

advancing women in business

every
woman
NETWORK



WORKBOOK

KILLER PROBLEM SOLVING

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ABOUT THIS WORKBOOK

EVERYWOMAN IS AN ORGANISATION that works to advance women in business. Having made it through over 14 years of business ourselves, one thing we can be sure of is that we will all face a problem in the workplace at some point in our working lives. Problems come in all shapes and sizes, and we need a handful of different tools to help us figure out how to tackle the issues presented to us at any given time. Sometimes problems are an opportunity to overhaul outdated processes, methodologies or frameworks. Other times they are just irritations to be overcome. Either way, being confident and knowing how to approach problem solving is a key leadership skill.

The workbook has been designed to help you understand the three key stages of effective problem solving: 1) Recognising the problem 2) Idea generation 3) Evaluation.

It will take you through the background behind problem solving, and show you how to think from different angles to ensure you are able to add perspective to the issues you are faced with.

You will be shown a process to help you problem solve and make decisions. The tools we will give you can also be used in other circumstances, to add energy and a new dimension to meetings, discussion groups or presentations.

It is slightly different to our other workbooks, often we give you specific exercises to try, and with this one each tool is an exercise in itself. Read through how to use the tools and then give it a go. If you are hesitant, look back at some of the barriers to problem solving effectively mentioned in the first section, and see if you can help yourself move forward.

The tools are all tried and tested, but you need to practice using them and developing your own approach to make them effective for you and your business. As you go through the workbook, think about scenarios where you could have used a specific tool, and make a note to yourself to try it the next time something similar crops up. Reading about the tools is fairly straight forward; putting them into action requires commitment. Make a plan and put some tools into practice.

Effective, logical and rational problem solving is an underrated skill. Becoming well known for such a skill will make you a go-to person when issues need resolving and will potentially put you at the coalface of many opportunities.

Good luck and we look forward to seeing you on the everywomanNetwork.

The everywoman Team

SECTION 1.
AN INTRODUCTION
TO PROBLEM
SOLVING



What is problem solving?

A **PROBLEM IS DEFINED** as a circumstance where there is a gap between the situation as it is and what you think the situation should be. We all face this on a daily basis, sometimes the solution is quick and obvious, other times we need to step back, think about it and plan. This is the problem solving process.

Problem solving is a structured approach, using formal techniques for analysing the problem. It involves idea generation, evaluating ideas, then selecting an idea and implementing it. We often use the term creative problem solving, because creativity is the thinking that helps to generate the solutions to problems.

Often problems seem to arise out of nowhere, and what is essential is ensuring some sort of approach is used to try and solve the problem. Often panic creates problems and we know for sure panic won't solve anything.

Top Tip:

There are many problems which occur daily that do not need problem solving techniques applied, they just need someone to make a decision. Be careful not to get bogged down in a problem solving process when a simple yes or no decision can be made.

"You cannot solve a problem
with the same level of
consciousness that created it."

CARL JUNG

What thinking do you need to problem solve effectively?

Think innovatively

We often hear the word innovation applied to problem solving. A definition of innovation usually involves meeting a new challenge, creating a new process, fresh thinking and adding value. We can do this by tapping into our creativity and thinking style. When was the last time you used innovative thinking?

Think both vertically and laterally

Vertical thinking involves a step-by-step process, following rules, processes and procedures. Vertical thinkers tend to like to do things in order and correct the first time, following obvious next steps and the right way to do something.

Lateral thinking involves a more indirect way to solve problems. It is what we call 'out of the box' thinking because it does not fit in a nice tidy structure. Lateral thinkers will make many mistakes and be ok with it, as long as they are learning.

We need both types of thinking to solve problems. Use a process so you don't jump in head first and try and solve a problem before you know what the problem really is, and once you identify the problem make sure you think from all of the different directions and viewpoints to get the best possible solution. The trick is to understand your natural style and then work hard to tap into other ways of thinking. This workbook will give you help with being both a vertical and lateral thinker.

Think creatively

Many people believe they are not creative, and therefore believe they cannot solve problems creatively. We are all creative in our own way; the problem for most of us is we narrowly define it. We think being creative is the ability to paint, or play an instrument or write a story. Every time you open the fridge and manage to make a meal out of what is inside, you are being creative. When you find a way to get your point across to someone who you don't naturally gel with, you are being creative.

It is key to understand that within creativity, there still lies a process, which we will look at in the next section.

Leonardo DaVinci, the master of creativity, established many principles of creativity. Some that are vital to problem solving in the workplace are:

- Develop your senses- don't just rely on the written word, or what someone else has said, explore all the senses to truly understand the problem
- Understand that everything connects to everything else, somehow - you will be able to solve the problem and the answer is waiting for you, you often just need to make the connections
- There is an art in science - science seems rigid but think about the drawings scientists make and the way they interpret what they see under a microscope
- There is science in art - think about the painters who need a precise mix of materials to get the colour they need, creativity needs a process.

EXERCISE

1. Think about the last time you were creative

2. What can you start doing to be more creative - think about Da Vinci's principles!

So we need to use innovation and creativity to help us solve problems, both in the workplace and at home. You probably already are, and this workbook will help make it a bit easier by giving you some direction and tools to use.

Why use creative problem solving processes and tools?

IT IS TEMPTING TO THINK THAT you don't need to take the time or energy to put a process behind problem solving. Below are some key benefits you should consider when problems are successfully and effectively solved.

To Your Business

- Better and improved products and services
- Envisioning future developments within your industry and staying ahead of your competitors
- Happier workforce, leading to better performance

To Your Team

- Open and more effective communication
- Taking responsibility for problems and their solutions
- Sharing ideas and managing risk

To You

- More capable in your role
- Respect from your team for involving them
- Confidence in the outcomes
- Opportunity to develop and tap into others experience and insights

EXERCISE

List some of the benefits you or your organisation would gain by using a solid process and creative thinking to solving problems. (If this seems hard, think about the last time several people seem to be running around working on the same issue and not much got solved).

Barriers to creativity in the workplace

THERE ARE SEVERAL DIFFERENT BARRIERS TO CREATIVITY. 'Mindset' is one obvious barrier because people often believe that there is only one way to do things, or that the way something is already being done is the right way. The work environment can be a huge inhibitor to being creative.

The environment can have a powerful influence on our ability to solve problems effectively. Above all we need a stimulating and supportive environment that includes the right physical environment, an open and supportive culture and policies and procedures that work alongside creative thinking. Management needs to encourage and reward creative thinking, and tolerate mistakes that stem from someone trying something new or different.

What else can affect creative thinking?

Our perception

- Seeing only what we expect or want to see
- Not recognising the problem effectively
- Stereotyping - applying inappropriate labels

How we communicate

- Inability to express ideas adequately
- Not being able to articulate what we are thinking
- Not understanding what others are saying

Our emotions get in the way

- Too impatient to see viewpoints
- Frustration with others who can't understand our thinking
- Fear of taking risks, looking foolish or making mistakes

Our experience

- Inability to shift perspectives
- Not using lateral thinking
- Lack of skill in the problem-solving process

Your leadership style

Do you...

- Tend to dive right into the planning stage of problem solving and often take the first idea as the correct answer?
- Resist the time it takes to define the problem before trying to solve it.
- Tend to go for the solutions that are linked to what you already know or are already good at?
- Try and impose solutions from your knowledge rather than looking at different viewpoints?

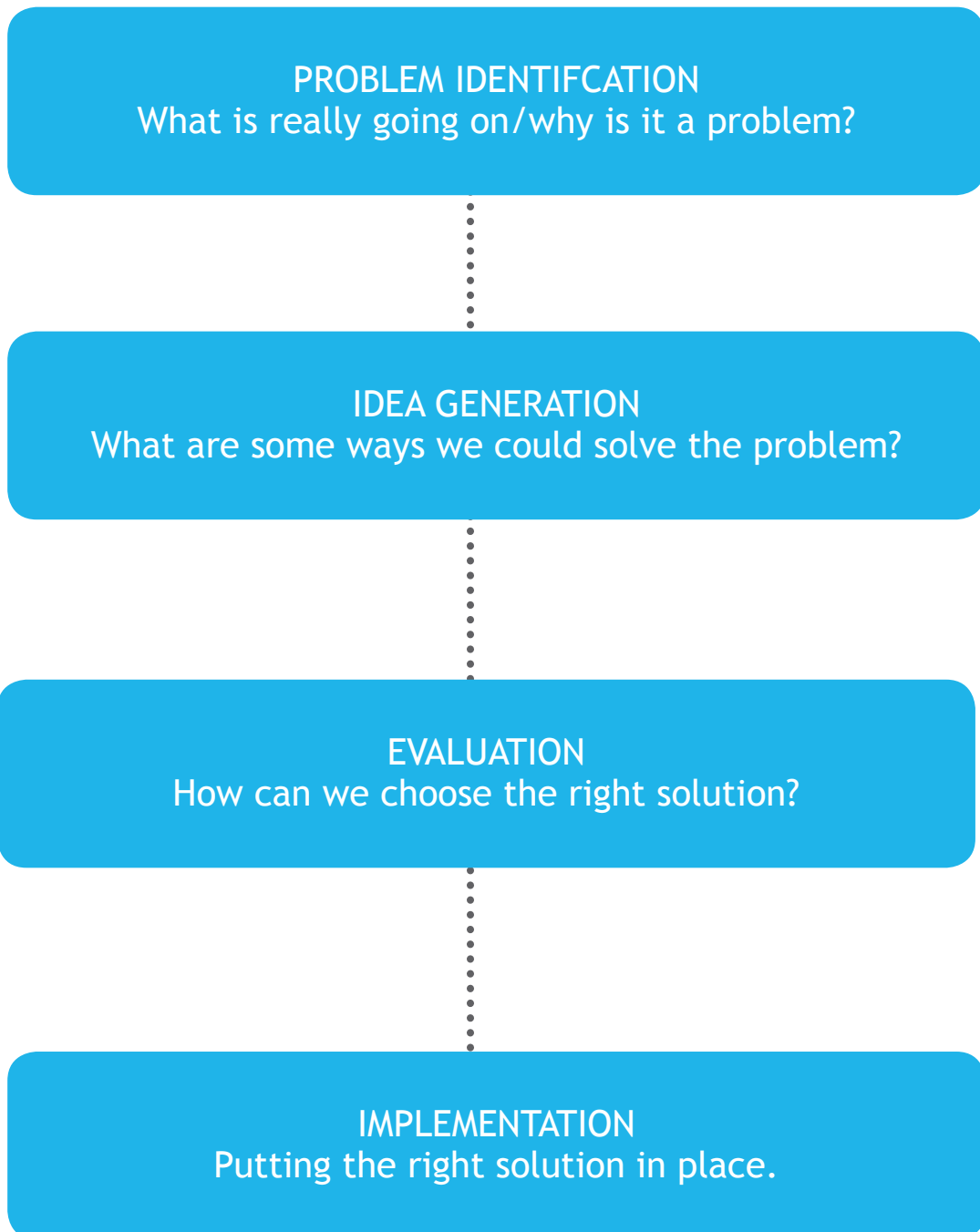
EXERCISE

Think about what might be stopping your creativity.

What might you be doing to inhibit others creativity?

What can you do about it?

The stages of creative and innovative problem solving



SECTION 2. RECOGNISING THE PROBLEM



Find the cause of the problem

IN ORDER TO ENSURE THAT YOU ARE SOLVING THE PROBLEM and not just attacking the symptoms, it is essential you take the time to locate the cause of the problem. Often you need to redefine a problem several times as your understanding of it grows.

Have you ever spent time solving a problem that you finally realised didn't exist in the first place?

A proper definition helps to identify a goal and often helps break down the problem into easier pieces to solve. Most importantly, if you need others to help solve the problem, you need to be articulate and clear about what you are trying to resolve.

There are several useful tools that can be used to help define a problem.

1. The cause and effect or fishbone diagram
2. The five why's
3. 6 word dissection
4. Tree mapping
5. The wish list

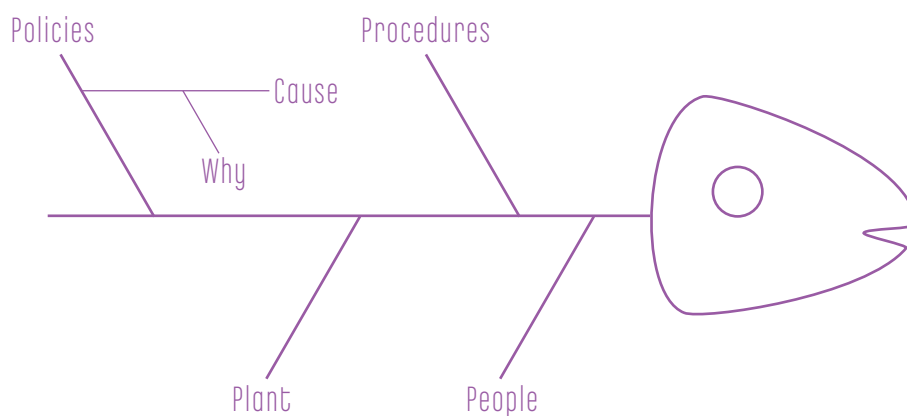
"If I had an hour to solve a problem I'd spend 55 minutes thinking about the problem and 5 minutes thinking about solutions."

ALBERT EINSTEIN

Problem solving tools

1. Fishbone or cause and effect diagram - use this to help discover the cause of a problem

This process is suitable for problem solving where there are likely to be a large number of possible contributing causes. It is important to identify the root of the problem to ensure you are solving the right issue.



How you can use it

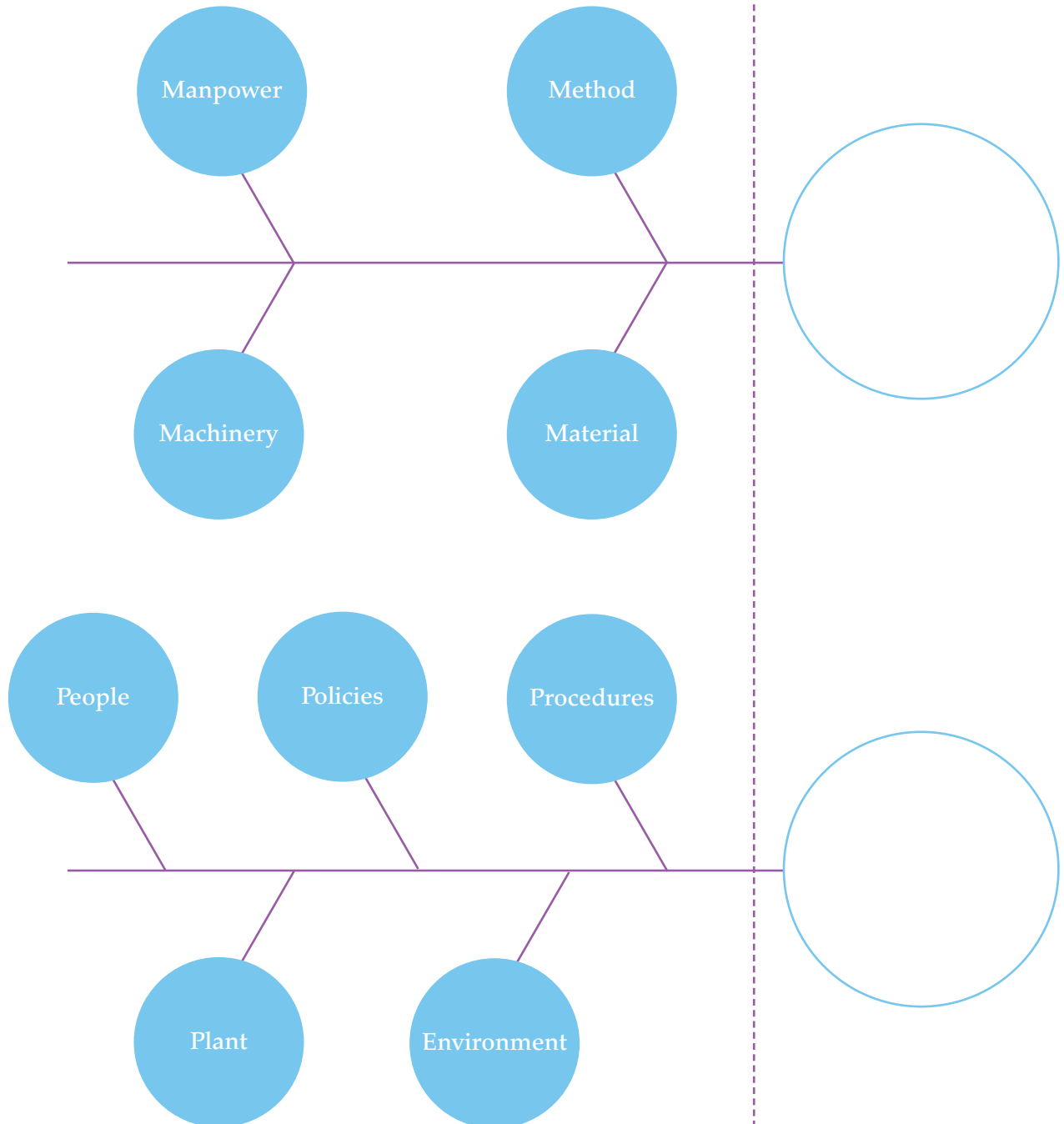
1. Choose a problem and write it in the 'fish head' (the effect box, see diagram on the next page). Think of the major causes that contributed to the blame and put them on the end of each bone.
2. Depending on the issue, you could use the '4 Ms': Manpower, Methods, Machinery and Materials **or** the '4 Ps' Policies, Procedures, People and Plant.
3. Brainstorm to discover the causes for each major area. Don't be worried about the order, just let people think and discuss.
4. Ask 'why' as much as possible to build further branches/ribs to ensure you are getting to the root of the problem.
5. Now prioritise the most important causes and decide which ones need improving for maximum benefit or to cause the least disruption to your organisation.

Fishbone or cause and effect diagrams - examples

Here are some different examples...use as required.

CAUSES

EFFECT



2. The 5 whys

This is a quick and useful way to get to the root of the problem while taking into consideration different perspectives. It is helpful to do this with your team of colleagues on a white board or flipchart.

How do I use it?

- Clearly define the problem to be solved
- Ask the group “why?” capture the responses and continue to ask the question until you have exhausted all options
- Use the answers to decide what needs to be prioritised and worked on immediately to tackle your situation
- Use some sort of image to show the flow of the whys such as the one below



The 5 whys - an example

My team seems to be tired and demotivated.

WHY?

Because they are working long hours and had to work the past two weekends.

WHY?

Because we have two big projects on and not enough staff.

WHY?

Because half the team are on holiday at the same time.

WHY?

Because nobody ever knows who has booked holiday or when.

WHY?

Because we don't have a process or one person responsible for holiday planning.

AHH...

So the real problem to solve is to have a transparent process for approving and booking holiday.

3. 6 word dissection

This tool uses questioning techniques, the idea is to focus on facts not opinions and try and define a baseline problem to solve.

EXERCISE

Use the table below as a discussion guide with your team, or to help prompt your own thinking.

What	is/is not the problem
When	does it/does it not happen
Why	does it/does it not happen
Where	does it/does it not happen
Who	causes/prevents the problem
How	do you recognise when present/absent

"I keep six honest serving-men
(They taught me all I knew);
Their names are What and
Why and When
And How and Where and
Who."

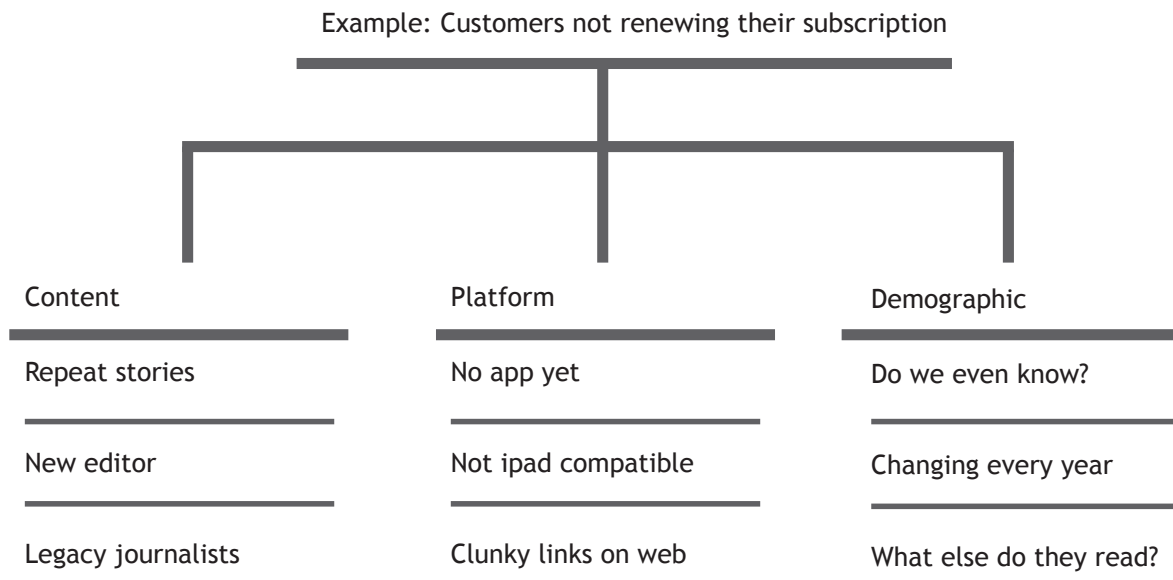
RUDYARD KIPLING

4. Tree mapping

Tree mapping is useful for classifying and grouping the issues around the problem. Use this to sort things or ideas, categories or groups. It is particularly useful if you want a more logically structured approach to defining a problem. It will help set out the elements of a problem like a fishbone diagram but will also define the layers of a problem.

How do I do it?

Write a brief statement of the problem on a large piece of paper and then divide the problem into two or three logical parts. Then divide each part into two or three parts until a tree-like diagram is formed.



5. The wish list

Use this to help describe the problem you are facing by looking at your feelings around the problem and arrive at a proper definition. This can be helpful when trying to develop your team members and getting them to recognise their role in engagement and growth.

How do I use it?

Think of a problem that you are facing and write down a brief statement which summarises this. For example...I am demotivated at work.

Make a list of your feelings about the problem which begin with the words "I wish..." For example if your problem is how to feel more motivated at work your list may include:

- I wish I had more interaction with other teams.
- I wish I was given more credit for my hard work.

Team up with at least one other person and encourage them to ask questions about your statements.

When you have completed your discussions look at your wish list and write down a series of statements which best describes the problem as you now see it. These statements must begin with the words "How to...." for example "How to get more recognition in my job".

Select the "How to...." statement which best describes the problems you see it.

SECTION 3. IDEA GENERATION TECHNIQUES



Why generate ideas?

THIS STAGE OF PROBLEM SOLVING IS ALL ABOUT trying to get as many ideas as possible, and not worry about quality, risk or downside.

If you are leading the idea generation discussion you will need to work hard to support the process as it should be - you must encourage all to suspend judgement and valuation until the next stage; easier said than done.

Try an easy idea generation exercise before diving into your real problem. For example ask the group for as many uses as possible for a box of used pens, a flipchart stand or a ball of string. This will help spark creative thinking in a risk free and fun environment. Encourage the group to have a laugh and just put ideas out there.

"The only solutions that are ever worth anything are the solutions that people find themselves."

SATYAJIT RAY

Useful tools for idea generation

1. Brainstorming

Brainstorming is a well-known and very useful technique used to generate several ideas in a short period of time. Alex Faickney Osborn, an advertising manager, popularised the method in 1953 in his book, *Applied Imagination*.

How to use it?

- Try to get a mixed group of people with various experience
- Ideally sit in a circle and agree to a specific statement of a simple problem. The leader can have this ready or the group can decide
- You can ,either have one person contribute the first idea on how to solve the problem and then continue around the circle until all the ideas are exhausted, or you can ask people just to shout out ideas as long as you don't talk over people
- Do not allow anyone to criticise, evaluate or judge
- Don't put pressure on people to give an idea
- Feel free to piggy back on someone else's idea
- Any idea is valid - no idea is too crazy or outlandish
- The team members discuss and evaluate all ideas, and select the single idea or combination of ideas that represents the most viable solution

2. The alphabet

This tool works like random word association, where you are trying to give a small trigger to spark creativity.

On a whiteboard or flipchart, write the alphabet down the side and ask people to come up with ideas to the problem that begin with the letter of alphabet.

You could also put people into groups and give each group a piece of paper with the alphabet and get them to think as many ideas in the smaller group.

Give them 4-6 minutes; the time limit can add a sense of competition which can be useful when you are going for quantity!

3. Role play

This tool will help people see ideas from different perspectives, by trying to put themselves into someone else's shoes!

Ask the group to each name a famous person or stakeholder in their organisation. List these somewhere for everyone to see. Now go through each name and ask the group 'What would x' think of?' As soon as the ideas run dry move onto the next person. Don't try and force answers if they do not come easily.

For example – How do we increase our client base?

Superman – find some way you can rescue them

Madonna – give to a charity they support, hold a huge event, get yourself noticed

Kelly Holmes – practice your approach, do something every day towards your goal, once you have reached your goal make another

SECTION 4. PROBLEM EVALUATION



Useful tools for problem evaluation

NOW THAT YOU HAVE GENERATED A LOT OF IDEAS you need to think about which one(s) you will put into action.

If you have managed to generate a lot of ideas then it is worth spending time thinking about grouping the ideas.

Don't foist your categories on the group – ask the group which ideas work together and then come up with a new heading for the ideas.

For example, if several ideas discuss marketing materials and branding you could make the category 'redefine and upgrade marketing'.

There are several ways you can decide which are the best or strongest ideas.

1. Simple vote - majority rules
2. Force-field analysis
3. Paired ranking
4. Star technique
5. Nominal group technique

1. Force Field Analysis

Kurt Lewin's Force Field analysis is popular tool used to identify the forces and factors in place that support or work against the solution of an issue or problem. It helps present the positives and negatives of a solution so that they are easily compared, the ideal is that the driving forces will be stronger than the restraining ones. It is like a balance sheet analysis, weighing and prioritising factors against each other. You can use it to decide whether or not to go ahead with a solution, or to help get over some of the barriers that might hinder the effectiveness of the solution.

Example:

Problem: Fear of Public Speaking

Ideal Situation: To speak confidently, clearly and concisely in any situation



Once you have identified the forces, you can stop and have a discussion on what is the way forward, given the overall picture. Or you can put in more thought and try and quantify it by deciding how strong the forces are relative to each other - rate them on a scale of 1(weak) to 5 (very strong)

Identify which forces you have control over - rate them on a scale of 1(no control) to 5 (complete control) . Focus on those forces which have the greatest strength and over which you have the most control. Aim to add new driving forces, and weaken or remove resisting forces.

Top Tip

Sometimes just doing the two sides is enough to give you the insight you need without ranking and weighing the factors.

2. Star rating

This allows each person to prioritise what is important to them and then see their solutions within a bigger context.

How to use it?

Put each solution on a whiteboard or flip chart. Each person is given 5 'stars' to put against any idea(s) they choose. It makes it easier if you give each person 5 star stickers, rather than ask them to draw the stars or dots. So if there are 8 ideas on the board, you can put your 5 stars against 5 ideas or can put them all on one idea. You can add a rule that you cannot more than 3 stars per idea. This is effective because it allows people to give their own weighting within their own priorities.

The idea with the most stars is the solution that will be used. Often we want to implement several ideas so this also helps select the top ideas to be applied.

3. Nominal Group Technique (NGT)

Nominal Group Technique (originally developed by Delbecq and VandeVen) allows a group to quickly come to a consensus on the relative importance of issues by thinking first of their own ranking and filtering that into final group priorities. It helps build commitment to the team's choice because everyone is involved in the process, and allows people to rank issues without being pressured. It can also help highlight where there is very divergent thinking in a group, and it may become a separate issue to be addressed.

How to use it?

Once you have your solutions, write them up for everyone to see. Give each solution a letter and then ask each person to rank the solutions according to what they feel is the best idea. This should be done individually to begin with, and depending on the situation the facilitator may want to encourage a discussion around personal choices and allow for a final group decision not based solely on the initial results.

Example of Nominal Group Technique

Problem: Must standardise the output of the marketing department as the output is inconsistent.

Solutions to implement

- A Training course for everyone
- B Document all key processes
- C Develop quality standards
- D Decrease turnover in department

Michelle's ranking:	A-4, B-3, C-2, D-1
Nina's ranking	A-1, B-2, C-3, D-4
Terry's ranking	A-4, B-1, C-2, D-3
Susan's ranking	A-3, B-2, C-4, D-1

	Michelle	Nina	Terry	Susan	Total
A	4	1	4	3	12
B	3	2	1	2	8
C	2	3	2	4	11
D	1	4	3	1	9

Therefore training would be the highest priority. The group would work on this first and then move through the rest of the list as needed.

4. Importance analysis

Importance analysis allows ideas to be rated against criteria which determine whether they are important or unimportant, essential or non-essential. This will help eliminate any ideas that aren't suitable to the overall context of the problem. For example, if we were discussing decreasing staff turnover, revisiting benefits might be important and essential whereas free lunch every Friday might be non-essential and not important.

The easiest way to use importance analysis is to use a grid, as follows:

	Low importance	High importance
Essential		
Non-essential		

Top Tip

Once you have placed the solutions, start to work on the important and essentials first. This is also a great tool to allow you to articulate to stakeholders that you have thought of ideas that just don't make business sense even if they seem like a good idea.

5. Implementation

Once you have committed to the solution, the hard work begins in getting it to happen. However, if you have spent the time working through it properly, you will find this part will feel fairly straightforward. Because you have involved your team, they will feel responsible for putting the plan into action. This is where your key leadership skills come in. Tap into coaching, delegation, planning and prioritising to help ensure all the hard work ends with the result you want.

For more information on these key skills, download our Stepping up To Leadership workbook.

Pulling it all together

So now you should have at your fingertips several tools you can call on to help you work through problems that need to be solved, or decisions that need to be made.

You can use any of these tools on their own or within the context of the whole problem solving process.

Start out by...

Thinking about where you could use these tools. Start small and be open about the fact you are trying a different or new approach.

Then...

Find a few that become easy to use and effective for the groups or teams you work with. Suggest others use them too, and make sure you evaluate how well (or not) they worked for you and your team.

Finally...

Remember that when you put a process behind problem solving it becomes more manageable. You will be able to look at both the big picture and the detail that is needed to get the right solution. Don't be afraid to be creative to get the best result.

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This workbook has been produced and edited by everywoman, with content commissioned from associate expert Sara Parsons. It is part of the everywoman portfolio of resources that have been specially created to support and develop women as they advance their careers and businesses.

everywoman Expert



Sara Parsons has been an everywoman Associate for 10 years and has worked in the field of Personal Development globally for 16 with clients such as; Paramount Pictures, The RSA, Ipsos MORI, RNLI, Oxford University Press. She holds an honours business degree and is a qualified expert in many professional assessments including Belbin and MBTI - the Myers-Briggs profile. Sara is passionate about inspiring and supporting women to reach into the potential they often don't know they possess.

Further reading

- *Tools For Success* - Suzanne Turner
- *Sticky Wisdom* - David Allan
- *Thinkertoys* - Michael Michalko

Go to everywoman.com/development for more personal development workbooks, tools and a schedule of our online seminars.

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