

Problem Solving Skills

Tip

If you need a refresher on the best practices for each stage, revisit the DMAIC model bite in this module.

This handy template will help you apply a structured problem-solving process to challenges of all kinds. Start by answering several questions about your problem, the current situation and the desired outcome, and it will guide you toward the best solution.

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- *Use the Next and Previous buttons in the bottom corners to navigate your way along.*
 - *On each page, you'll see light gray boxes you need to fill in.*
 - *You can interact with the underlined words to learn more.*



Agenda

D

Define



M

Measure



A

Analyze



I

Improve



C

Control





Define

In this stage, your goal is to create a strong foundation for the problem-solving journey by clarifying the issue.

Who are the key players whose perspectives are crucial?	
What's the challenge you're trying to solve? <i>This is your problem statement. Remember to include the pain point and its impact.</i>	
What are the different aspects of this problem, and what falls outside of its scope?	
What are you aiming for? <i>This is your goal statement. Remember to formulate it in a SMART way.</i>	

Tip: After identifying relevant stakeholders, consider **gathering feedback** from them to better understand the problem. Think about using surveys or interviews.



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Depending on the scope of your problem, you might want to consider both the end users and the people involved in or responsible for carrying out the process internally. Engaging with them will help you understand their pain points, requirements and expectations.

You can use various tools to collect this kind of data, including surveys, interviews, observations, feedback forms, reviews and complaints. When gathering feedback, remember to ask open-ended, nonleading questions, such as "What are the pain points in this process for you?" or "How do you feel when you use our product?"

Tip: After identifying relevant stakeholders, consider [gathering feedback](#) from them to better understand the problem. Think about using surveys or interviews.





Measure

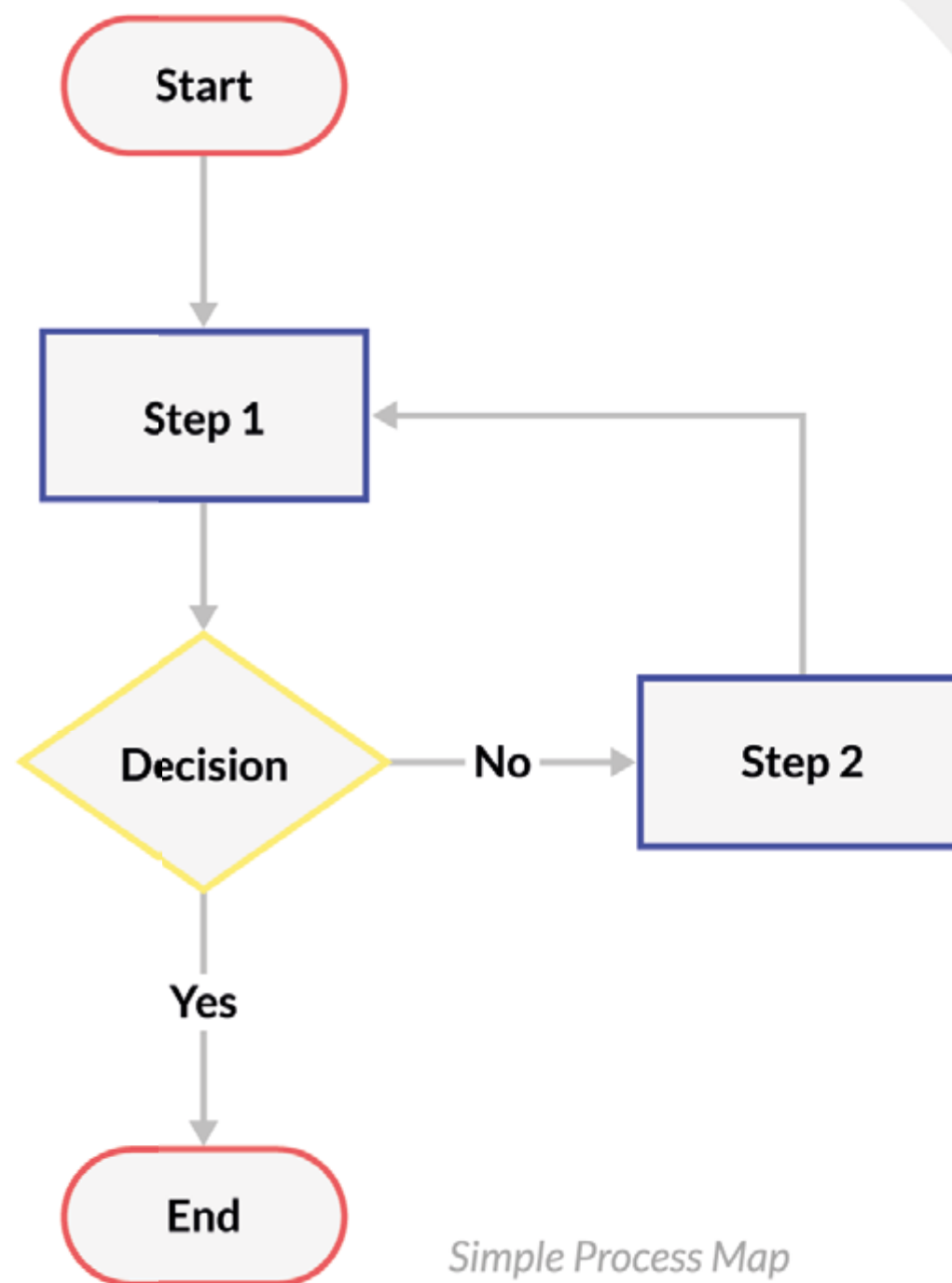
In this stage, your goal is to collect data to gain insights about the extent of the problem.

What information is required for your analysis?	
How can you obtain high-quality data?	
What metrics can you examine to determine the size of the problem?	

Tip: Try using a process map to visualize all the steps and activities as well as potential inefficiencies or bottlenecks.



A process map visually represents all the steps and events (like the checkin points that determine whether you move forward or step back) in a business process. It's helpful for creating a common reference point for stakeholders and an effective way to spot inefficiencies and explain the flow to others. Here's a simple example:





Analyze

In this stage, your goal is to uncover the root causes of the problem using data analysis and critical thinking.

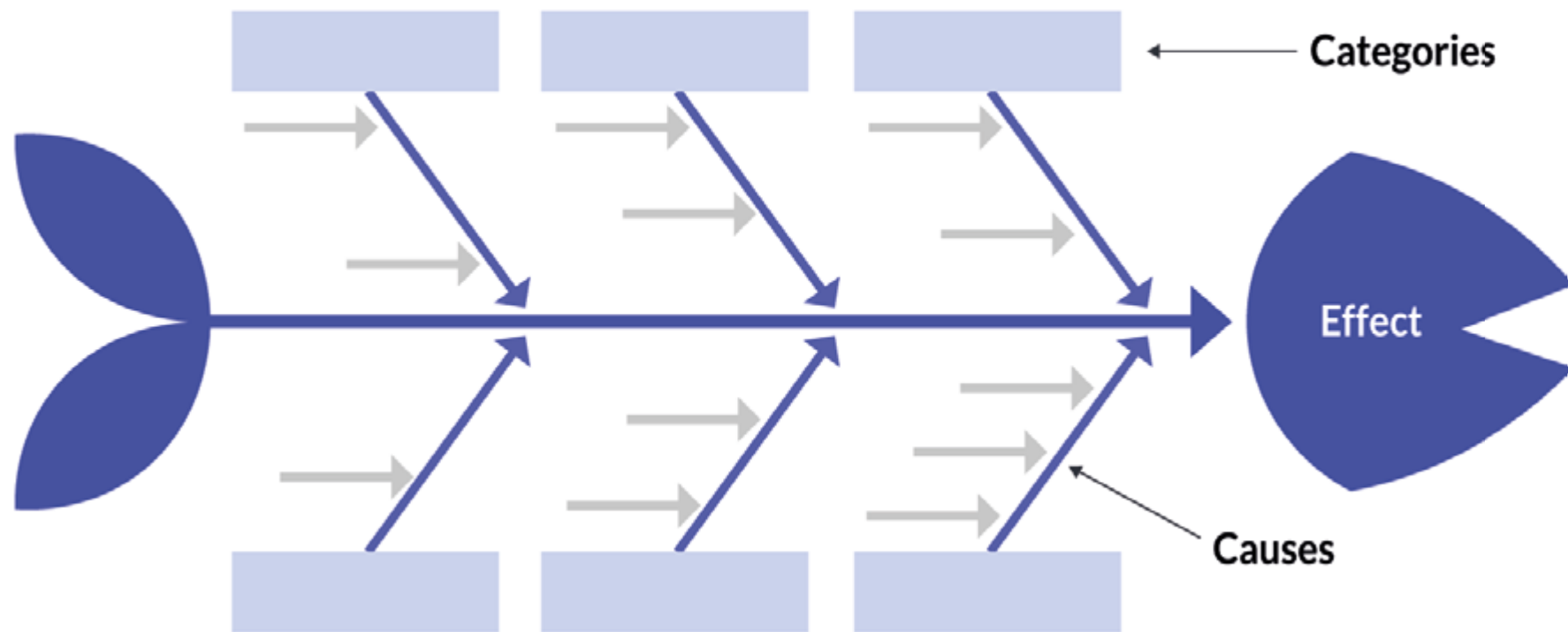
What insights can you derive from the data?

What factors might be contributing to the issue?

How can these methods help you better understand the problem?

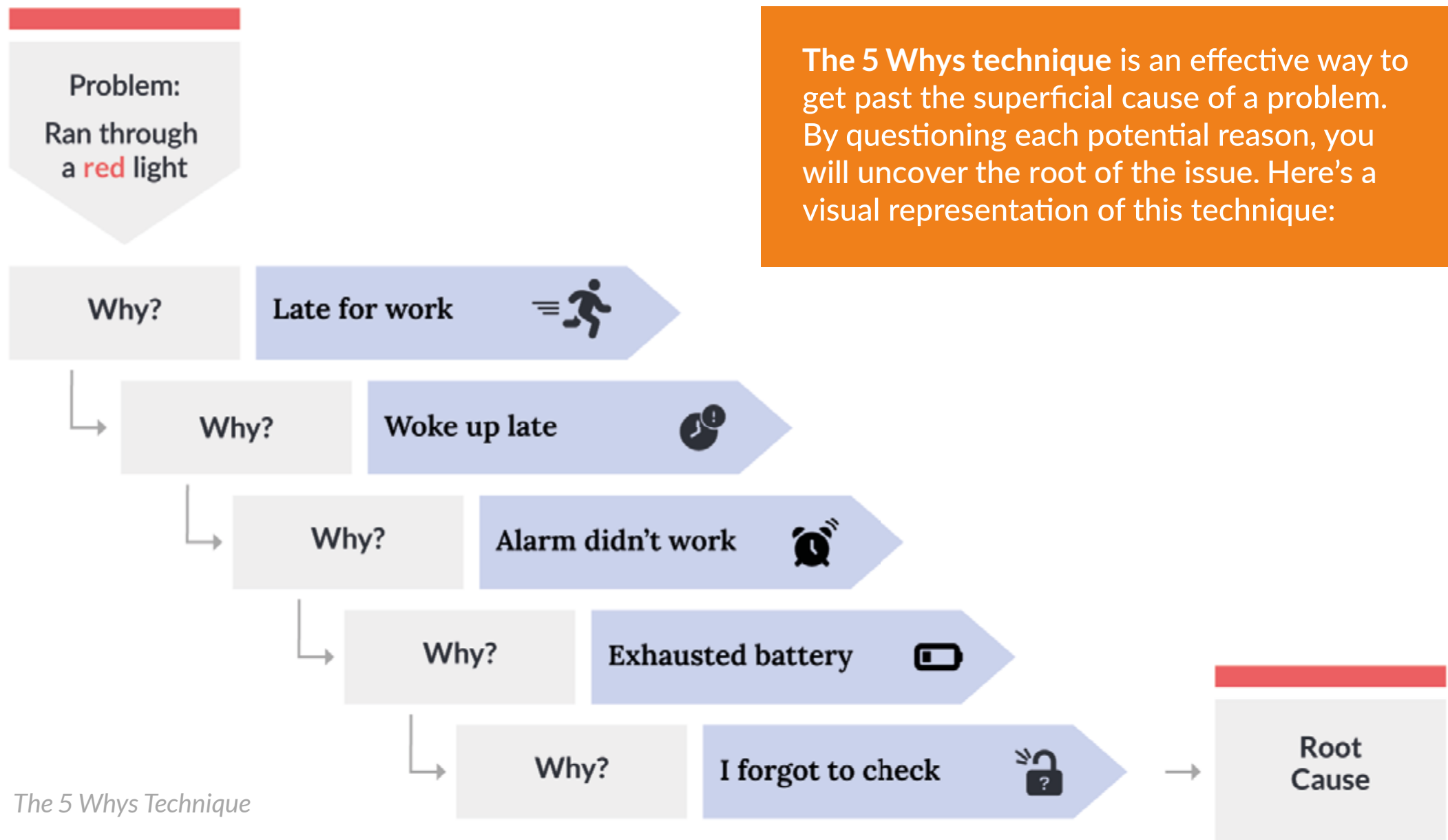
Tip: In addition to statistical analysis (e.g. regression) and (data) visualization (e.g. histograms or the fishbonediagram), consider using the 5 whys technique to get to the heart of the problem.





The fishbone diagram is a visual tool that maps out factors that might lead to the problem we're trying to solve. Begin filling in this diagram by identifying the categories of factors. There can be as many or as few as make sense in your situation. For instance, when looking at a high turnover rate, one category could be "Company culture", and the causes underneath could be "Overwork" and "Lack of raises".







Improve

In this stage, your goal is to generate and test solutions that address the identified root causes of the problem.

What creative ideas can you come up with?

Which solutions are most promising?

How can you test the solutions before full implementation?

Tip: To brainstorm ideas effectively, consider using a technique like crazy 8s or 6 thinking hats. Then, try using an impact-effort matrix to prioritize the solutions you identified.





Improve

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Crazy eights

Crazy eights is an ideation technique that challenges participants to get creative and come up with 8 ideas in 8 minutes. You can do this on your own or in a group.

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Tip: To brainstorm ideas effectively, consider using a technique like crazy 8s or 6 thinking hats. Then, try using an impact-effort matrix to prioritize the solutions you identified.



6 thinking hats

The 6 thinking hats technique challenges participants to look at a solution or decision in different ways. Try wearing each hat and see how they affect how you see things. Alternatively, in a group setting, you can assign each person a different hat to get a more balanced discussion. Here are the hats:



Positivity



Creativity



Emotions



Data, Rationality



Negativity, Caution



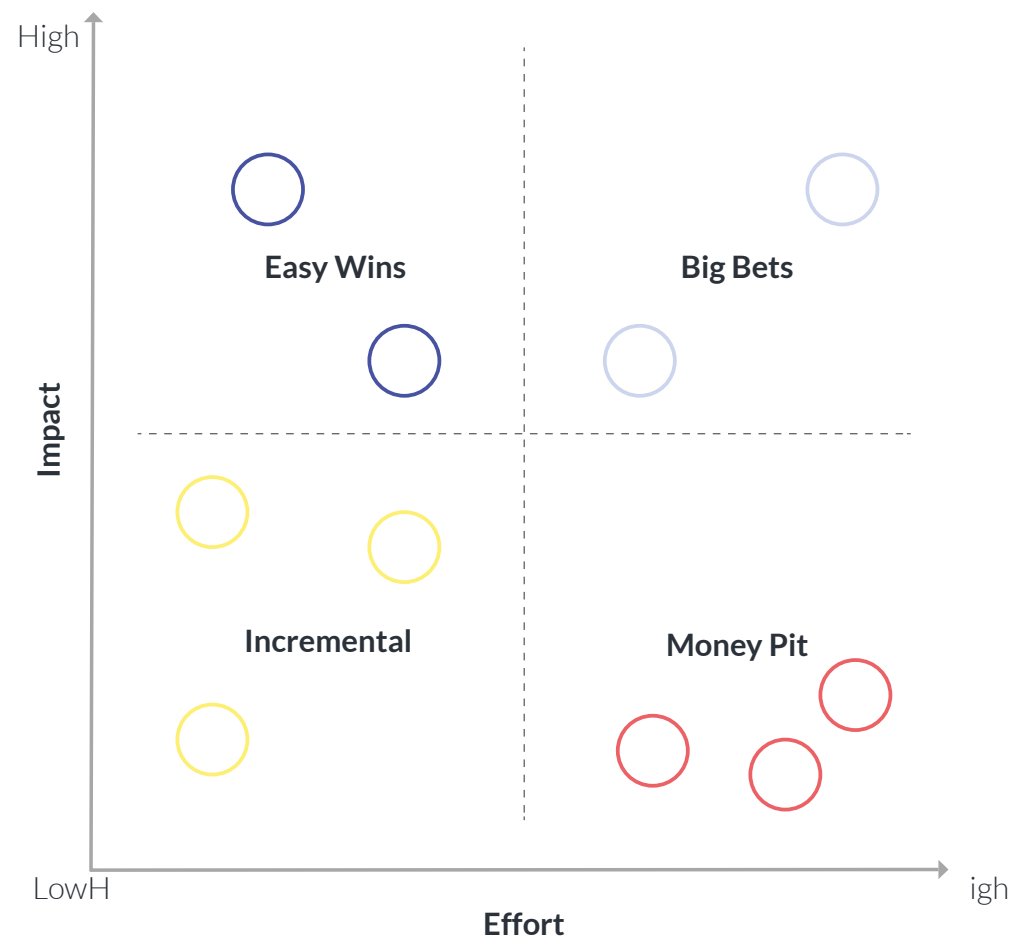
Process, Control

6 thinking hats



Impact-effort matrix

An impact-effort matrix is a tool used to prioritize tasks based on their potential impact and the effort needed to implement them. The impact is often measured in an action's ability to achieve or contribute to a certain goal. The effort is commonly measured in terms of money, time or other resources. Here's an example of how this matrix could look:



Impact-effort matrix





Control

In this stage, your goal is to ensure the sustainability of the implemented solution.

What metrics will indicate its success?	
How often will you review the situation?	
How can you ensure the solution remains effective over time?	

Tip: Set yourself up for success! Don't forget to update your standard work documentation and processes to reflect the new way of working.





Control

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The most important step in maintaining the implemented solution is to inform all the relevant stakeholders about the changes and new ways of working. Capturing everything in a detailed step-by-step document also ensures that new joiners can jump in without disrupting the workflow.

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