UNIVERSITÀ DEGLI STUDI DI BERGAMO

Dipartimento di Ingegneria Gestionale, dell'Informazione e della Produzione

Opportunity Identification and Customer Needs

Laboratory Digital Innovation and Management (DIM)

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Agenda

1. Opportunity Identification
2. Tool: How might we statement builder
3. Customer needs
4. Tool: Persona model
5. Tool: Customer journey map
6. Case study: Faurecia

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Opportunity Identification

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What is an opportunity?

What is an Opportunity?

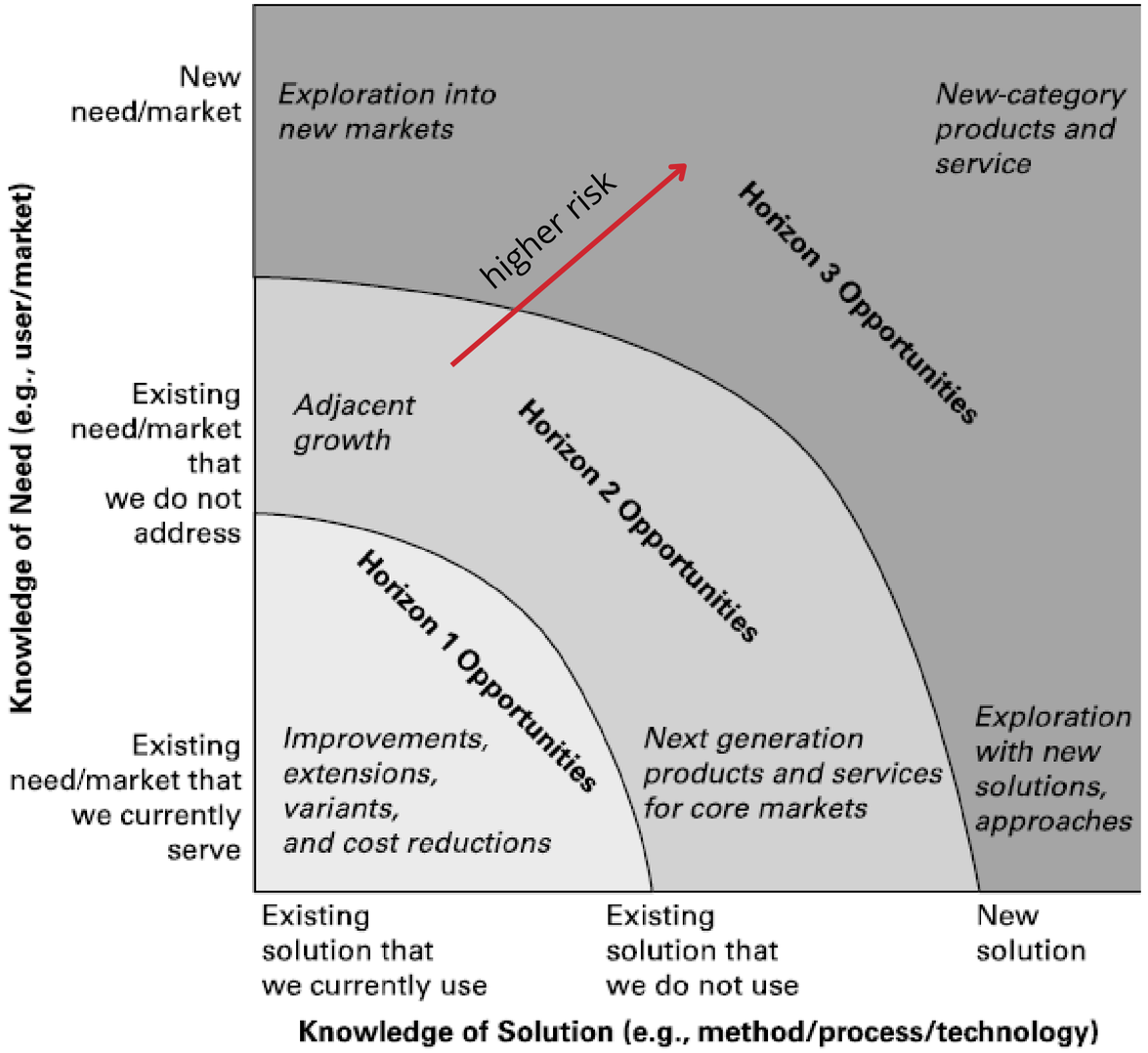
- In product development Context, opportunity is an idea for a new product.
  - Product description in embryonic form
  - a newly sensed need
  - a newly discovered technology
  - a rough match between a need and a possible solution

Example:

- For a consumer-products company: a new type of product suggested by a customer
- For a materials company: a new polymer

What is an Opportunity?

The level of Risk and the Time needed increase as the knowledge of need and the knowledge of solution decrease.



What is an Opportunity?

Types of Opportunities:

Horizon 1:

- improvements
- new variants of existing products
- cost reductions of existing product

Horizon 2:

- horizon of new need/market or/and existing solution that we do not use

Horizon 3:

- horizon of new need/market and new technology

Example: FroliCat company

- Pet products company had successful introduced laser based cat toys to entertain them.
- Small company, investment in developing new products can cause substantial risk.
- Based in Chicago, factory in China. Engage a Shangai-based product development consulting firm, Asentio Design to lead the opportunity identification effort.

Courtesy of Lucky Litter LLC and FroliCat

Example: FroliCat company

- They only had one year to lunch new product, so the FroliCat team explicitly avoided Horizon 3 opportunities.

- The team wished to build on its initial success of the Bolt cat toy, focusing on its existing customers and the needs it had already met.

- It aimed to develop a next generation solution for the existing need to entertain cats, thereby concentrating on Horizon 2 opportunities.

Courtesy of Lucky Litter LLC and FroliCat

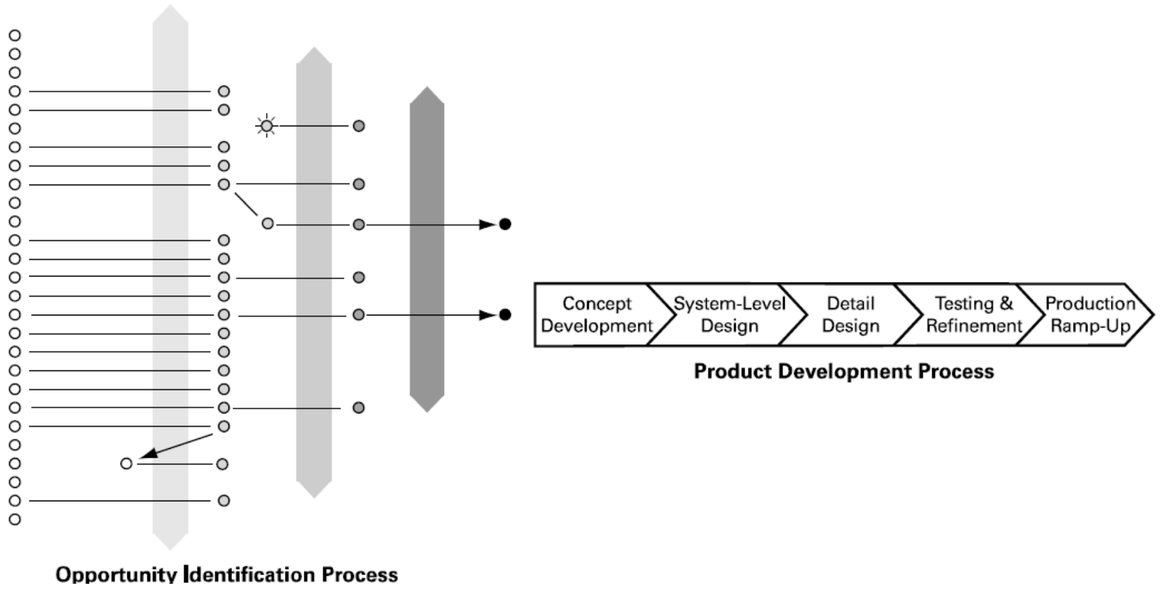
Tournament Structure of Opportunity Identification

Opportunity Identification Process:

Generate large number of opportunities and efficiently kill those that are not worthy of further investment

Product Development Process:

Take opportunity articulated in the mission statement and do everything possible to assure it becomes the best product it can be



Effective Opportunity Tournaments

How can the opportunity identification process be managed to increase the number of excellent opportunities identified ?

Generate a large number of opportunities

If you produce more opportunities, you'll see more exceptional ones

Seek high quality of the opportunities generated

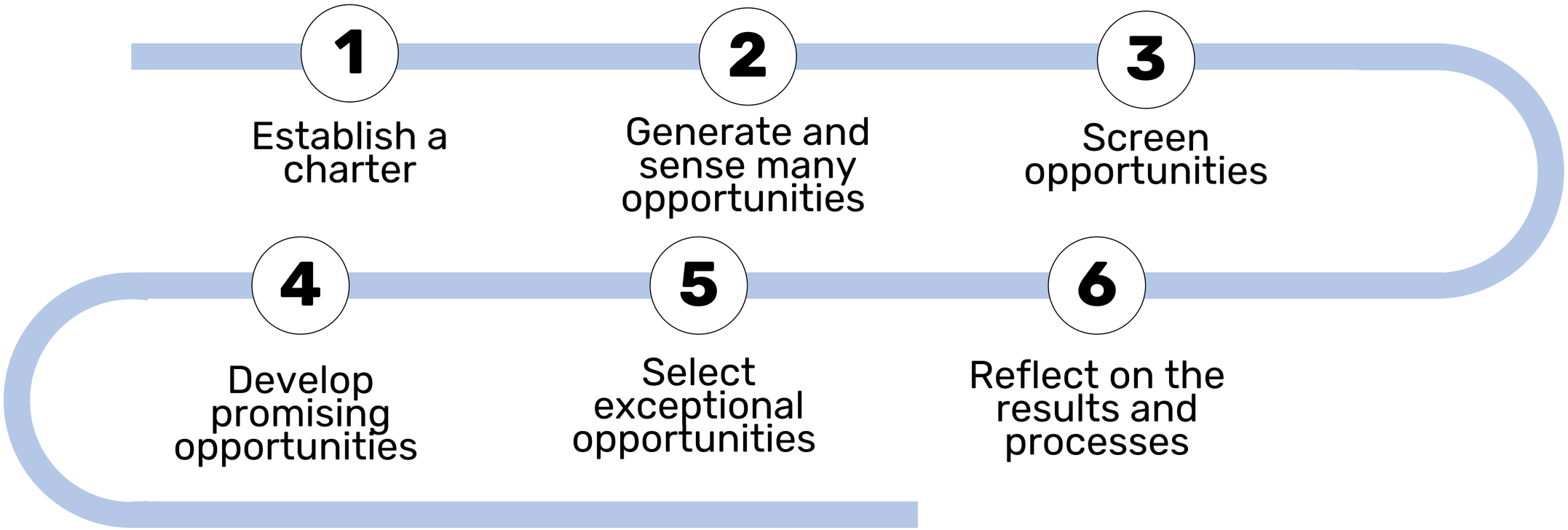
Adopting better methods for generating opportunities can increase the average quality of opportunities

Create high variance in the quality of opportunities

Generate strange ideas and wild notions increases the chance that at least one of the opportunities will be exceptionally good

Opportunity Identification Process

Six steps of the Opportunity Identification Process:

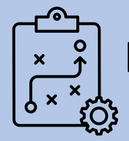


1. Establish a charter

Organizations create new product to achieve goals such as growing revenues from existing customers, filling a hole in a product line, or entering new market segments.
The **Innovation Charter** articulates goals and establishes boundary conditions for an innovation effort.

By specifying a narrow charter, the team avoids wasting effort and will be more focus.

Innovation Charter


It is the new product team’s strategy


It is for products (not processes)


It is for innovation


It is a charter (a document)

Example: FroliCat company

The charter for the FroliCat is:

“Create a physical product in the cat category that we can launch to the market within about a year through our existing retail sales channel “

The main restrictions in this charter were the emphasis on physical goods instead of software or services, a focus on the cat toy category, a preference for opportunities that would not require enormous investments of calendar time, and a desire to take advantage of the company’s existing relationships with retailers.

Courtesy of Lucky Litter LLC and FroliCat

2. Generate and Sense Many Opportunities

There are two ways to generate opportunities:

- Techniques for **internal generation** of opportunities
- Techniques for **external generation** of opportunities

Which can be the methods to generate ideas?

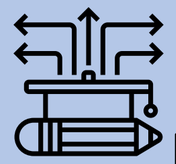
Techniques for Generating Internal Opportunities

Follow a Personal passion

List your passion. Consider how technologies, trends, business models might influence your passion

Compile bug lists

List every annoyance or frustration, think/dream about its solution



Pull opportunities from capabilities

Capabilities, core competencies and competitive advantages must be VRIN (Valuable, Rare, Inimitable, Nonsubstitutable)

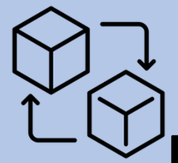
Techniques for Generating Internal Opportunities

Study customer

Opportunity can be identified by studying customers in a selected market segment.
Example: Shimano case

Consider implication of trends

Changes in technology, demography or social norms often create innovation opportunities



Imitate, but better

Scan and monitor the activities of other firms by attending trade shows and following patent filings
Import geographically isolated innovations

Techniques for Generating External Opportunities

Mine Your Sources

Half of product opportunities arise from outside sources:

Lead users
example:
Many devices and procedures in health care were invented by clinicians.

Social media, blogs, forums as resource for new idea.

Universities and government lab:
solutions identified in universities and government lab can be commercialized by third parties

Online idea submission:
brainstorming through web sites. Let customers give suggestions through questionnaire in websites.

3. Screen Opportunities

The goal of screening is to eliminate opportunities that don’t create value and to focus attention on the opportunities worthy of further investigation.
Two methods:

- **Web-based surveys**:
  - Unknown author
  - Yes/No vote or 1-10 scale
  - At least 6 judgments
- **Workshops with multivoting:**
  - Short presentation
  - Simultaneous votes
  - No more than 50 opportunities

4. Develop Promising Opportunities

- Internet search for existing solutions
- Informal discussion with a few potential customer
- Customer interviews
- Testing of existing products
- Concept generation
- Quick prototypes
- Estimate market sizes and growth rates

The goal is to solve the greatest uncertainty surrounding each opportunity at the lowest cost in time and money

4. Develop Promising Opportunities

Scan the QR code!

5. Select Exceptional Opportunities

Real-Win-Worth-it method

Is the opportunity **real?**	Is the opportunity **worth it** financially?	Can you **win** with this opportunity?
Is there a real market? Market size, potential pricing, availability of technology	Can you establish a sustainable competitive advantage? Can you patent or brand the idea?	Do you have the resources needed? Are you confident that the investment will be rewarded with appropriate returns?

Example: Swing Ball Cat Toy

For FroliCat, the swinging-ball concept was highly appealing to potential purchasers, was engaging for cats, offered the prospect of a good patent, and could be developed and launched with modest investment.

Real-Win-Worth-it (RWW) Framework—"Swing Ball Cat Toy" Example

1. Is there a real market and a real product?	
Is there a need? (What is the need? How is the need presently satisfied?)	Yes
Can the customer buy? (size of the market, customer decision-making process)	Yes
Will the customer buy? (perceived risks and benefits, expectations on price and availability)	Yes
Is there a viable concept for a product already? How likely are we to be able to develop a viable concept?	Yes
Is the product acceptable within the social, legal, and environmental norms?	Yes
Is the product feasible? Can it be made? Is the technology available? Does it satisfy the needs?	Yes
Will our product satisfy the market? Is there a relative advantage to other products?	Yes
Can it be produced at low cost?	Yes
Are the risks perceived by the customer acceptable? What are the barriers to adoption?	Yes
Answer	YES
2. Can we win? Can our product or service be competitive? Can we succeed as a company?	
Do we have a competitive advantage? Is it sustainable? (performance, patents, barriers to entry, substitution, price)	Yes
Is the timing right?	Yes
Does it fit our brand?	Yes
Will we beat our competition? (How much will they improve? price trajectories, entrants)	Yes
Do we have superior resources? (engineering, finance, marketing, production; fit with core competencies)	No
Do we have the management that can win? (experience? fit with culture? commitment to this opportunity?)	Yes
Do we know the market as well as or better than our competitors? (customer behavior? channels?)	Yes
Answer	YES
3. Is it worth doing? Is the return adequate and the risk acceptable?	
Will it make money?	Yes
Do we have the resources and the cash to do this?	Yes
Are the risks acceptable to us? (What could go wrong? technical risk vs. market risk)	Yes
Does it fit our strategy? (fit with our growth expectation, impact on brand, embedded options)	Yes
Answer	YES

EXHIBIT 3-10 The Real-Win-Worth-it criteria applied to the swinging ball opportunity. The checklist is available from the book Web site.

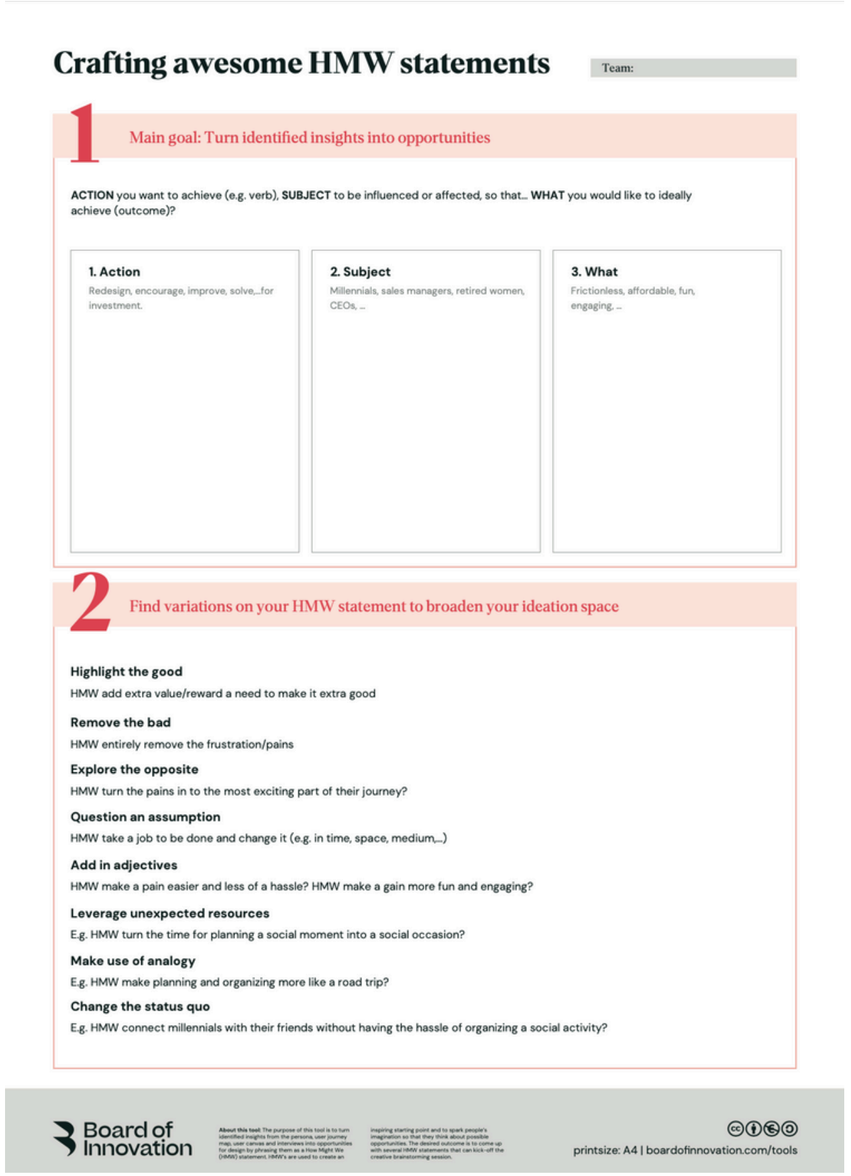
6. Reflect on the Results and the Process

- How many of the opportunities identified came from internal sources vs external sources?
- Did we consider dozens or hundreds of opportunities?
- Was the innovation charte too narrowly focused?
- Are the resulting opportunities exciting to the team ?

How might we statement builder

A "How Might We" (HMW) Statement Builder
is a creative problem-framing tool.

It **translates a challenge**, a user need, that we collected along the problem exploration activity **into an opportunity** for design by reshaping it into a question and reaffirming that is possible to come up with new ways on approaching this challenge.



Crafting awesome HMW statements

Team:

1 Main goal: Turn identified insights into opportunities

ACTION you want to achieve (e.g. verb), **SUBJECT** to be influenced or affected, so that... **WHAT** you would like to ideally achieve (outcome)?

1. Action	2. Subject	3. What
Redesign, encourage, improve, solve,...for investment.	Millennials, sales managers, retired women, CEOs, ...	Frictionless, affordable, fun, engaging, ...

2 Find variations on your HMW statement to broaden your ideation space

Highlight the good
HMW add extra value/reward a need to make it extra good

Remove the bad
HMW entirely remove the frustration/pains

Explore the opposite
HMW turn the pains in to the most exciting part of their journey?

Question an assumption
HMW take a job to be done and change it (e.g. in time, space, medium,...)

Add in adjectives
HMW make a pain easier and less of a hassle? HMW make a gain more fun and engaging?

Leverage unexpected resources
E.g. HMW turn the time for planning a social moment into a social occasion?

Make use of analogy
E.g. HMW make planning and organizing more like a road trip?

Change the status quo
E.g. HMW connect millennials with their friends without having the hassle of organizing a social activity?

Board of Innovation

About this tool: The purpose of this tool is to turn identified insights from the persona, user journey map, user canvas and interviews into opportunities for design by phrasing them as a How Might We (HMW) statement. HMW's are used to create an inspiring starting point and to spark people's imagination so that they think about possible opportunities. The desired outcome is to come up with several HMW statements that can kick-off the creative brainstorming session.

printsize: A4 | boardofinnovation.com/tools

How might we statement builder

It consists of 3 sections:

1. ACTIONS

Describe an activity that you would like to carry out

2. SUBJECTS

Describe who is your target group to be influenced or affected

3. OUTCOME

What you would like to ideally achieve?

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Customer needs

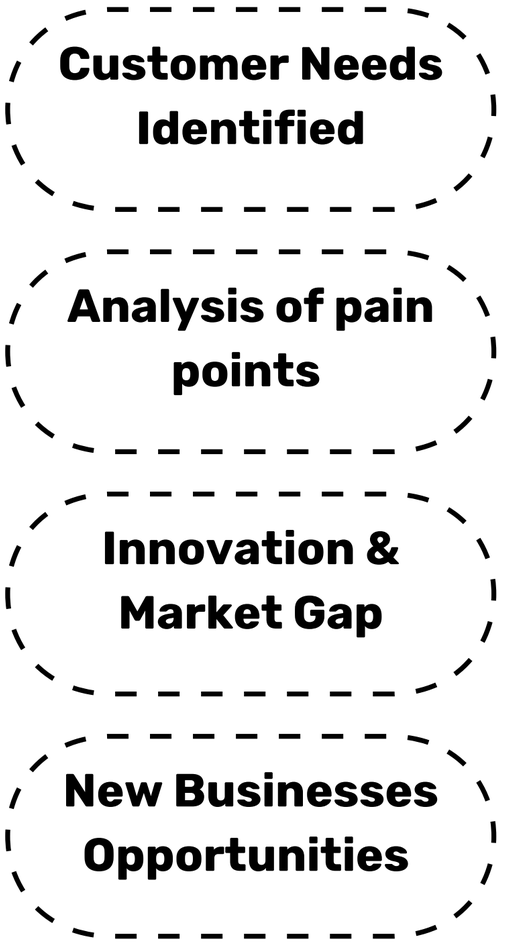
Laboratory Digital Innovation and Management (DIM)

What is the connection between customer needs and opportunities?

From Needs to Opportunities: A Strategic Link

Customer needs are the starting point for identifying opportunities.

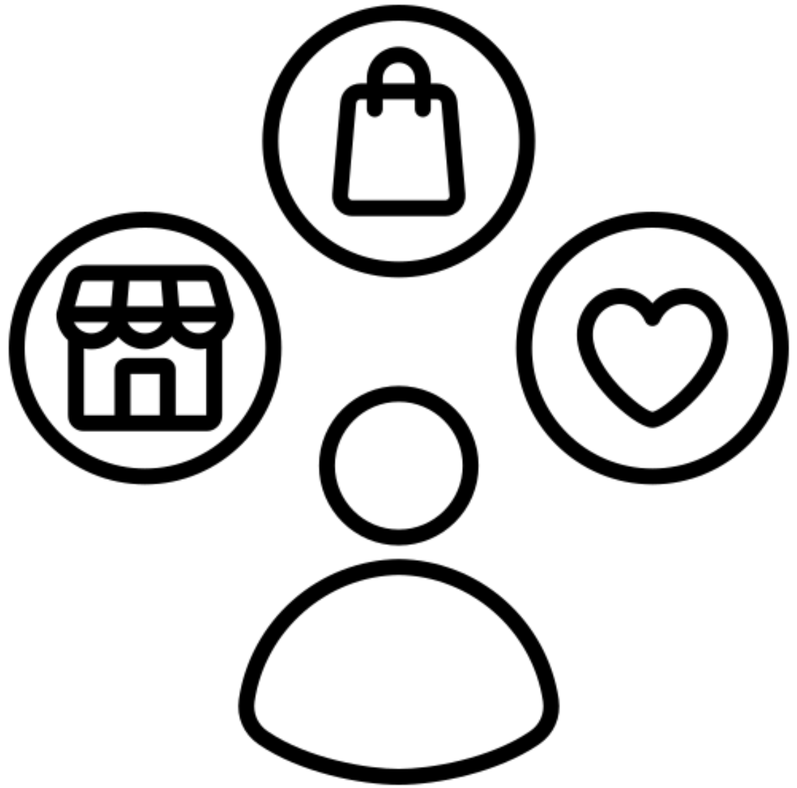
Businesses that understand deep customer pain points can innovate effectively.



Introduction - What are Customer Needs?

Customer needs refer to the expectations, preferences, and problems that consumers seek to address when purchasing a product or service.

Understanding these needs helps businesses develop solutions that enhance customer satisfaction, loyalty, and competitive advantage.



Identify Customer Needs

5-step method to describe this **process**:

1. Gather raw data from customer

2. Interpret the raw data in terms of customer needs

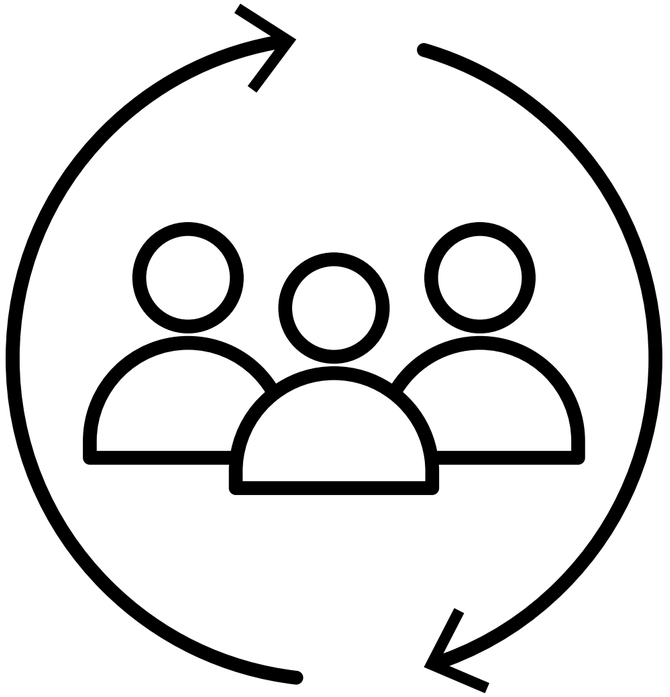
3. Organize the needs into a hierarchy

4. Establish the relative importance of the needs

5. Reflect on the results and the process

1 - Gather Raw Data from Customer

The very first step is the collection of raw data straight from the users themselves.
This phase involves engaging with customers so as to understand their experiences, pain points, and aspirations.
By capturing first-hand data, businesses can ensure that product development will be informed by real user needs, leading to more sustainable and marketable products.



1 - Gather Raw Data from Customer

Methods for collecting Data

Interviews

One-on-one conversations to explore customer perspectives in depth

Focus groups

Group discussion facilitated by a moderator to gather diverse opinions

Observation

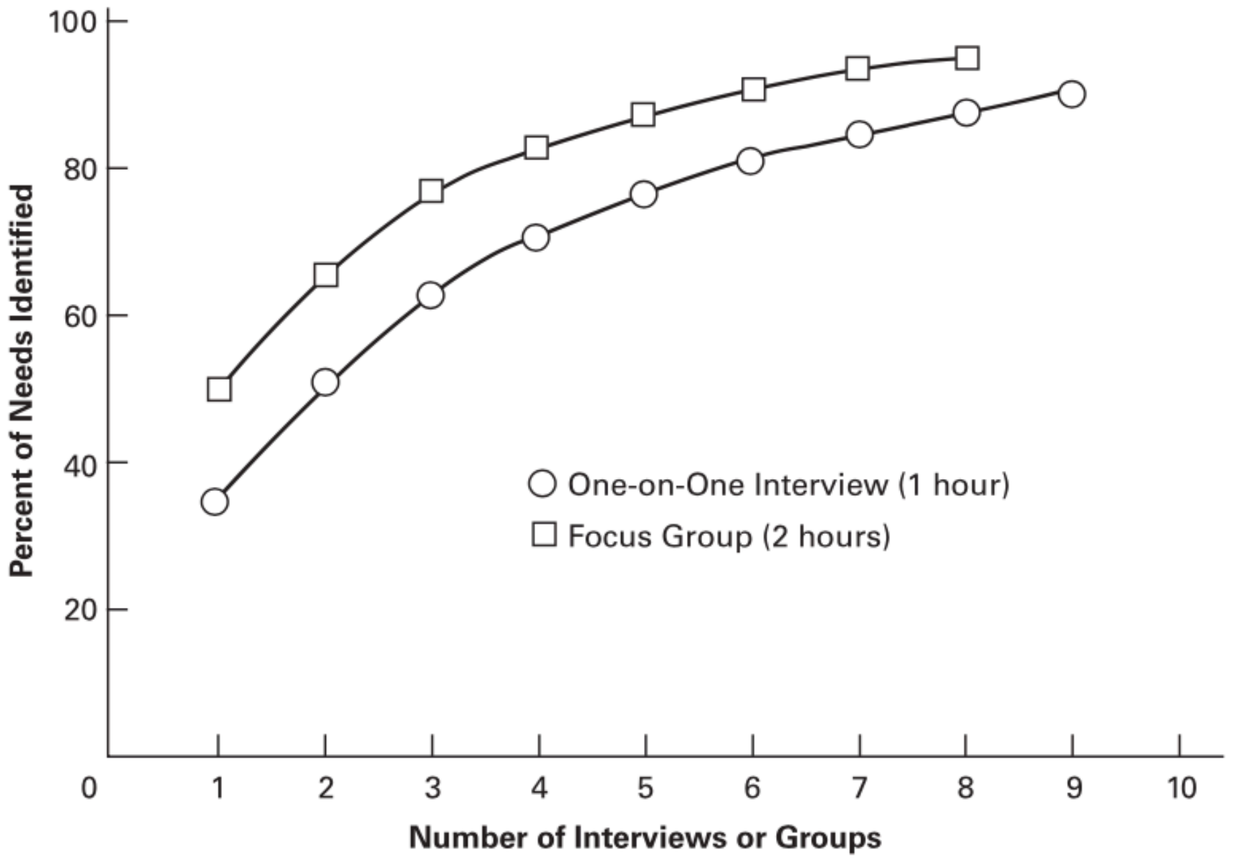
Watching customer interact with products in real-life settings to uncover implicit needs.

Each method provides unique advantages, contributing to a comprehensive understanding of customer requirements.

1 - Gather Raw Data from Customer

EXHIBIT 5-4
Comparison of the percentages of customer needs that are revealed for focus groups and interviews as a function of the number of sessions. Note that a focus group lasts two hours, while an interview lasts one hour.

Source: Griffin and Hauser, 1993



1 - Gather Raw Data from Customer

Customer needs data extraction methods:

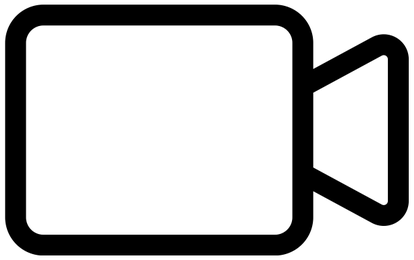
- ***Go with the flow*:** it is important to gather useful data on customer needs and not to complete the interview guide in the allowed time
- ***Use visual stimuli and props:*** show products that already exist and competitors
- ***Have the customer demonstrate the use of product***
- ***Be alert for surprises and the expression of latent needs:*** be ready to unexpected requests and avoid biases about the product design
- ***Watch for nonverbal information:*** keep focus on the customer and his body language, do not pay attention only to what he/she says.

1 - Gather Raw Data from Customer

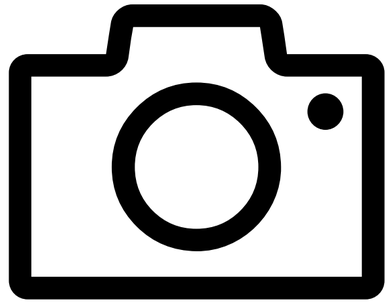
Document interaction with customers with these tools:

Audio Recordings

Notes



Video Recordings



Photography

2 - Interpret Raw Data in Terms of Customer Needs

5 guidelines for writing need statements:

- Express the need in terms of what the product has to do, not in terms of how it might do it;
- Express the need as specifically as the raw data;
- Use positive purchasing
- Express the need as an attribute of the product
- Avoid the words must and should

2 - Interpret Raw Data in Terms of Customer Needs

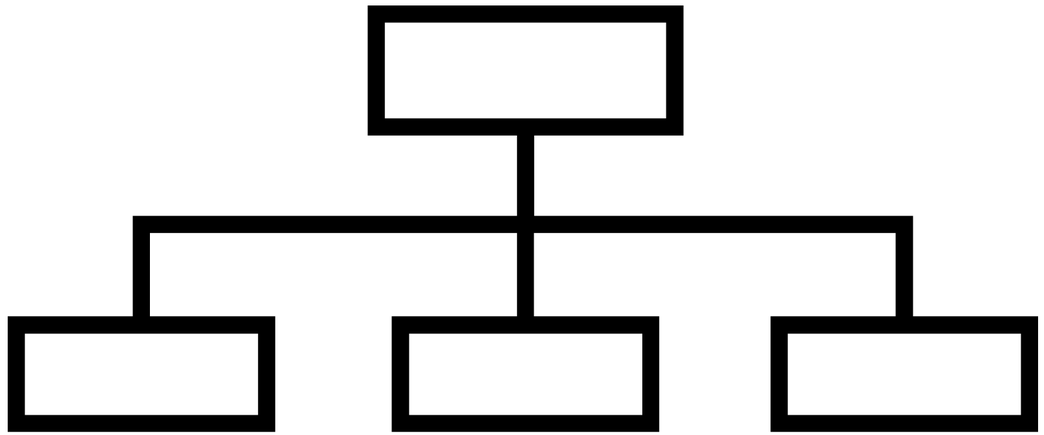
Guideline	Customer Statement	Need Statement—Right	Need Statement—Wrong
"What" not "how"	"Why don't you put protective shields around the battery contacts?"	The screwdriver battery is protected from accidental shorting.	The screwdriver battery contacts are covered by a plastic sliding door.
Specificity	"I drop my screwdriver all the time."	The screwdriver operates normally after repeated dropping.	The screwdriver is rugged.
Positive not negative	"It doesn't matter if it's raining; I still need to work outside on Saturdays."	The screwdriver operates normally in the rain.	The screwdriver is not disabled by the rain.
An attribute of the product	"I'd like to charge my battery from my cigarette lighter."	The screwdriver battery can be charged from an automobile cigarette lighter.	An automobile cigarette lighter adapter can charge the screwdriver battery.
Avoid "must" and "should"	"I hate it when I don't know how much juice is left in the batteries of my cordless tools."	The screwdriver provides an indication of the energy level of the battery.	The screwdriver should provide an indication of the energy level of the battery.

EXHIBIT 5-7 Examples illustrating the guidelines for writing need statements.

3 - Organize the Needs into a Hierarchy

Needs have now to be organized into a **hierarchical list**, typically made by a set of **primary needs**, each one is further characterized by a set of **secondary needs.**

Primary needs are the most general needs, secondary (and eventually tertiary) go more on detail



3 - Organize the Needs into a Hierarchy

Step-by-Step procedure for organizing the needs into a hierarchical list:

- Print or write each need statement on a separate card or self-stick note
- Eliminate redundant statements
- Group the cards according to the similarity of the needs they express
- For each group, choose a label
- Consider creating supergroups consisting of two to five groups
- Review and edit the organized needs statements

Example on how needs can be structured into a hierarchy: SD card users. This case study demonstrates how user needs evolve from broad primary needs to more specific secondary and tertiary needs.

3 - Organize the Needs into a Hierarchy

What if the process gets more complicated by reflecting the needs of two (or more) distinct market segments? There are two different approaches:

Approach 1

Label each need with the segment of the customer from whom the need was elicited, directly observing differences in needs across segments

Approach 2

Perform the clustering process separately for each market segment

3 - Organize the Needs into a Hierarchy - an example

Let's refer to SD card users in order to better understand how requirements could be structured as a hierarchy.

This case study demonstrates the way user needs evolve from broader primary needs to more detailed secondary and tertiary needs.

The following diagram demonstrates how this systematic process makes all concerned aspects of user experience as well as product performance come into effect.

3 - Organize the Needs into a Hierarchy - an example

The SD provides plenty of power to drive screws.

* The SD maintains power for several hours of heavy use.

** The SD can drive screws into hardwood.

The SD drives sheet metal screws into metal ductwork.

*** The SD drives screws faster than by hand.

The SD makes it easy to start a screw.

* The SD retains the screw before it is driven.

*! The SD can be used to create a pilot hole.

The SD works with a variety of screws.

** The SD can turn Phillips, Torx, socket, and hex head screws.

** The SD can turn many sizes of screws.

The SD can access most screws.

The SD can be maneuvered in tight areas.

** The SD can access screws at the end of deep, narrow holes.

The SD is easy to set up and use.

* The SD is easy to turn on.

* The SD prevents inadvertent switching off.

* The user can set the maximum torque of the SD.

*! The SD provides ready access to bits or accessories.

* The SD can be attached to the user for temporary storage.

The SD power is convenient.

* The SD is easy to recharge.

The SD can be used while recharging.

*** The SD recharges quickly.

The SD batteries are ready to use when new.

**! The user can apply torque manually to the SD to drive a screw.

The SD lasts a long time.

** The SD tip survives heavy use.

The SD can be hammered.

* The SD can be dropped from a ladder without damage.

3 - Organize the Needs into a Hierarchy - an example

The SD turns screws that are in poor condition.
The SD can be used to remove grease and dirt from screws.
The SD allows the user to work with painted screws.

The SD feels good in the user's hand.
*** The SD is comfortable when the user pushes on it.
*** The SD is comfortable when the user resists twisting.
* The SD is balanced in the user's hand.
! The SD is equally easy to use in right or left hands.
The SD weight is just right.
The SD is warm to touch in cold weather.
The SD remains comfortable when left in the sun.

The SD is easy to control while turning screws.
*** The user can easily push on the SD.
*** The user can easily resist the SD twisting.
The SD can be locked "on."
**! The SD speed can be controlled by the user while turning a screw.
* The SD remains aligned with the screw head without slipping.
** The user can easily see where the screw is.
* The SD does not strip screw heads.
* The SD is easily reversible.

The SD is easy to store.
* The SD fits in a toolbox easily.
** The SD can be charged while in storage.
The SD resists corrosion when left outside or in damp places.
*! The SD maintains its charge after long periods of storage.
The SD maintains its charge when wet.

The SD prevents damage to the work.
* The SD prevents damage to the screw head.
The SD prevents scratching of finished surfaces.

The SD has a pleasant sound when in use.

The SD looks like a professional quality tool.

The SD is safe.
The SD can be used on electrical devices.
*** The SD does not cut the user's hands.

4 - Establish the Relative Importance of the Needs

This step is important because until here we have no info on the relative importance that customer attribute to the needs.
It is so fundamental to produce a numerical importance weighting.

Approach 1

Relying on the consensus of the team members based on their experience with customers.

Approach 2

Basing the importance assessment on further customer surveys.
Form here we have a Cost & Speed vs Accuracy trade-off.

5 - Reflect on the Results and the Process

The team must challenge its results to verify that they are consistent with the knowledge and intuition the team has developed. Useful questions might be:

Are there areas of inquiry we should pursue in follow-up interviews/surveys

How might we improve the process in future efforts?

What do we now know that we didn’t know back when we started?

Have we interacted with all of the important types of customers in our target market?

Persona model

A Persona model **is a fictional representation of your ideal customer** or user, based on real data, research, and insights.

It helps businesses better understand their target audience and design products, services, or marketing strategies that meet their needs more effectively.

Persona model

It consists of 6 sections:

1. PAINS

Fears, frustrations or obstacles that they have met.

2. GAINS

What are the needs, hope and dreams

3. JOBS TO BE DONE

What are trying to do and why is it important for them

Persona model

4. REALITY

How do they achieve those goals today? Any barriers in their way?

5. STORIES and OBSERVATION

Write down quotes or observations that best describe their experience

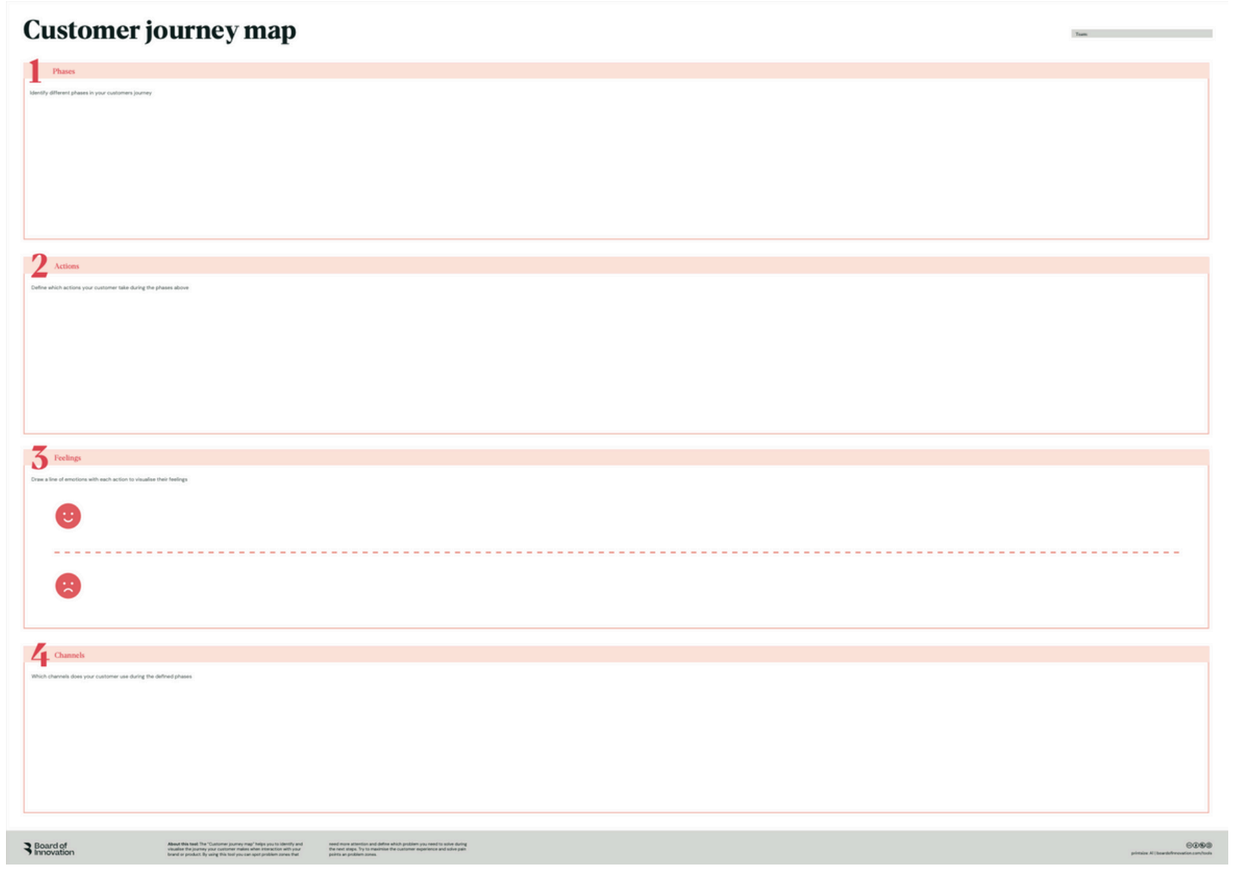
6. CONTEXT

Are there other factors that we should take in consideration?

Customer journey map

A customer journey map **is a visual representation of the process a customer goes** through when interacting with a product, service, or brand.

It helps businesses understand the customer experience from the customer's perspective, highlighting key touchpoints, emotions, pain points, and opportunities for improvement.



Customer journey map

It consists of 4 sections:

1. PHASES

Identify different phases in your customer journey

2. ACTIONS

Define which actions your customer take during the phases above

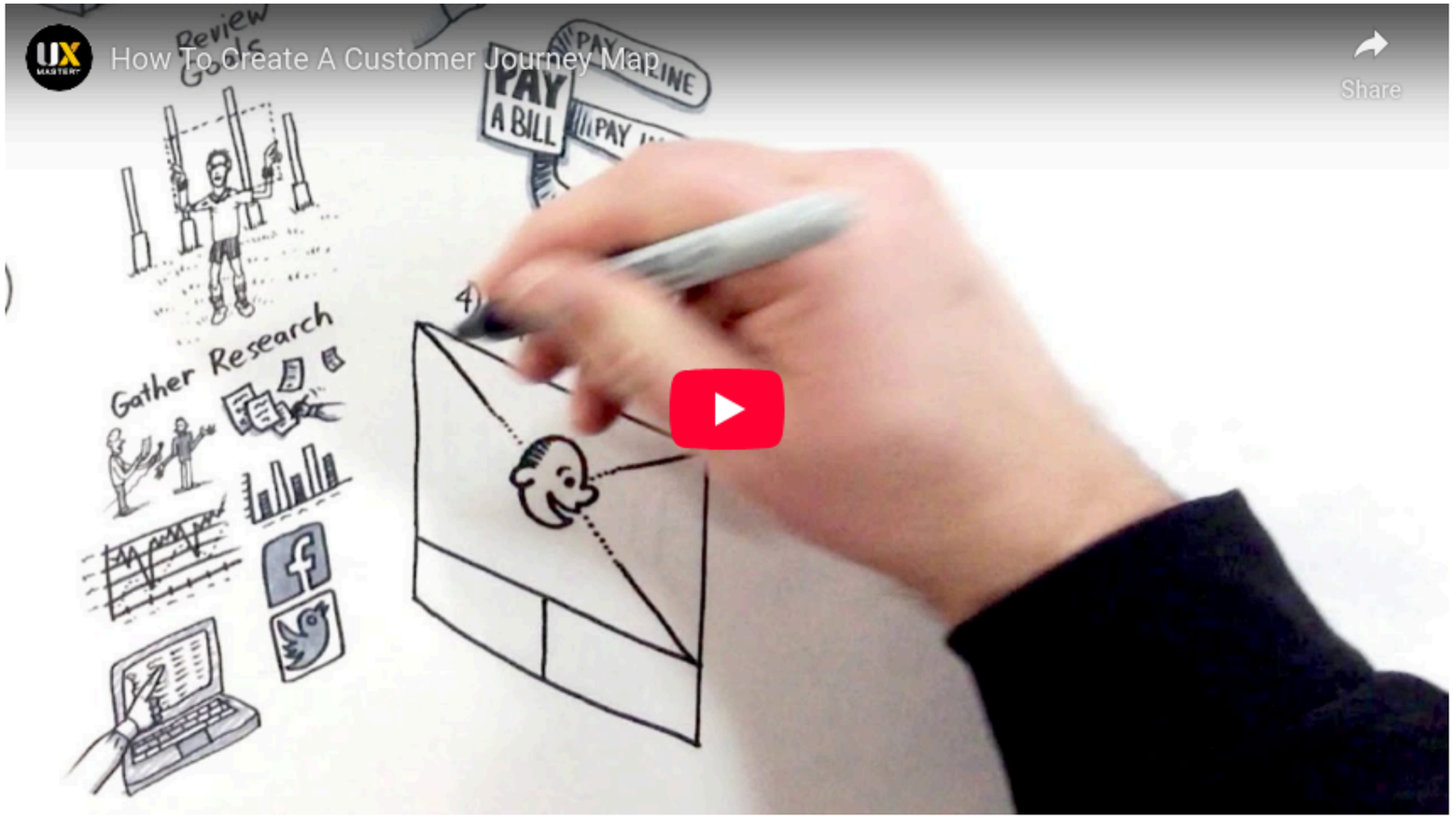
3. FEELINGS

What’s the emotional state that your customer goes through during each of the phases

4. CHANNELS

Which channels does your customer use during the defined phases

Customer journey map



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The Case Study: Faurecia

Laboratory Digital Innovation and Management (DIM)

Context

Faurecia is one of the principal global supplier of automotive components specialized in car seat.

In 2003, Faurecia’s management team realized that they have a double digit productivity gap despite to competitors. The company faced challenges regards to:

1. Higher development costs
2. Issues in Just In Time plants
3. Improve quality standards

Faurecia decided to renovate its approach in innovation and product design to preserve the competitive advantage and the success in the global market.

Faurecia: A world leader in car seating

- The company was founded in **1998** following the merger of Bertrand Faure and Ecia (a subsidiary of Peugeot- Citroën).
- **Business sectors:** car seats, vehicle interiors, exhaust systems and front-end modules.
- **Size:**
  - 60.000 employees across 28 countries and 168 production sites
  - € 10.7 billion of revenues in 2004

- **Market positioning:** In 2005 Faurecia was the third largest car seat manufacturer in the world.

faurecia
inspiring mobility

The car seat industry

- It is an **highly competitive market** with few major players: Johnson Controls, Lear and Faurecia. They compete on costs, quality and innovation.

- **Outsourcing trend:** Automakers (OEM) entrust often the production of seats to suppliers to reduce risks and costs.

- **Technological Evolution:** The industry is producing lighter, safer and more customized seats. This approach increase the complexity of the production.

Application of HMW statement builder to Faurecia case

HMW statement transforms **challenges into opportunities** for generative thinking by structuring ideas around the problem and potential solutions.

The format is composed of 3 main words:

HOW Suggests that the problem has a possible solution

MIGHT Encourages exploring various options without committing to a single choice

WE Highlights the need of the collective effort and the collaboration to solve the problem.

How Might We - Statement Builder based on Faurecia case

1.Action

2.Subject

3.What

How Might We - Statement Builder based on Faurecia case

Scan the QR code!
(one per team)

Innovation of Faurecia’s supply chain

The company adopted a **customer-driven approach** to optimize design and production.

Just in Time (JIT)

Seats must be assembled and delivered few minutes before the installation in vehicles. This reduces inventory and delivery time by optimizing logistics.

Production Optimization

Faurecia adopted an integrated model that connects metal structure factories with JIT plants located near automakers.

Ergonomy and Safety

Faurecia developed innovative ergonomic instruments and production processes to reduce risks of injuries of workers.

Innovation of Faurecia’s supply chain

Desing for Assembly (DFA) team

Introduction of a team that use design principles that simplify and reduce production time.

Modular Production

The company used standardized “plug-and-play” components to enhance customization and improve efficiency.

Automation and DIgitalization

Use of advanced software and digital quality control systems to monitor production in real-time.

Challenges	Solutions
Ergonomic Problems	Implementation of robot and automated instruments to reduce workload on operators.
Supply Chain Efficiency	Digitalization and Optimization of logistic and production flows.
Cost Pressure	Waste reduction through JIT production and the use of lightweight seat structures.

Thank you for your attention!