Customer Discovery Report Table [Blank/Dorf]

- ▶ The report table estimates with school grading the maturity in the customer funnel of all potential customers.
  - It defines a *metric* on the *maturity* of the customer
- ▶ School grading can be in different ordinal scales, e.g., 1-3, 1-5, 1-16, 1-100
- ▶ Customer Discovery Report can be managed with Excel or a database

| Customer | Enthusiastic | Urgently needed | Importance of effects | Improvise d solution | 120 days | Importance of Decider | 120x2 | total |
|----------|--------------|-----------------|-----------------------|----------------------|----------|-----------------------|-------|-------|
| Miller   | 1            | 1               | 3                     | 5                    | 5        | 1                     | 10    | 26    |
| Bush     | 1            | 2               | 4                     | 5                    | 1        | 3                     | 2     | 18    |
| Clinton  | 5            | 3               | 1                     | 1                    | 1        | 1                     | 2     | 14    |
| Trump    | 2            | 2               | 4                     | 3                    | 3        | 5                     | 6     | 25    |
| Average  | 2,25         | 2               | 3                     | 3.5                  | 2,5      | 2,5                   | 5     |       |



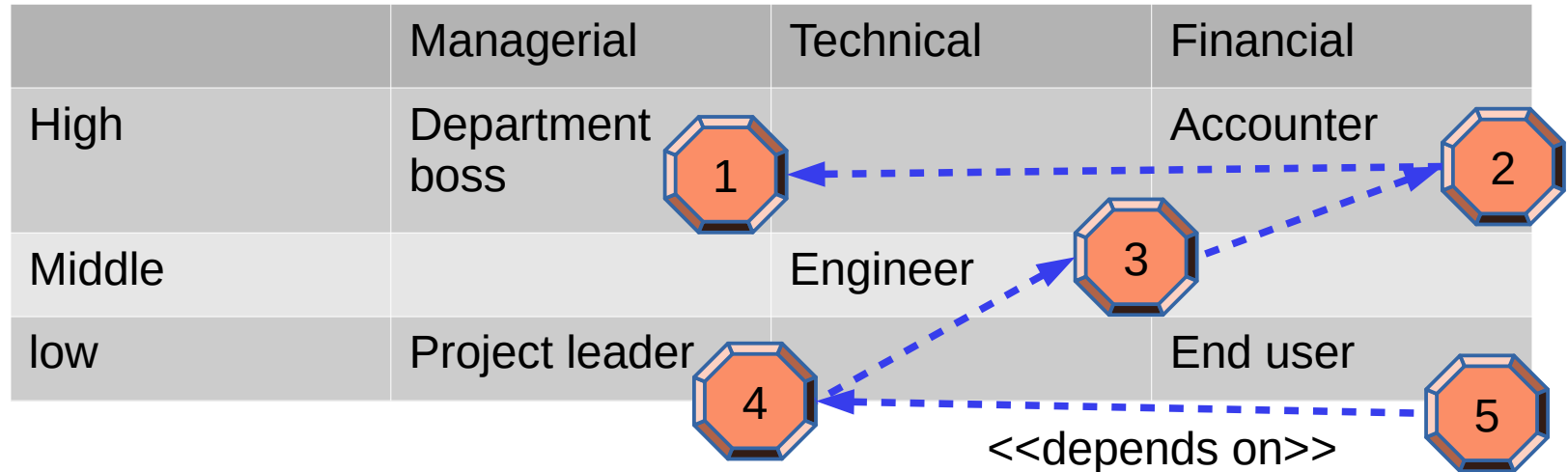


## **10.6 Who is Related to your Customer?**



# Analyzing the Customer's Relationships to Deciders

- ▶ An **organizational / influence map** draws the network of the customer that can influence his buy-no-buy decisions
- ▶ Analysis can start with a table or a graph
- ▶ Analysis constructs a **dependency graph** (partial or total order)
- ▶ **Deciders** are the sinks of the dependency graph



# Customer Relationship Analysis with Business Model You

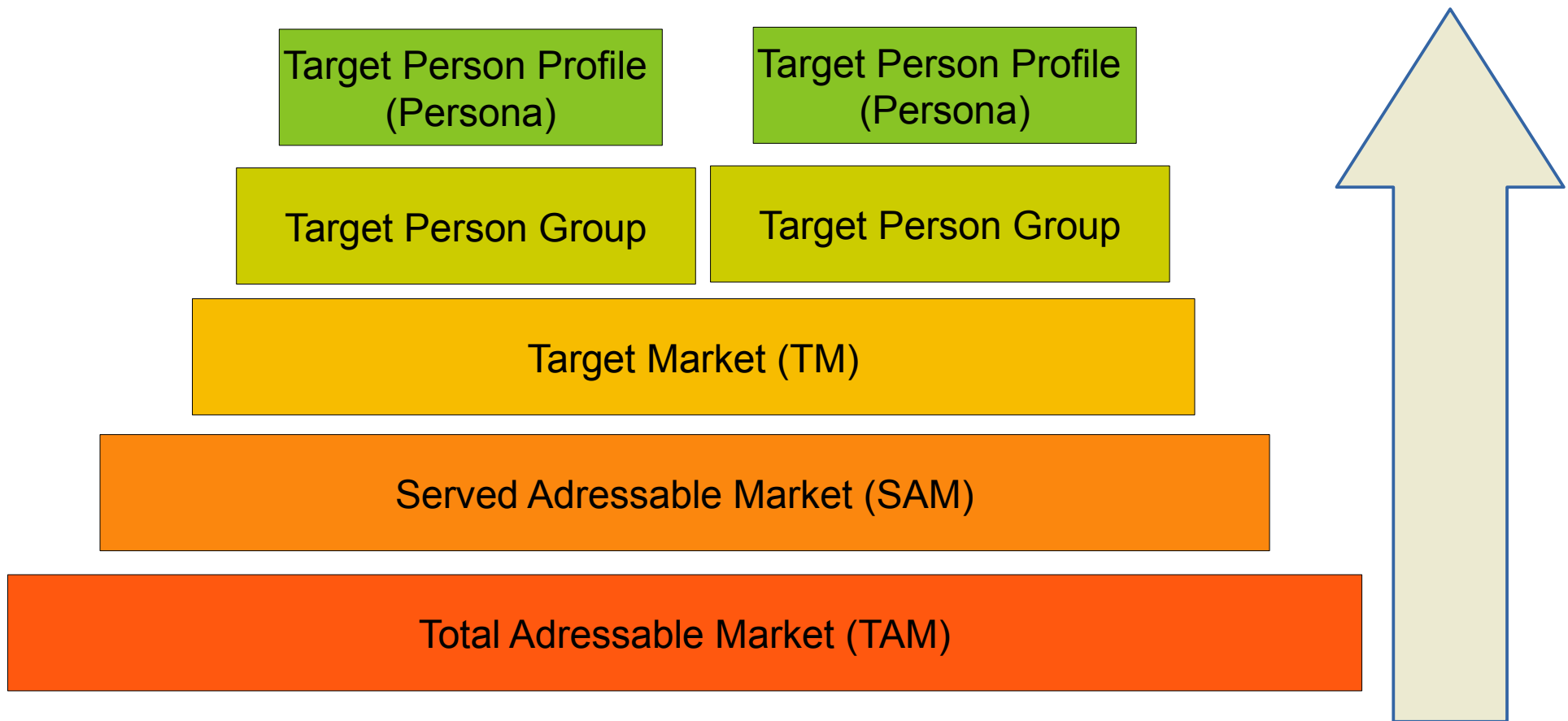
- ▶ Play your customer .... and fill a BMY Canvas.

|   |  |   |  |  |
|---|--|---|--|--|
| Key Partners<br><b>Who helps<br/>Your customer?</b> | Key activities<br><b>What do Your<br/>customer<br/>do?</b> | Value<br>Proposition<br><b>How does<br/>Your customer<br/>help?</b> | Customer<br>Relationships<br><b>How does she<br/>interact?</b>             | Customer<br>Segments<br><b>Whom does<br/>Your customer<br/>help?</b> |
|   | Key Resources<br><b>What she is<br/>and has</b>            |   | Channels<br><b>How do they<br/>know him?<br/>How does she<br/>deliver?</b> |  |
| Cost Structure<br><b>What does he give?</b>         |  |   | Revenue Streams<br><b>What does she get?</b>                               |  |



# Refinement of Customer Segments and Market Slices

- ▶ See whether you can find several target person groups (customer segments) in your target market, because they speak the same language (same domain)



# Customer Profile (Persona)

- ▶ A **Customer Persona (profile, archetype)** is a story about an average customer from a customer segment.
  - Derived from Empathy Map, Influence Map, VPA, Problem Analysis, Customer's Day Canvas, Customers influence map
- ▶ Table form of Persona:

| <b>Highlights in the customer's day, problem canvas, VPC, or influence map</b> | <b>Hints for aquisition</b>  |
|--|--|
| Gets up with difficulties  | Don't call him before 10:00; send him a coffee kit for advertisement |
| Doesn't like to read   | Send him a DVD with video  |
| Has friends in political party PDU   | Analyze partie's opinion about the effects of your product           |
|  |  |

# The End

- ▶ Why is it important to know a lot about your customer?
- ▶ Explain how the customer changes the diapers of his baby. Analyze this activity with Jobs-to-be-Done framework.
- ▶ Why does the JTBD Canvas highlight “underserved” services?
- ▶ Why is it important to analyze the relationships of a potential customer?
- ▶ Why is it important to know the position of potential customer in its company?
- ▶ Explain the different forces of the Progress-Forces Canvas of Klement.