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# Appendices A



# HBR TOOLS

# SWOT ANALYSIS



# Introduction

Whether you are at the helm of a start-up, run an established line of business, or manage a product portfolio, you'll get the most out of a SWOT analysis if you go in with a particular business objective in mind.

Your objective may be to:

- *Prepare for strategic planning.* Many companies use a SWOT analysis to formulate or rethink strategy by better understanding their organization, market, and competitors.
- *Improve one or all parts of your business.* It can help you understand where your organization is most effective and identify areas of weakness.
- *Assess the feasibility of a new initiative.* You can use the analysis to determine if you should pursue a new product or project.
- *Make a specific decision.* It can help you decide whether to take advantage of a new business opportunity, restructure your team, or implement a new technology.
- *Set goals.* It can provide the background information you need to develop organizational, unit-specific, or team goals.
- *Plan your career.* Some individuals even use the analysis to assess and plan their careers.

Whatever the objective is, this tool will give you what you need to lead your group through the SWOT analysis, from preparation to follow-up. In Section 1, we outline the four categories—strengths, weaknesses, opportunities, and threats—and provide two company examples. In Section 2, we provide direction on how to prepare and run your SWOT meeting.

**Note:** Although a SWOT is often performed at the unit, team, or individual level, to keep it simple, we'll refer to a company SWOT throughout this tool.

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## Section 1

# The Four Categories of SWOT

When conducting a SWOT analysis, it's essential to consider both inside and outside factors to clarify the world in which your business operates. To illustrate the four categories of SWOT, we're going to use two fictional examples—ABC Convenience and XYZ Pay.

## ABC CONVENIENCE

**A well-established global chain of convenience stores, which has always provided low-cost prepackaged food and goods.**

**REASON FOR USING SWOT:** The leadership team wants to determine how it should respond to the growing consumer preference for fresh and organic foods and whether pursuing that opportunity makes more sense than pursuing others.

**QUESTION TO ANSWER:** Should we enter the organic food market?

## XYZ PAY

**A mobile payment app whose technology turns existing card strip readers into contactless payment receivers, making it easy for retailers to accept mobile payments.**

**REASON FOR USING SWOT:** The company is about to seek Series B funding, and the company's CEO needs to figure out how to position the company honestly and favorably to investors.

**QUESTION TO ANSWER:** What will make us most attractive to investors?

		POSITIVE	NEGATIVE
		STRENGTHS	WEAKNESSES
INTERNAL			
		OPPORTUNITIES	THREATS
EXTERNAL			

## THE FOUR CATEGORIES OF SWOT

## Look Inside: Strengths and Weaknesses

The SWOT analysis starts with your company's internal strengths and weaknesses. These are the things in your control, whereas the external issues are things that would exist even if your business didn't. Note that these are not all of the companies' strengths but those that are most relevant to the question the senior team is trying to answer.

**Strengths include:**

- **Capabilities** and **resources** that enable your company to perform well
- Things, which are both **tangible** (assets like patents or superior financial standing) and **intangible** (innovation capability or a strong brand)
- **“Core competencies”**—those things, which your company is exceptionally good at and that your customers value

**ABC CONVENIENCE > SHOULD WE ENTER THE ORGANIC FOOD MARKET?**

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• <i>Wide geographic presence:</i> 30,000 locations in the U.S., Europe, and Japan</li> <li>• <i>High brand equity:</i> market leader in the U.S. and Japan</li> <li>• <i>Franchise model:</i> faster expansion without significant capital requirements since franchisee bears setup costs</li> <li>• <i>High margins:</i> especially on snack foods and drinks</li> <li>• <i>Diverse income sources:</i> income from multiple markets allows us to survive economic downturns</li> </ul>	

**XYZ PAY > WHAT WILL MAKE US MOST ATTRACTIVE TO INVESTORS?**

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• Patent in progress on new technology</li> <li>• First-mover advantage in increasingly crowded market</li> <li>• Well-established partnership with a major cell phone provider</li> <li>• Leadership team with deep experience in quickly bringing new products to market</li> <li>• Top engineering talent, including two programmers from Apple Pay</li> </ul>	

## THE FOUR CATEGORIES OF SWOT

## Weaknesses include:

- **Disadvantages** compared to competitors
- Something you **lack** or do **poorly**
- Things, which are both **tangible** and **intangible**
- The **flip side of strengths**, such as weak leadership abilities, poor customer service, or lack of technology. In fact, sometimes a capability that's a strength may also be a weakness (see the franchise model for ABC Convenience)

## ABC CONVENIENCE &gt; SHOULD WE ENTER THE ORGANIC FOOD MARKET?

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• <i>Wide geographic presence</i>: 30,000 locations in the U.S., Europe, and Japan</li> <li>• <i>High brand equity</i>: market leader in the U.S. and Japan</li> <li>• <i>Franchise model</i>: faster expansion without significant capital requirements since franchisee bears setup costs</li> <li>• <i>High margins</i>: especially on snack foods and drinks</li> <li>• <i>Diverse income sources</i>: income from multiple markets allows us to survive economic downturns</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Not first-choice destination</i>: not seen as a source of healthy or complete meals but as back-up when convenience is priority</li> <li>• <i>High rental costs</i>: convenient store locations are costly</li> <li>• <i>High turnover</i>: especially among store managers</li> <li>• <i>Franchisees</i>: large team of franchisees throughout the world adds to the overall cost structure</li> </ul>

## XYZ PAY &gt; WHAT WILL MAKE US MOST ATTRACTIVE TO INVESTORS?

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<ul style="list-style-type: none"> <li>• Patent in progress on new technology</li> <li>• First-mover advantage in increasingly crowded market</li> <li>• Well-established partnership with a major cell phone provider</li> <li>• Leadership team with deep experience in quickly bringing new products to market</li> <li>• Top engineering talent, including two programmers from Apple Pay</li> </ul>	<ul style="list-style-type: none"> <li>• Highly competitive talent market, resulting in high turnover risk</li> <li>• Weak customer service function because we haven't yet invested in this capability</li> <li>• Early service outages gave the app reputation of being difficult to use, despite fixes</li> </ul>

## THE FOUR CATEGORIES OF SWOT

## Look Outside: Opportunities and Threats

Once you've looked inward to evaluate your strengths and weaknesses, you then scan the outer world for opportunities and threats.

**Opportunities include:**

- **Trends, forces,** and **events** that your company can capitalize on
- **Broad-reaching** trends (such as demographic shifts and removal of international trade barriers) and **more-narrow** forces (such as the identification of an unmet customer need or loosening of a regulation) that affect your industry or niche market

**ABC CONVENIENCE > SHOULD WE ENTER THE ORGANIC FOOD MARKET?**

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• <i>Growing demand for organic products:</i> could offer lower-margin organic foods</li> <li>• <i>Increased service offerings:</i> could offer cell phone cards and perhaps even car insurance</li> <li>• <i>Exclusive product offerings:</i> could offer exclusive food and snack products</li> <li>• <i>Cobranding locations:</i> could expand geographic coverage and/or product offerings by partnering with a coffee chain or a sandwich chain</li> </ul>	

**XYZ PAY > WHAT WILL MAKE US MOST ATTRACTIVE TO INVESTORS?**

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• Expanding customer base due to growth of small companies in the U.S. and Europe</li> <li>• Increased customer comfort with and confidence in mobile-based payments</li> <li>• More open regulatory environment may result if competitor wins court challenge to regulations governing mobile payments</li> </ul>	

## THE FOUR CATEGORIES OF SWOT

## Threats include:

- **Events** or **forces** outside of your control that may negatively affect your company
- **Broad-reaching** changes (such as shifts in demographics) and **more-narrow** events (such as the entrance of a new competitor)

## ABC CONVENIENCE &gt; SHOULD WE ENTER THE ORGANIC FOOD MARKET?

OPPORTUNITIES	THREATS
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## XYZ PAY &gt; WHAT WILL MAKE US MOST ATTRACTIVE TO INVESTORS?

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 **LEARN MORE**

To learn more about threats and opportunities, watch this 10-minute video that explains Michael Porter's classic five forces concept.

[WATCH VIDEO →](#)

## THE FOUR CATEGORIES OF SWOT

## Completed SWOT Analysis

As a result of its SWOT analysis, ABC Convenience decided to begin experimenting with the organic food market, the first step of which was to conduct customer research and begin discussions with existing suppliers who have organic food product lines. It also used this SWOT as the basis for its annual strategic-planning process.

## ABC CONVENIENCE &gt; SHOULD WE ENTER THE ORGANIC FOOD MARKET?

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• <i>Wide geographic presence:</i> 30,000 locations in the U.S., Europe, and Japan</li> <li>• <i>High brand equity:</i> market leader in the U.S. and Japan</li> <li>• <i>Franchise model:</i> faster expansion without significant capital requirements since franchisee bears setup costs</li> <li>• <i>High margins:</i> especially on snack foods and drinks</li> <li>• <i>Diverse income sources:</i> income from multiple markets allows us to survive economic downturns</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Not first-choice destination:</i> not seen as a source of healthy or complete meals but as back-up when convenience is priority</li> <li>• <i>High rental costs:</i> convenient store locations are costly</li> <li>• <i>High turnover:</i> especially among store managers</li> <li>• <i>Franchisees:</i> large team of franchisees throughout the world adds to the overall cost structure</li> </ul>
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## THE FOUR CATEGORIES OF SWOT

As a result of its SWOT analysis, XYZ Pay refines its investor pitch by adding more data on the opportunities around small-business growth and a clear plan for promoting the upgrades to its technology and restoring customer trust in the app.

### XYZ PAY > WHAT WILL MAKE US MOST ATTRACTIVE TO INVESTORS?

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• Patent in progress on new technology</li> <li>• First-mover advantage in increasingly crowded market</li> <li>• Well-established partnership with a major cell phone provider</li> <li>• Leadership team with deep experience in quickly bringing new products to market</li> <li>• Top engineering talent, including two programmers from Apple Pay</li> </ul>	<ul style="list-style-type: none"> <li>• Highly competitive talent market, resulting in high turnover risk</li> <li>• Weak customer service function because we haven't yet invested this capability</li> <li>• Early service outages gave the app reputation of being difficult to use, despite fixes</li> </ul>
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## Section 2

# Leading the Process

## Before the Meeting

The bulk of the SWOT analysis discussion happens in one meeting, though you'll need to do some work ahead of time to make sure you have the right people in the room.

### **DECIDE WHOM TO INCLUDE**

You need the right people in the room to have the most fruitful discussion. When considering whom to invite, follow these five tips:

- 1. Keep it small.** Depending on the size and complexity of your SWOT (e.g., are you analyzing your unit or the entire company?), aim to include four to 10 people to keep the discussion productive.
- 2. Include diverse perspectives.** Identify knowledgeable people from different functional areas of the company, who are trusted, respected, and have reputations for telling it like it is. Don't invite only people who see the business in the same way; bring at least one or two naysayers who will challenge the group.

- 3. Invite people with access to relevant information.**

You don't need to do a months-long analysis of your operations or business environment before doing a SWOT, but be sure to invite people who know the trends and developments in your industry. For example, if you're concerned about changing demographics among target customers, include someone from your market research department. Or if you want to consider a pricing change, invite someone from finance who can talk about the impact of such a change.

- 4. Include those who will need to execute on decisions.**

Bring in people who will be leading initiatives that emerge from your analysis.

- 5. Bring in outsiders.** Some employees may lack objectivity. For an unvarnished assessment of where your company is strong and weak relative to key competitors, you may want to bring in the voices of salespeople, defectors from rival companies, a supplier that knows the industry intimately, or consultants who have broad expertise of the industry. You may invite these people to participate in the discussion of external factors or gather their perspective beforehand.

**LEADING THE PROCESS: BEFORE THE MEETING**

For those whom you can't invite, find other ways to bring in their expertise. You might meet with them beforehand, for example, to ask for their ideas.

**PREPARE FOR THE MEETING**

Send an invite outlining the particular business objective of your SWOT analysis, the process you'll use in the meeting, the desired outcome, and the agenda. Ask people to think in advance about the strengths, weaknesses, opportunities, and threats they think should be considered.

Customize the included PowerPoint presentation for your meeting, adding your organization's branding, inserting new slides, adjusting existing slides, and/or revising the talking points as needed.

## LEADING THE PROCESS: DURING THE MEETING

## During the Meeting

### SAMPLE AGENDA

Total time: 90 minutes

- Open meeting: Explain purpose, process, and outcome  
5 MINUTES
- Discuss strengths  
15 MINUTES
- Discuss weaknesses  
15 MINUTES
- Discuss opportunities  
15 MINUTES
- Discuss threats  
15 MINUTES
- Put it all together and review completed analysis  
15 MINUTES
- Determine next steps  
10 MINUTES

You may need more time depending on the complexity of your SWOT and how many people are in the room. Consider breaking up the meeting into two separate sessions if you need extra time or if you want a follow-up meeting to discuss any additional thoughts people have after the first session.

### OPEN THE MEETING

SEE SLIDE > SWOT ANALYSIS

Start the meeting by reiterating the particular business objective for your SWOT analysis. Will you use it to set strategic goals for your company in the next year? Will senior management use it to decide whether to pursue a new initiative?

### REVIEW THE PROCESS

SEE SLIDES > AGENDA, THE FOUR CATEGORIES OF SWOT, THE SWOT PROCESS

Go over the agenda for the meeting. Show the SWOT matrix and quickly review what the four categories are. Then explain the process. For each quadrant of the SWOT, you will take four steps: brainstorm, consolidate, clarify, and prioritize ideas.

## LEADING THE PROCESS: DURING THE MEETING

**START WITH STRENGTHS**

SEE SLIDE &gt; INTERNAL: STRENGTHS

**Step 1: Brainstorm.** Go around the room and solicit ideas from participants. Record all suggestions on a white board or flip chart. At this point, the goal is to capture as many ideas as possible. You'll evaluate the strengths in the next few steps.

Ask people to be specific about the strength.

"Researching customer preferences and turning needs into enhanced product features" is better than "Understanding customers." The items you include in the final version of the SWOT will be one-sentence distillations of bigger ideas, but they shouldn't be so generic that they could apply to any company in your industry.

**Step 2: Consolidate.** Post the strengths so that everyone can see them and ask the group: Are any of these the same or do they overlap? Consolidate any duplicate points. But resist the temptation to lump too many ideas under one subject. Often, this results in a lack of focus or overgeneralizing, which is not helpful later when you need to take action.

**Step 3: Clarify.** Go down the consolidated list item by item and ask, "What do we mean exactly?" Clarify any items that participants have questions about. Restrain the team from talking about solutions at this point in the process.

**Step 4: Prioritize.** Choose the three to six most important strengths that are most relevant to your objective. If the top strengths are obvious, simply test for consensus. Otherwise, give participants a few minutes to pick their top issues individually. Allow each team member to cast three to five votes (three if the list of issues is 10 items or fewer, five if it is long). Identify the top three to six items.

**MOVE ON TO WEAKNESSES**

SEE SLIDE &gt; INTERNAL: WEAKNESSES

Follow the same process above for weaknesses: brainstorm, consolidate, clarify, and prioritize the ideas. Again, focus on the weaknesses that are most relevant to your business objective and unique to you. There may be weaknesses that apply across the board to companies in your industry, but focus on ones that are particularly challenging for you.

**TIP #1****Keep it simple**

Don't go too deeply into any one issue. If you decide that the issue is a priority, return to it after the meeting to do more research and exploration.

**TIP #2****Don't rush through the prioritization step**

It's important to get agreement from most people in the room so that you have buy-in to act on the analysis later.

**LEADING THE PROCESS: DURING THE MEETING****COVER OPPORTUNITIES AND THREATS**

SEE SLIDES > EXTERNAL: OPPORTUNITIES, EXTERNAL: THREATS

Use the same four-step process to discuss the two external quadrants. As mentioned in the Before the Meeting section, bring in outside information and perspectives as necessary.

When discussing opportunities, don't let your current resources and capabilities hinder the conversation. Have an open discussion during the brainstorming step. You'll talk about which opportunities are realistic when you prioritize them.

Similarly, don't get hung up on which threats are most likely to occur. It's easy for participants to dismiss an idea by saying, "That'll never happen!" Get all the ideas out there and then you can evaluate their likelihood and severity toward the end of the discussion.

**COMPLETE YOUR SWOT MATRIX**

SEE SLIDE > PUTTING IT ALL TOGETHER

Take each list and put it into the provided template so that everyone can see the completed analysis. When you look at them together, you may decide that some of the items aren't as important as you thought or you may want to bring one of the lower priority items back onto the list.

**TIP #3****Focus on your organization**

It's easy to get caught up in what competitors are doing. You should certainly discuss them, but remember, this is about your company.

**TIP #4****Look for action that you can take within a year**

When prioritizing, focus on issues that you can act on within the next six to 12 months. You don't want to get lost in the future.

**LEADING THE PROCESS: AFTER THE MEETING**

## After the Meeting

**COMPLETE AND REVISE THE SWOT MATRIX**

Revise the draft you created in the meeting so that it's ready for review. You may want to clarify language or add some additional detail so that people who weren't in the discussion can easily understand the document.

**FOLLOW UP WITH PARTICIPANTS**

Send the revised template to the group and ask for input. Did you miss anything? Does anyone have anything else to add? Don't wait. Do this within 24 hours of the meeting and ask for feedback within another 24 to 48 hours.

**SHARE WITH OTHER STAKEHOLDERS**

Once you have signoff from the team, send the analysis to your boss or other key stakeholders who weren't in the meeting. For example, it can help to share the analysis with the sales team, who likely know your customers best. Ask, "Do these seem like the most pressing issues and opportunities?" and "What would you add, drop, or change?" You can gather this feedback over e-mail or in individual meetings.

**REVIEW AND REVISIT THE ANALYSIS**

The SWOT is a living document. It's worth revisiting once a quarter or any time there is a significant change in any of the quadrants. At these moments, you may use it to make important decisions, develop or refine strategies, or communicate with the rest of the organization about how your company will win in the marketplace.

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/257303449>

# PEST analysis

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## PEST analysis

*Tanya Sammut-Bonnici and David Galea*

### DEFINITION AND SCOPE

PEST is an acronym for four sources of change: political, economic, social, and technological. PEST analysis is a powerful and widely used tool for understanding strategic risk. It identifies the changes and the effects of the external macro environment on a firm's competitive position.

The external environment consists of variables that are beyond the control of a firm, but require analysis to realign corporate strategy to shifting business environments. Firms operate as part of a larger ecosystem. They are vulnerable to a variety of exogenous factors, which can have a major impact on the firm's competitive positioning. Strategists seek to understand external factors and evaluate how business models will have to evolve to adapt to their environment. The impacts of external factors are mitigated through preemptive strategy, and opportunities are exploited in the wake of new competitive positions that may be created in the process.

### CONCEPTUAL OVERVIEW

Variations of the PEST analysis tool are PESTEL or PESTLE (which adds environmental and legal components), STEEPLE (which takes on a corporate social responsibility perspective by adding on the ethics dimension) and STEEPLED (which adds the analysis of demographic factors). The increase in awareness of environmental or ecological issues has encouraged the implementation of another version of the PEST framework, particularly the STEER analytical tool, which incorporates regulatory factors.

PEST analysis and its variations form part of the "evaluation stage" in the strategic management process. The process starts with an in-depth analysis of the firm's environments. The external environmental analysis constitutes the "OT" part of SWOT analysis (internal strengths and weaknesses, external opportunities and threats). The benefits of combining PEST and SWOT are enhanced further when using them in conjunction with Porter's five forces model (encompassing the external effects

of suppliers, consumer demand, new entrants, substitute product, and competitive rivalry).

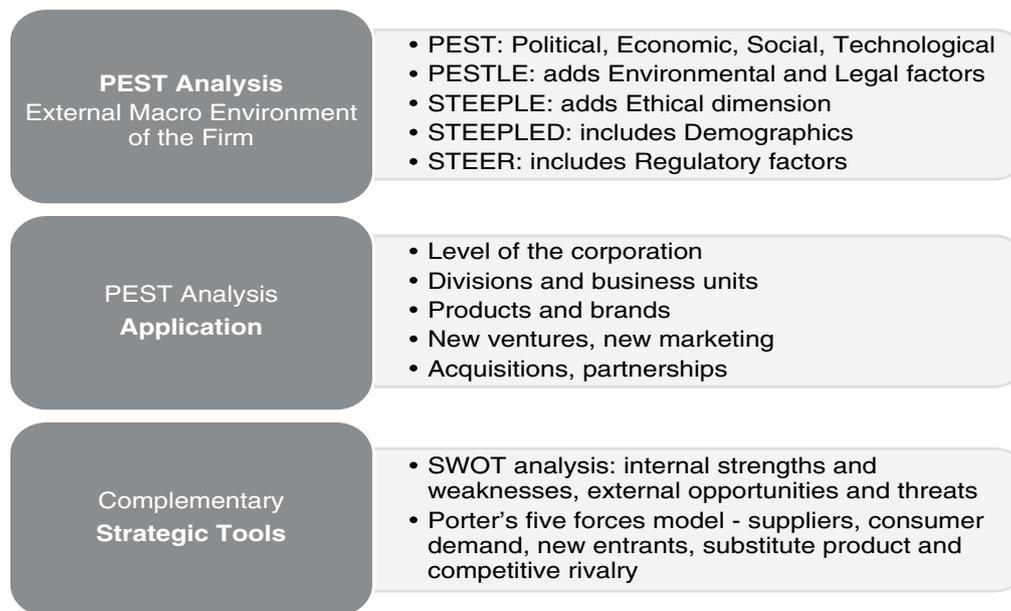
A PEST analysis comprises components that could be of great fundamental value to a firm. The analysis can be conducted for the entire firm, for its business units, for the respective products, or for a new venture or partnership.

Figure 1 summarizes the components of a PEST analysis, when it is used, and the strategic tools which are employed in conjunction with it during the strategic management process.

*Political factors.* The extent to which policy makers are likely to intervene in the commercial environment is a crucial factor in a PEST analysis. Trade, taxation, labor, and environmental legislation are factors to be taken into account. Commercial restrictions and political stability are also imperative factors that could determine the success or failure of a business. The banning of tobacco advertising in the European Union, for instance, had spelt disaster for the Formula One Industry, which in turn sought refuge in other parts of the world including Dubai and Abu Dhabi. Google had to pull out of China because of censorship restrictions. The Arab Spring culminating in a widespread revolution has caused many firms to rethink their strategy to penetrate markets in the Middle East and North Africa. The British prime minister's proposal to hold a referendum on retaining or exiting the European Union has significant implications on investors who in the past have relied on the freedom of movement principles on which their investment decisions had been made.

Political factors are categorized at three main levels: the supranational, the national, and the subnational strata. As the business activities become more globalized, the supranational level is gaining more importance. In recent years, the world has seen an evolution of countries organizing themselves into economic blocks, moving progressively toward becoming a political union partly at the expense of their sovereignty. The United States of America is a case in point. To a lesser extent, the European Union has progressively sought to take on more powers and decision-making authority from its member states. The ASEAN block is seeking to gain a more sound footing by courting South East Asian giants, Japan and China, to join. As

## 2 PEST analysis



**Figure 1** Summary of PEST components, application, and complementary strategic tools.

geo-political forces are consolidating into major political blocks, a political analysis of the country in which a firm is operating provides, at best, a myopic view. Business firms may need to expand their horizons and look beyond their shores to remain vigilant at what is happening at a supranational level. In the first instance, business firms may join lobby groups to influence policy making to their advantage. Even if limited influence may be exerted, political surveillance at a supranational level provides the required business intelligence to develop the right strategies for adapting to changes in the political environment that are faced in the foreseeable future.

Areas of national policy that may have a significant impact on the strategy of a firm include fiscal policy, national incentives for enterprise, planning and permitting, procedures for licensing and approval of new products, processes and services, perceived level of corruption and transparency, government priorities for supporting defined sectors in the economy amongst others (see Figure 2).

Although most of the world economies have embraced the free market model, significant interventions are made by national governments in areas with market imperfections. Specific

political interventions in the market are most likely to happen in branches that affect certain aspects of the economy. A country's infrastructure is still provided by the government directly or through public-private partnerships. While a number of operators traditionally owned by governments have been privatized, they continue to operate in highly regulated markets. Telecoms, utilities, and financial institutions are good examples.

When the above political factors are considered, it becomes evident that firms would benefit from scrutinizing and evaluating the political environment in which they are or will be operating in the future. Constant monitoring of some or all of the above factors becomes vital in ensuring that a firm's strategy is in tune with the policy environment. Major changes in the political climate may bring about major changes in the structure and operations of a market or industry.

*Economic factors.* Economic factors have the most obvious impact on the profitability and overall attractiveness of a market or industry (see Figure 3).

The most popular indicator of economic performance for a national economy or a specific industry sector that is used is the Gross



**Figure 2** Political factors in PEST analysis.



**Figure 3** Economic factors in PEST analysis.

Domestic Product (GDP) per capita. This is frequently measured at Purchasing Power Parity (PPP) to enable equitable comparisons amongst various countries. Typically, time series and multilinear regression analysis techniques are applied to project expected developments in performance over a defined period in the future. GDP per capita is a particularly useful indicator especially for those industries, which are highly income elastic. Examples of such industries would include jewelry, construction, entertainment, tourism, betting, cosmetics, and

various luxury items amongst others. In some other industries, demand remains more resilient to fluctuations in GDP. These would typically include staple foods, health services, and basic commodities.

Although being a useful indicator, GDP per capita provides only a partial view of the economic factors that might have a bearing on a firm. Inflation not only erodes the purchasing power of consumer but it also has an adverse impact on the prices of raw materials and other inputs that need to be used by a firm in providing products or services. Conversely,

## 4 PEST analysis

fluctuations in rates of exchange may translate into higher or lower prices for the purchase or sale of products and services. Higher taxes have a negative impact on the disposable income of consumers. A high unemployment rate from an investor's perspective is a double-edged sword as on the one hand, it erodes disposable income of families but on the other hand, it provides access to a cheaper labor market. Moreover, increases in bank interest rates have an impact on both consumers and investors alike. In the former case, consumers are more likely to save part of their discretionary income than to spend it on consumer goods when bank interest rates increase. They are also likely to borrow less from banks and financial institutions to buy capital goods such as cars, immovable property, and appliances. Investors are also likely to borrow less and redirect part of their speculative income into guilt-edged securities rather than in further growth of their firm. This is mainly because of an increase in their cost of capital.

Changes in economic factors will affect different industries in different ways. It is imperative for firms to discern a clear behavioral pattern between economic and industry dynamics. In some cases, there are clear interdependencies not only between industries but also between the economic performances of different countries. In recent years, the European Union has faced a series of ailing economies queuing up for bail outs, as a viral recession progressively spread across all European shores with Cyprus, Greece, Ireland, Portugal, and Spain being the main victims. The domino effect has also left its marks on other countries. For instance, following the news that Cyprus has become the fifth Eurozone country to seek assistance, the London FTSE 100 index, French CAC, and German Dax lost 63, 64, and 112 points respectively. In Milan and Madrid, the drop was significantly steeper with the former losing 549 points and the latter 252 points.

Some industries also exhibit positive correlations in performance between each other and would therefore need to be monitored concurrently. For example, a decline in the tourist industry would typically have an immediate impact on the entertainment industry and a long-term impact on the construction industry. An ailing manufacturing sector would send

shockwaves across the transport and logistics sector. Problems in the financial services sector are likely to have a ripple effect on most industries and economies around the world. The effects were evident in the recession, which culminated in 2008. The recession was intricately linked to the bursting of the US housing bubble as housing prices plummeted to unprecedented levels damaging financial institutions around the world.

All these economic factors demonstrate the importance of the need for continuous surveillance of the key economic factors that have a bearing on an industry. It is not an easy task to walk through the economic maze and to make sense of how events are likely to unfold. In this context, firms may wish to restrict themselves to analyze only those factors, which have a critical bearing on their operation rather than the broader spectrum.

*Social factors.* Social trends dictate work patterns and attitudes, consumer tastes and preferences, and the particular type, form, and volume of demand for a product or service. The monitoring of social trends enables a firm to reposition its products or services to fit the changing expectations of customers. Figure 4 provides a list of examples of social factors, which have an effect on a firm's competitive position.

In the previous century, air travel was typically associated with high-income consumers who value comfort and premium service. Today, air travel has become a commodity openly accessible to all social classes. Ryanair has challenged the traditional view and has repackaged air travel into a no frills offering, reflecting the basic need of customers to safely and conveniently travel from one point to another. Meanwhile, by monitoring changes in their customers' tastes, Plasmon have modified their products and produced a variant of the Plasmon Biscuits targeting adults. Increased health consciousness of customers across the developed world has created a market for healthy food.

Higher levels of education have, on the one hand, provided employers with a healthier pipeline of potential employees; however, they now also have a pool of more demanding customers. Telecom and banking firms have realized that customer preferences and needs have



**Figure 4** Social factors in PEST analysis.

become more diversified. Firms have restructured their business model from a product orientation to a consumer orientation. Indeed, customer centricity is progressively diffusing across a range of industries. Market segmentation is progressively moving away from traditional demographics to focus more on lifestyle.

Insurance companies are developing segmented products for the busy professional, for the small business owner, and for families. Banks have customized products for students, employees, self-employed, and the high net worth individuals.

Changes in the demographic characteristics of a population can have an impact on many parts of the economy. Most developed countries are facing the challenges of an ageing population as baby boomers are now 60 years of age and over. An ageing population creates additional demand for medicines, healthcare, and support services and lowers demand for products associated with the younger generation (such as education). The older generation, generally, has more leisure time and is more financially stable thereby providing the right mix for consumer spending.

An evaluation of social factors enables a firm to predict what pressures are likely to be made by various stakeholders on policy decisions of government, which would in turn have an impact on the firm.

*Technological factors.* The rapid pace of technological change is driven through innovation, which is in turn created through entrepreneurs who seek to push the boundaries of present limitations. As new frontiers are broken, technology becomes obsolete and any competitive

advantage is short-lived. Technological breakthroughs can either spell the demise of some industries or create opportunities for new ones. Figure 5 provides a list of examples of technological factors, which have an effect on a firm's competitive position.

The proliferation of the Internet and e-commerce has done away with many intermediaries. This has been referred to as disintermediation. In the travel industry, consumers have become their own travel agents. They plan and book their travel online, using business-to-consumer platforms that had been previously restricted to business-to-business members of the supply chain. Moreover, many retailers have found an increased intensity in competition as they are facing rivalry from online stores. On the other hand, technology has given birth to new forms of intermediaries. This is referred to as re-intermediation. Examples of new forms of intermediaries include Amazon, eBay, and Expedia to name just a few. They have the advantage of being effectively integrated within social networks, which provide new channels of marketing a product or service. Through these channels, consumers are able to publish their unbiased opinions on defined products or services. The opinions provide added value in the supply chain. They are highly valued by other potential customers and influence their decision-making process.

In some cases, a new technology has completely replaced an old one, sending its demand in free fall toward its demise. In other cases, technologies wage wars against each other in an effort to become the recognized standard. Microsoft is the standard for office software.

## 6 PEST analysis

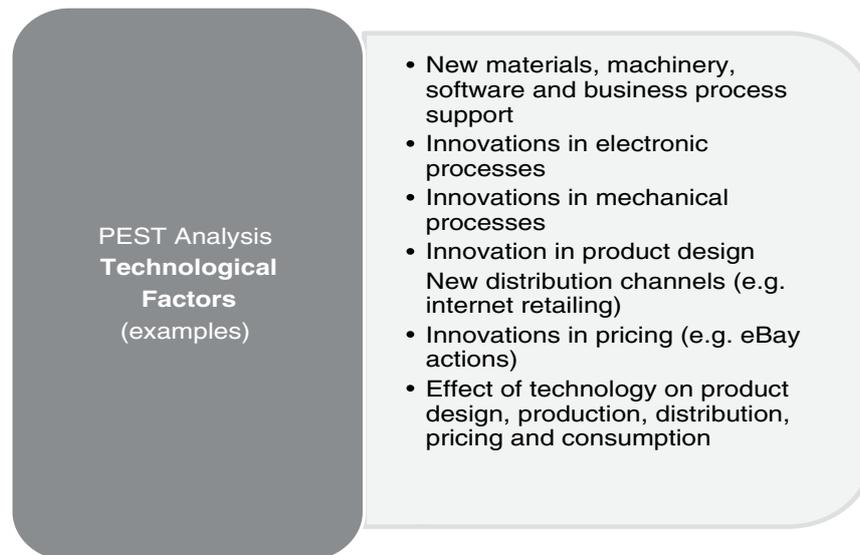


Figure 5 Technological factors in PEST analysis.

Blu-ray is the benchmark quality standard used for modern audiovisual home entertainment, although iPad is the current standard for tablets and currently under threat from Samsung.

From a business perspective, technology can be used to exploit a competitive advantage through a variety of factors. These could include cheaper production, improved access to customers, improved branding, product quality, and higher levels of business intelligence amongst others.

To thrive in a fast-paced technological change, a firm must remain vigilant. It has to be constantly updated on any technological developments in the industry, and aware of how they are likely to influence its future attractiveness and profitability.

### PROCESS OF PEST ANALYSIS

The process involved in exploring a firm's external macro environment involves five main stages listed as under (see Figure 6):

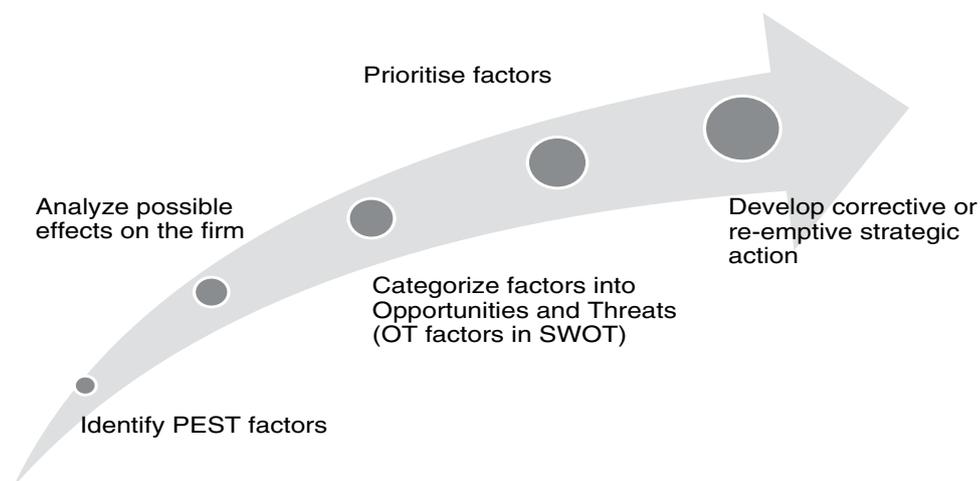


Figure 6 Process and stages of PEST analysis.

1. Identification of the current and future factors in the firm's external political, economic, social, and technological environments.
2. Analysis of the possible effects on the firm's competitive position of each factor.
3. Categorization of each factor into opportunities or threats for the firm.
4. Prioritization of the strategic importance of each set of PEST opportunities and threats. Ranking is based on the extent and the period of the impact on the firm.
5. Development of strategic action to correct or preempt negative effects and build on positive effects.

It is recommended that the environmental factors would be analyzed with respect to their effect on the firm's resources, capabilities, and core competences:

- Resources are the inputs required to produce a product or service. Examples of tangible resources are raw materials, premises, machinery, and equipment. Examples of intangible resources are financing, technology, human capital, supplier networks, sales force structure, distribution networks, patents, trademarks, established customer base, brand equity, and firm reputation. Resources can be combined and developed into capabilities, which in turn create core competences.
- Capabilities are the firm's capacity to make efficient use of its internal resources and the ability to combine them into competitive products and processes. Examples of strategic capabilities are: developing innovative technology products, reducing the time to market, creating more efficient distribution channels and retail outlets, capturing the consumer's attention through marketing, and managing customer relationships for long-term brand loyalty. Capabilities are developed from a complex set of internal resources and become embedded in a tacit manner into the firm's internal processes. They are difficult to document as procedures and therefore difficult to copy. Intangible resources tend to be the main source of inimitable strategic capabilities.

A PEST analysis seeks to provide strategists with a framework through which to increase their awareness of the external environment. However, it is not intended to constrain the analysis in a straitjacket. There are clear interdependencies amongst the various elements of the framework. For example, an increase in taxes by government is likely to erode the disposable income of consumers. On the other hand, the introduction of new incentives for industry is likely to attract further investment in a country thereby increasing employment and wealth.

Moreover, a growing environmental awareness from citizens is likely to push governments to legislate in favor of environmental conservation. Users of the framework are advised that if not used judiciously, a PEST analysis may become an endless evaluation of Political, Economic, Social, and Technological, which may result in an inconclusive analysis. The fundamental principle of the framework is that only those factors that have a direct bearing on the attractiveness of the industry and which are likely to change in the foreseeable future should be included. This would enable a firm to focus its effort solely on the factors that are pivotal for a firm's competitive position.

See also *R&D strategy*; *SWOT analysis*

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# Appendices B

## 1 GROUP WORKSHOP. PROBLEM ANALYSIS.

Fill in the table below and prepare a short presentation, at least 5-7 min.

Name of the Team: \_\_\_\_\_

Team leader: \_\_\_\_\_

Team members: \_\_\_\_\_

Questions	Methods	Your observations
<b>WHAT and WHERE</b> What facts, statistics, other evidence show what problem exists in a particular region or country, city, company/organization?	Gather <b>statistics, facts, evidence</b> from scientific sources, official reports, or publications	
<b>WHY</b> What are the main causes of the problem? (Economic, political, social, technological).	Perform <b>PEST</b> analysis <a href="https://pestleanalysis.com/how-to-do-a-pest-analysis/">https://pestleanalysis.com/how-to-do-a-pest-analysis/</a> Group discussion, experts' interview	
<b>WHO</b> What target groups are affected? What their needs are not being met.	Connect with experts in the field to find out the target group. <b>Interview at least 3 experts.</b> Provide summary conclusions and information on experts / organizations.	

## PERSONA PROFILE

### 1. Make an interview with concrete person (costumer)

FOTO, NAME	Personal information (age, gender, marital status, place of residence)
Education (or study), work situation, income, work experience	Likes / dislikes or can / can't (abilities, limitations)  Lifestyle, habits
<b>2. ASK THE PERSON</b> (or family member):  Wishes, expectations, dreams. How do you see your future? What would help solve the current situation? Do you want to change the situation?	<b>ASK THE PERSON</b> (or family member):  Unmet needs. What is missing? What "hurts"? What do you know to solve the problem? Where do you seek help? Is the help useful?

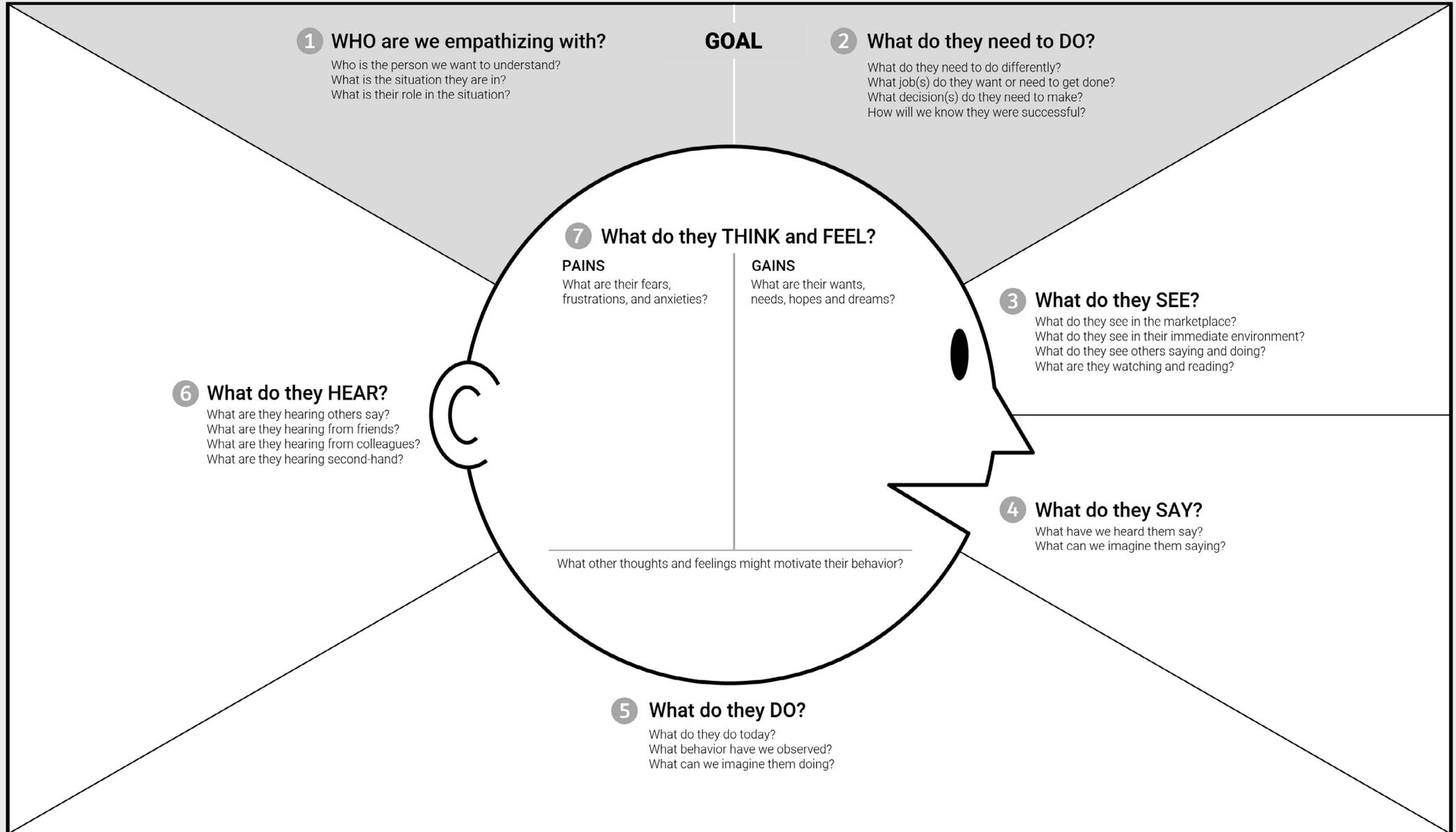
# Empathy Map Canvas

Designed for:

Designed by:

Date:

Version:



## Attachment B4

**Principles of research ethics:** honesty, respect and risk management (both when collecting the data and when publishing or presenting data publicly), confidentiality (in qualitative research) and anonymity (in quantitative research), safe environment (both physically and in an emotional sense) and free will (research participant can join the research by one's own volition and also can leave at any point after the research had started without any negative repercussions).

- ✓ The research participant takes part in your study at their own volition with the possibility to leave at any time. Informed consent must be obtained – it may be verbal or written, but it must be recorded. If a research participant is a person under 16 or has intellectual disability, informed consent should be taken not only from them, but from their parents or legal guardians, too.
- ✓ The research participant is guaranteed privacy, anonymity and confidentiality. Their physical, psychological and legal well-being must be considered. Confidential information may be disclosed only where there is an obvious threat to the well-being of the research participant or other parties and it is impossible to stop it without disclosing this information.
- ✓ When collecting the data on sensitive topics (for example, abuse, suicides) or conducting the research with socially vulnerable groups (for example, disabled people, families experiencing social risk), it is important to consider mental state of research participant, to formulate questions empathetically and, if needed, to provide an opportunity to consult professionals (for example, by referring to help-lines).
- ✓ The researcher may share their contact information, if the research participant would like to know about the further course of the study or to access the summarized research data.
- ✓ You cannot conceal the aim or the consequences of the research from its participants (unless otherwise reliable results will not be obtained and the research participant is not harmed and the research purpose is reported after the study).
- ✓ When collecting the research data and when publishing or presenting the results, principles of respect and equality must be carefully followed. Additionally, researcher must acknowledge differences related to gender, sexual orientation, ethnic or national identity, age, religion, language, social status and the level of personal functioning.
- ✓ It is important to mind the political and social consequences of your research, especially in relation to socially vulnerable groups. It is also crucial to adhere to the criterion of truth and not to distort the research results. The results of the research could also be made available to the target groups in a language they understand (easy-to-read language).

For more information, please follow:

- [https://www.sagepub.com/sites/default/files/upm-binaries/34088\\_Chapter4.pdf](https://www.sagepub.com/sites/default/files/upm-binaries/34088_Chapter4.pdf)

## Attachment B5

### Research methods

You can choose research methods based on these two approaches:

- (1) methods that may require involvement of research participants (requires action by research participants, for example, interviews, focus groups (group discussions) or quantitative surveys) or not (analysis of documents and secondary data);
- (2) principles of quantitative analysis (broadly and superficially, numbers and generalizations) or principles of qualitative analysis (narrowly and in-depth, exhaustive understanding and revealing of diversity and nuance).

#### How to choose a research method?

The choice of research method depends on the topic and target group you are studying, on your experience, and on the resources and time available. A detailed comparison of the different research methods is presented in Table 1.

Table 1.: Choosing a research method: what method and when should I choose? (prepared by A. Girkontaitė).

Interview	Focus groups	Surveys	Document analysis
<ul style="list-style-type: none"> <li>- cares about deeper understanding of the research participant perspective;</li> <li>- individual, authentic, subjective experiences, feelings and stories;</li> <li>- detailed and in-depth information provided by the expert (for example, by the relatives, family members);</li> <li>- sample of research participants is relatively small or specific;</li> <li>- research does not require broad, representative generalizations, you are interested in knowing "How?", "Why?";</li> <li>- you don't need numbers or statistics.</li> </ul>	<ul style="list-style-type: none"> <li>- cares about deeper understanding of the research participant perspective;</li> <li>- seeks to understand the interaction of discussion between research participants;</li> <li>- individual perception is not as important as consensus or disagreements of the group;</li> <li>- you are interested in comparing perspectives of different groups;</li> <li>- topic you study is not very sensitive;</li> <li>- research does not require broad, representative generalizations, you are interested in knowing "How?", "Why?";</li> <li>- you don't need numbers or statistics.</li> </ul>	<ul style="list-style-type: none"> <li>- cares about numbers and broad generalizations;</li> <li>- cares about planning and calculation;</li> <li>- sample of research participants is not relatively small or difficult to reach;</li> <li>- problem is rather well defined, you clearly know, what you want to ask;</li> <li>- individual (group) stories or perspectives are not relevant for your research;</li> <li>- it's not subjective opinion or experience you care about, but objective detailing of situation or attitudes.</li> </ul>	<ul style="list-style-type: none"> <li>- cares about information you can get from secondary data sources (you don't need to bother/ include human participants);</li> <li>- you cannot get information you need from people (for example, person cannot answer your questions due to severe disability);</li> <li>- secondary data sources are reliable (for example, individual help plans);</li> <li>- secondary data sources are more reliable than people;</li> <li>- the topic of your research is about documents themselves.</li> </ul>

<p><i>Examples:</i></p> <ul style="list-style-type: none"> <li>- research of the experiences of human trafficking victims with the aim to increase the availability of social services;</li> <li>- the attitude of the founder's representatives to development of new social services;</li> <li>- challenges faced by families with multiple children in rural areas;</li> <li>- a change in the emotional well-being of service users.</li> </ul>	<p><i>Examples:</i></p> <ul style="list-style-type: none"> <li>- needs for leisure spaces of youth in rural areas;</li> <li>- Improvement of day center services from the perspective of young versus old visitors;</li> <li>- experiences of day care service users during the COVID-19 pandemic.</li> </ul>	<p><i>Examples:</i></p> <ul style="list-style-type: none"> <li>- planning the need for potential users of Women crisis centers;</li> <li>- relatives' satisfaction with care services in big nursing homes;</li> <li>- evaluation of study results of rural and city students experiencing social risk.</li> </ul>	<p><i>Examples:</i></p> <ul style="list-style-type: none"> <li>- analysis of social workers' diaries with the aim to understand changes in client's behavior and wellbeing;</li> <li>- individual help plans where level of dependency is monitored;</li> <li>- reflections of course participants.</li> </ul>
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Among the methods mostly used in search for innovative solutions **semi-structured interviews** and **focus groups** can be mentioned:

**Semi-structured interview.** The advantage of the interview as a data collection method lies in the possibility to obtain more detailed and nuanced answers to research questions than using a standardized questionnaire. This means that the research participant (also called an “informant” in qualitative research tradition) can answer and express attitudes and motives they would/ could not want to share otherwise, for example, in a group discussion or via phone survey. Semi-structured interview aims to get an idea of the causes of the problems, personal experiences and interpretations, and insights of the informants. Using this method, informants are interviewed individually, based on pre-prepared interview questions. However, the conversation between the researcher and the informant is not formalized, the participant is free to express their thoughts not only according to the given questions (Bitinas, Rupšienė and Žydžiūnaitė, 2008). During an interview, researchers aim to establish a close relationship with the informant, to earn their trust, and to give them an opportunity to express their thoughts freely. Only one question is asked at a time, but it is not mandatory to follow the order of the questions – during different interviews questions may be asked in a different order depending on how they arise organically during the conversation. Also, researchers can clarify questions or ask additional questions based on the responses of interviewees.

**Group discussion (focus group)** is a qualitative research method for collecting in-depth information about the qualitative aspects of certain topics, to analyze specific topics exhaustively, discuss research participants' perceptions, interpretations, opinions, attitudes and experiences related to the analyzed topic. This method gives depth and multidimensionality to the research and allows one to better understand the context of the studied situation or phenomenon. This context during the group discussion emerges not only through thoughts, insights and experiences shared by research participants, but also through a certain group dynamics observed by researchers. Additionally, context of the studied situation or phenomenon emerges through the researcher's own intersubjectivity and the group transference he or she experiences (for example, direct, nonverbal emotional communication) and researcher's own countertransference or researcher's response to the group.

Group discussion is an organized conversation of a small group of purposefully selected research participants and is focused on a specific topic. The aim of a group discussion is not a series of questions and answers and not a search for consensus among the group members, but an interaction between them and a discussion that results in a variety of experiences, opinions and

concepts. This interaction reveals the relationship of the research participants with the topic, allows to grasp the diversity of perspectives, and to generate new ideas (Gaižauskaitė and Valavičienė, 2016). It is important to emphasize that group discussion is not a simple group interview organized as a series of researcher questions and answers from group members. The group discussion is led by the facilitator, and its goal is to foster a discussion between the participants of the research. Members of the group hear each other's answers and consequently instead of simply answering the question they can comment and react to each other's perspectives and opinions. It is this exact active interaction between the research participants that adds value to the group discussion method in comparison to the individual interview method.

When using interview or group discussion method it is important to:

- 1) rehearse the conversation, test question with your colleagues;
- 2) record the conversation (with consent from research participants). Have two recording devices and try to find a calm and safe environment for conversation (not too windy, noisy, crowded);
- 3) facilitate a safe and relaxed environment without any external interferences. When talking to research participants, avoid professional terminology, keep your speech simple and understandable for everyone. If you are personally acquainted with research participants, interview/ group discussion ideally should be facilitated by your colleague in organization or volunteers, trainees. Your personal connection with research participants will hinder objectivity of the research;
- 4) open a conversation by explaining the research goal and try to connect the first questions with experiences of research participants;
- 5) facilitate a sincere and empathetic relationship, be interested in the perspective of the interviewees, listen actively;
- 6) avoid stating your opinion or position on research topic, do not interrupt or argue with research participants, do not suggest what you expect to hear;
- 7) if research participants only give short answers or are apparently unwilling to answer, be more encouraging: ask again (for example, "What do you mean by saying this?", "What does that mean to you", etc.), ask for concrete examples or stories, after hearing everyone's answers don't immediately rush to another question (wait for several seconds, say "Mmm", nod, ask "Is there anything else you would like to add?");
- 8) in group discussions: ensure that all members of the group participate in the conversation and discussion stays on topic, react in case of arising conflict or one (or several) group members becoming too dominant;
- 9) in group discussions: if possible, have a technical assistant to help you by monitoring duration of discussion, following the research questions and checking on recording devices.

There are two possible problems when conducting an interview by yourself: **lack of competencies** (for example, the researcher is not experienced enough) and **interest bias**. Latter means that, for example, if research participants are emotionally attached to you, they may try to show the situation more favorably than it really is. Or, on the contrary, they may be intimidated by your authority and will not comment negatively when sharing their experiences. However, interviews are a very useful (and often rather cheap) method of collecting data, especially in research with the elderly or people with disabilities.

For more information, please follow:

- <https://slinuacareers.com/8-major-types-interviews/>

## Attachment B6

### Sampling of research participants

In research often you don't get a sample that is representative or reflects diversity, for example, research participants are included on the basis of convenience (it's called convenience sampling). Additionally, it's common that the proportion of surveys answered is only about 30-70 percent from your planned sample. Having this in mind, it's suggested to include more participants in the sample.

Table 2. Principles for sampling research participants (prepared by A. Girkontaitė)

Method	Interview	Group discussion	Survey
Principle	Diversity of research participants (in age, gender, socio-economic status and other aspects important to research) and data saturation (it's reached when new interviews are no longer adding new data to your research).	Diversity of research participants	Representativeness = research participants correspond to the proportions of the total population (in age, gender, socio-economic status and other aspects important to research) and were selected randomly.
Number or research participants	Not many: <ul style="list-style-type: none"> <li>• at least 10 from group;</li> <li>• at least 8, if groups are compared (for example, men and women);</li> <li>• at least 4-5, if participants are experts or difficult to reach.</li> </ul>	Not many: <ul style="list-style-type: none"> <li>• at least 2 group discussions;</li> <li>• at least 1 group discussion for every research group (for example, if you are comparing younger and older clients);</li> <li>• at least 5-8 participants in the group (this number is big enough to facilitate the discussion, but not big enough to make management and involvement of the group members impossible).</li> </ul>	Many: <ul style="list-style-type: none"> <li>• it's advised to use sample size calculator and cover at least 10 percent of the sample with different characteristics (age, gender, socio-economic status and other aspects important to research);</li> <li>• or to include as many members of the group you are researching as possible.</li> </ul>

For more information, please follow:

- <https://www.questionpro.com/blog/types-of-sampling-for-social-research/>
- <https://www.scribbr.com/methodology/sampling-methods/>

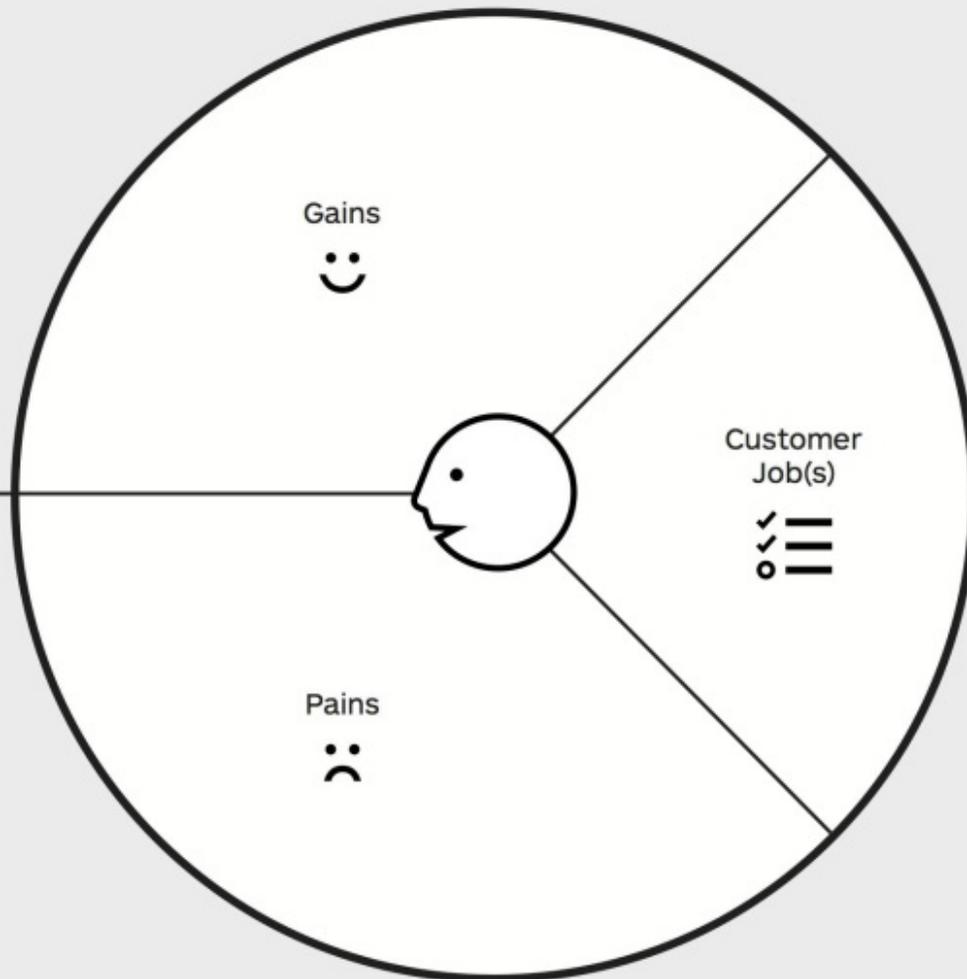
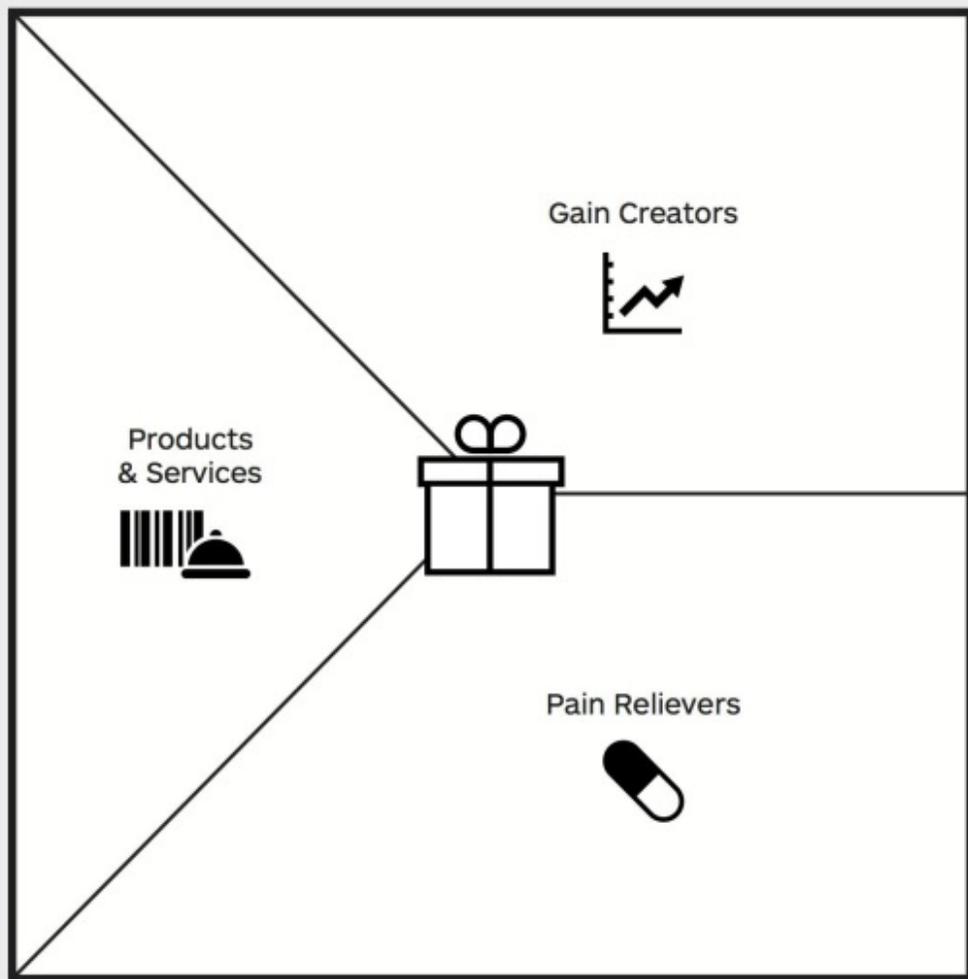
# Appendices C

# The Value Proposition Canvas



Value Proposition

Customer Segment



# Design Ops Canvas BETA

Designed for:

Designed by:

Date:

Version:

## What do we do?

What is the value we provide?  
 What does "good" look like?  
 What is our process and/or operating rhythm?  
 What methods and tools do we use?  
 What are our inputs and outputs?  
 How do we work together?

## Who are we?



### Teammates

Who are we looking for?  
 How do we recruit people?  
 How do we develop our people?  
 How do we retain people?

### Stakeholders

Who are our most valuable partners?  
 What makes them successful?  
 What obstacles stand in their way?  
 How do we work with them?

### Support

What support and resources do we need?

## How do we communicate?

How do we communicate internally, within our teams?  
 How do we communicate externally, with other stakeholders?  
 How do we educate and evangelize?  
 How do we give and get feedback?  
 How do we share our knowledge and new learnings?

## What constrains us?

What regulatory, security, or other realities constrain what is possible?  
 How do we manage conflicts and tradeoffs?  
 How do we manage risk?

## How are we structured?

### Balance

How do we balance autonomy and the common good?

### Autonomy

The freedom and independence we need to do great work.

### Common good

The things we need to do consistently in order to work well together.

**BALANCE**

### Management

What is our mission?  
 How do we set goals?  
 How do we track and measure success?  
 How are we structured?  
 Who is responsible for what?

## What else?

What else should we be thinking about?

# Appendices D

## Criteria to evaluate solutions (D1)

The expected outcome from this moment is to identify criteria and indicators to evaluate a successful solution.

You can begin by looking back at your hypothesis, which you produced during SOLUTION PLANNING – IDEATION – Week III.

Go over the questions you may have asked yourself when thinking about your solutions' features.

In order to evaluate the prototypes (solutions proposed) you will need to involve stakeholders from your host organization in order to get their direct feedback and consider together whether the solution tested has achieved its objectives. Ask your host for a one hour focus group/meeting inviting different stakeholders to take part. Here are some guiding questions which you can ask them during a focus group/meeting:

- Can the prototype be used by the people you intended it for?
- What do they appreciate about the solution?

As you and your host share reflections, try to identify indicators for a successful solution. To do this, you will need to discuss what success means

Example indicators:

- Are you hoping to achieve minor or major impact through your solution?
- How will the host communicate the solution?

You and your host agree on a list of identified indicators of success as an outcome of this focus group/meeting.

Resources:

- Different stakeholders from your host organization
- Meeting room with a whiteboard or flipchart and sufficient space for participants to move around if they want/need to.

## Mind mapping prototypes and their solutions (D2)

Objective: To explore different aspects and realities of the prototype; to exchange information from different perspectives of stakeholders involved and to find a common understanding about the realities in the prototype.

Expected outcome: A common mind map and understanding which explores in depth various aspects of the solution (and/or prototype) indicating its impact, success and possible limits.

Implementation: The trainee invites members of the host organization to a 1 hour max meeting. If it is possible to have 4 or 5 people present, one team is created, if there are 8 or 9 people present then two teams can be created and so on. The more people present, the better.

- 1 keyword (previously prepared by the trainee) is given to a group on a post it note, which is somehow connected to the issue/challenge identified. Each group also receives a piece of A4 paper. Some keyword examples:
  - Young People,
  - Agenda 2030,
  - Financial resources,
  - Education,
  - Labour Market,
  - Sustainability, etc.
- The group is asked to write 10 questions on the A4 paper about the keyword they received in relation to the specificities of the solution (or prototype). This activity can be repeated with new keywords if there are few people/groups;
- The trainee collects the questions and the post-it notes;
- The trainee prepares a large piece of paper or flipchart sheet with a keyword (either with a post-it or written) in the center and distributes it to the groups making sure that they receive a different keyword from the one they used to ask the questions. If there is only one group they will focus on their own questions;
- Each group is asked to explore the connection between the keyword and the specificities of the solution (or prototype) using a mind-map and the questions the other groups have prepared about that keyword;
- The groups have approx. 25 minutes to make the mind maps. They should be as clear as possible and both the connections between the keyword and the topic and the answers to the guiding questions have to be included. Smartphones can be used to help the teams to research the different keywords if needed;
- The teams are then invited to share their mind maps, taking notes of anything that is not clear or about anything they would ask or share;
- The whole group remains in plenary for a debriefing which the trainee guides asking the following questions:

- What was easier: to ask the questions or to find the connections in the mind map?
- Did you succeed in including all the answers in the mind map? What was missing or remained disconnected?
- Was it helpful to clarify the links and the situation of the solution (or prototype)?
- What was the most interesting point in your mind map? Did you find any new information?
- How can you apply the information you learnt? Is it useful? How?
- What was the purpose of making other groups ask questions? Was it useful?
- What are the conclusions you can draw about the solution (or prototype) from the discussions and mind-map exercise?

As an alternative: instead of asking questions and focusing on one single aspect, distribute all the keywords to every group and ask them to produce a general mind-map. This will provide a more comprehensive, though much complex approach

Duration: 60 Minutes

Resources:

- Members of the host organization,
- Meeting room with a whiteboard or flipchart and sufficient space for participants to move around,
- Post it notes.

## SWOT analysis to evaluate prototypes and their solutions (D3)

Objective: To analyze the strengths, weaknesses, opportunities and threats of a given solution.

Expected outcome: A detailed SWOT analysis of the solution to help steer the host.

Implementation: The trainee invites members of the host organization to a 1 hour max meeting. The trainee draws the four quadrants on a whiteboard/flipchart and introduces the first two areas regarding a given solution (or prototype):

Strengths	Weaknesses
Opportunities	Threats

- Strengths – What are the prototype/solution’s best features? What advantages does the solution have? What are our resources and assets? What do others acknowledge as strengths of our solution (or prototype)?
- Weaknesses – What could we do better? Where are we at risk? Etc
- The trainee together with members from the host organization reflect on these two areas and write down notes;
- Everyone contributes to filling out the strengths and weaknesses by reading out loud their notes, whilst the trainee writes them up. At this stage it is possible to clarify any doubts/questions etc, but not foster discussion yet.
- The group then moves on to the other two areas: Opportunities – Are there any unexplored issues that we know about but have not yet engaged with? Are there any new frontiers that we can explore? Threats – Are any of our weaknesses likely to make the solution (or prototype) vulnerable? What outside issues beyond our control or within could block progress?
- Once again the team is asked to reflect on these two areas and write down notes
- All members contribute to filling in these two quadrants with the trainees helping reading out loud their notes.
- If possible the trainee could then lead a group discussion on what has emerged from the SWOT analysis using or adapting the following questions:

- What do these results tell us?
  - What decisions need to be made?
  - Do we need to do anything differently?
  - How can we leverage each one of our strengths?
  - How can we improve upon each weakness?
  - How can we capitalize on each opportunity?
  - How can we minimize each threat?
  - What does the team need to follow up on?
- It could be useful to share the results of the SWOT analysis with other members of the host organization to gain their external feedback.

Duration: 45-60 Minutes

Resources:

- Trainee plus a members of the host organization,
- Meeting room with a whiteboard or flipchart and sufficient space for participants to move around.



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