# Five why

| Field of application | Problem Analysis<br>Idea improvement<br>Product design<br>Service design<br>Process design<br>Creativity skills development |
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| Resume | One of the most frequent errors the innovation teams can make during the ideation process is going directly to the search for solutions instead of spending the required time to understand the problem in a very deep way. This tendency decreases the quality of outcomes as one of the basis for generating high potential ideas is having a real understanding of the problem. Sometimes the teams spend too much energy searching for solutions to something that is just a symptom or consequence of the real problem.<br><br>To solve this, one excellent tool is the 5-why technique.<br><br>This tool was developed by Sakichi Toyoda from Toyota in the 30´s decade. It helps the team to focus on understanding the problem before trying to solve it. Applying this technique makes it easy to find the root of the problem.<br><br>The technique lets do a cause-effect analysis by asking several times Why? until the team finds a satisfactory answer. The number 5 is just a reference and the amount of Why can change every time.<br><br>Category: Problem reframing |
| Target group | • Entrepreneurs<br>• I&D teams<br>• Innovation teams<br>• Students<br>• Community |
| Group size | 1 to any number of people |
| Objectives | The objective is to deep into the understanding of the problem to solve in order to identify the real cause or the root of it. |
| Requirements | Material:<br>• blank sheet of paper, pens<br>• any word processor or mind mapping tool<br><br>Time:<br>• 20 to 60 minutes |
| Implementation - Overview | One you have the problem you are trying to solve, ask yourself if maybe there is a deep cause for it. This is why you use the "Why?" question. One you have one or more answers (causes), you can apply the "Why?" question to those answers too. That way you build a cause chain that can take you to the real problem you have to solve to get the initial problem solved too.<br>This kind of tool is very useful especially solving problems of medium or low complexity, because this kind of problems can have causes that a group can identify during a session. Complex problems usually require a more demanding process of research. |

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| **Implementation - Guidelines** | This technique is better used when all the persons in the group have a good understanding of the problem and the circumstances around it. Be sure to have people knowing all the aspects involved. For example, you can invite some persons who know about the technical aspects of the problem and some persons knowing about the financial, human related, and legal aspects too.<br><br>1. As a facilitator, you can start by writing down the problem in a place where everyone can read it. It can be a board in front of the room, or the starting point of a mind mapping tool.<br>Ask if everybody agrees with the problem definition before starting.<br><br>2. Invite the group to answer the first "Why?" question. It can goes in this way: "Why is this problem happening?" Ask all the participants to be sure of the facts about each possible cause. It is not an exercise of imagination or speculation. If someone needs to check some data to back an important possible cause, you can give some time off before continuing with the session.<br><br>3. Write down the causes identified<br><br>4. Check if some of those causes can have a deeper cause. In this case repeat the process using a new "Why?" question.<br><br>5. If the group cannot find a deeper cause, it's time to finish the questioning process.<br><br>6. Review the identified causes to define the real problem that the innovation team is going to solve. Write down the real problem identified and be sure that everyone understands it and agree with this conclusion. |
| **Example of application** | In a manufacturing plant a team was trying to solve the problem of continuous malfunctioning of a machine. The team used the 5 Why tool to identify the true underlying problem behind. The plant supervisor wrote the problem on a blackboard and drew a line below to write down its cause. Then repeated the process until the group found the real problem. The causes chain was:<br><br>1. Why is this machine not working again? Cause: Has a broken cog<br>2. Why did this cog become broken? Cause: The mechanism was not moving.<br>3. Why does the mechanism stop moving? Cause: Some accumulated dirt stops the movement.<br>4. Why was so much dirt on the mechanism? Cause: the service team don´t clean the mechanism internally<br>5. Why the service team is not cleaning the mechanism internally? Cause: The machine has a seal showing a sign "The machine can lose factory warranty if this seal is broken"<br><br>At this point, the team stop asking Why and defined a set of new problems to solve:<br><br>How can we extract dirt without opening the machine?<br>How can we break the seal without losing warranty?<br>How can we be sure no dirt is going into the machine?<br><br>The new questions opened new possibilities for creative solutions. |
| **Templates, Graphics for download** | N/A |
| **Additional references** | https://buffer.com/resources/5-whys-process/<br>https://en.wikipedia.org/wiki/Five_whys |

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